United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with North Carolina Department of Environment and Natural Resources, North Carolina Agricultural Research Service, North Carolina Cooperative Extension Service, Chatham Soil and Water Conservation District, and Chatham County Board of Commissioners

Soil Survey of Chatham County, North Carolina

How To Use This Soil Survey

General Soil Map

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

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

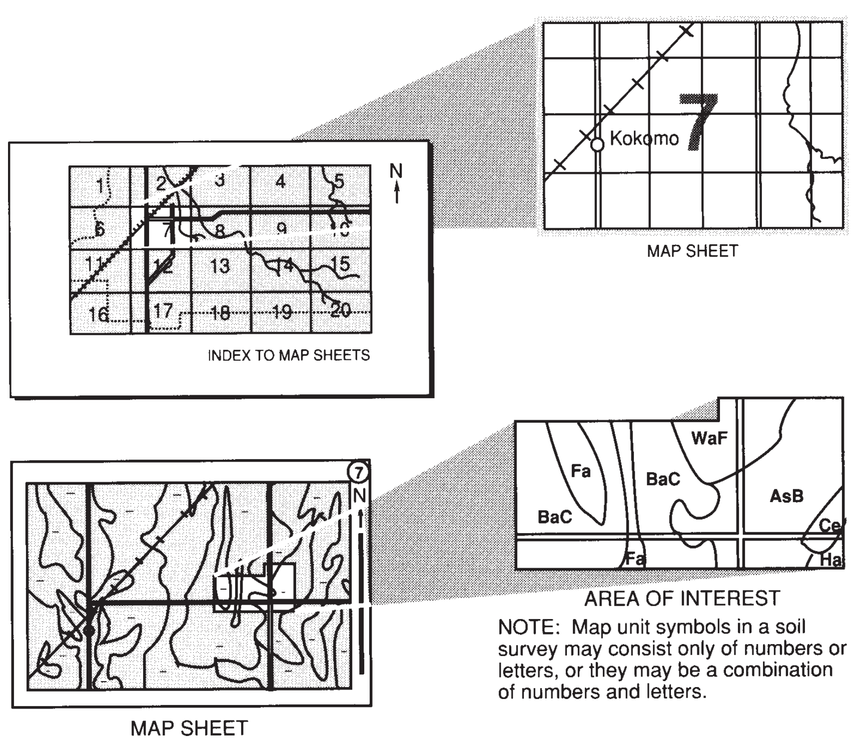
Detailed Soil Maps

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

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

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

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



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

National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service, the North Carolina Department of Environment and Natural Resources, the North Carolina Agricultural Research Service, the North Carolina Cooperative Extension Service, the Chatham Soil and Water Conservation District, and the Chatham County Board of Commissioners. The survey is part of the technical assistance furnished to the Chatham Soil and Water Conservation District. The Chatham County Board of Commissioners provided financial assistance for the project.

Major fieldwork for this soil survey was completed in 2000. Soil names and descriptions were approved in 2005. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2000. The most current official data are available on the Internet.

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

Nondiscrimination Statement

Cover Caption

A pasture in an area of Wedowee sandy loam, 2 to 6 percent slopes.

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

Contents

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, ranchers, 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.

Mary K. Combs
State Conservationist
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Soil Survey of Chatham County, North Carolina

By Richard D. Hayes, North Carolina Department of Environment and Natural Resources

Fieldwork by Richard D. Hayes, Richard H. Brooks, Karl A. Shaffer, Sheila J. Hughes, and Perry W. Wyatt, North Carolina Department of Environment and Natural Resources, and Robert H. Ranson, Robert C. Freese, W. Allen Hayes, Evelyn M. Haskins, and L. Darlene Monds, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with
North Carolina Department of Environment and Natural Resources, North Carolina Agricultural Research Service, North Carolina Cooperative Extension Service, Chatham Soil and Water Conservation District, and Chatham County Board of Commissioners

Chatham County is located in the central part of North Carolina (fig. 1). In 2000, the population of the county was 49,329 and the population of Pittsboro, the county seat, was 2,226. Siler City, the largest town in the county, had a population of 6,966. The total area of Chatham County is about 453,607 acres, or 709 square miles.

General Nature of the County

This section provides general information about Chatham County. It describes the history and development; physiography, relief, and drainage; water resources; and climate.

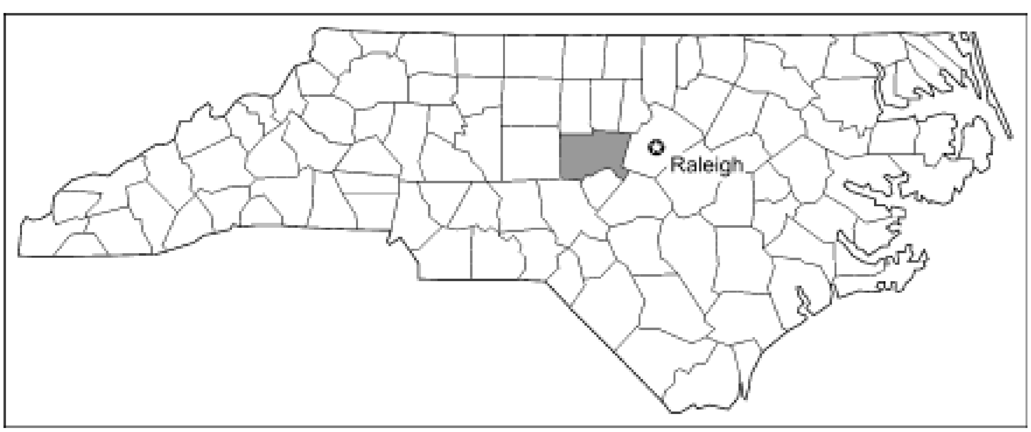

Figure 1.—Location of Chatham County in North Carolina.

History and Development

Jane Pyle, Chatham County Historical Association, helped prepare this section.

In 1771, the Colonial Assembly decided to divide part of Orange County into several new counties. Chatham County is one of the counties that was established. The county was named in honor of William Pitt the Elder, Earl of Chatham, who defended the rights of colonists in the British Parliament. The name of the county seat changed from Chatham to Pittsboro after its incorporation in 1787. The county was settled in the mid-eighteenth century by Quakers traveling by land from the north and by Scotch-Irish migrants traveling up the Cape Fear River from the southeast.

Farmers, like the Native American hunters and gatherers before them, raised corn and other crops for home consumption and supplemented their diet with the abundant wild game of the rich bottomlands. Cash crops included cotton, tobacco, nursery and orchard stock, and potatoes. At the turn of the century Chatham County enjoyed a widespread reputation for rabbit, which graced the tables of New York hotels. More than 26,000 rabbits were shipped from Siler City alone in 1912.

The rural nature of the county has changed little through the years. Beef and dairy cattle, swine, and poultry have been important historically. At one time there were over 150 dairies operating within the county. Forestry has also been an important industry over the years, contributing oaks for early log houses, dogwood shuttles for cotton mills, crossties for railroads, and pine logs for pulp and plywood industries.

Today, Chatham County is undergoing a rapid transition from a rural county to one that is increasingly urbanized. Its close proximity to Raleigh, Durham, Chapel Hill, and Research Triangle has brought about a boom in residential development (fig. 2). While most of the western half of the county remains rural, Pittsboro and the northeastern

Figure 2.—Cows grazing near homes in Fearrington Village. This community is located on farmland that dates back to the 1700s.

section of the county are seeing a rapid shift in land use from woodland and agriculture use to suburban housing.

In 2002, the major agricultural commodities were poultry, lumber, milk, eggs, tobacco, and beef. Most of the county's light manufacturing was located in Siler City while heavy industry was concentrated along the Cape Fear River, southeast of Moncure.

Physiography, Relief, and Drainage

Chatham County is in the Piedmont physiographic region. Most slopes are gently sloping to strongly sloping. The steeper areas are dissected by drainageways.

The elevation ranges from 150 feet above sea level at the edge of the Cape Fear River near the Harnett County line to 774 feet above sea level about 2 miles north of Silk Hope.

Chatham County is in the Cape Fear River basin. For the most part, streams in western Chatham County drain into the Rocky River and Bear Creek, streams in the extreme southern part of the county along the Moore and Lee County lines drain into the Deep River, streams in the central part of the county drain into the Haw River, and streams in the eastern part of the county drain into Jordan Lake.

Water Resources

While municipal water is available in some areas of the northeastern, southeastern, and southwestern parts of the county as well as all of the Goldston, Pittsboro, and Siler City areas, the majority of rural residences still rely on drilled wells for their water.

Supplies of ground water for single-family domestic use are presently adequate in many parts of Chatham County. However, users requiring large volumes of water often have trouble finding enough to meet their needs. Dry and low-yielding wells are found throughout the county; the area surrounding Jordan Lake experiences the most difficulties. In 2000, the average depth of wells being drilled for residential use was 300 to 400 feet. The quality of ground water in most areas is good. Wells drilled in the Carolina Slate Belt portion of the county often have iron, manganese, and sulfur in their water, but these elements are rarely in high enough quantities to cause health concerns. The ground water in the north-central part of the county near Chapel Hill tends to be very strongly acid with a pH ranging from 4.5 to 5.5. This generally does not cause problems if plastic water pipes are used.

Climate

Prepared by the Natural Resources Conservation Service National Water and Climate Center, Portland, Oregon.

Climate data are provided in the tables "Temperature and Precipitation," "Freeze Dates in Spring and Fall," and "Growing Season." The data were recorded at Siler City, North Carolina, in the period 1971 to 2000.

Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from the First Order station in Raleigh, North Carolina.

In winter, the average temperature is 40.3 degrees F and the average daily minimum temperature is 28.6 degrees. The lowest temperature on record, which occurred at Siler City on January 21, 1985, was -11 degrees. In summer, the average temperature is 75.4 degrees and the average daily maximum temperature is 86.7 degrees. The highest temperature, which occurred at Siler City on July 29, 1952, was 107 degrees.

Growing degree days are shown in the table "Temperature and Precipitation." 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 average annual total precipitation is 48.06 inches at Siler City, which is typical for all of Chatham County. Of this, about 28.59 inches, or 59 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall was 7.36 inches at Siler City on October 15, 1954, which occurred as a result of Hurricane Hazel. Thunderstorms occur on about 44 days each year, and most occur between May and August.

The average seasonal snowfall is 4.3 inches. The greatest snow depth at any one time during the period of record was 22 inches and was recorded on January 25, 2000. On average, less than one day each year has at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was approximately 20 inches, recorded on January 25, 2000.

The average relative humidity in mid-afternoon is usually between 55 and 60 percent, except in March and April when the average relative humidity is usually around 45 percent. Humidity is higher at night, and the average at dawn is about 90 percent in the late summer and around 75 percent in the winter. The sun shines 60 percent of the time possible in summer and 55 percent of the time possible in winter. The prevailing wind is from the southwest in most months, except in August through October when it is from the northeast. Average wind speed is highest, around 9 miles per hour, from February to April.

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. Georgeville-Badin-Nanford

Gently sloping to steep, well drained soils that have a silt loam or silty clay loam surface layer and a clayey subsoil; on uplands

Setting

Location in the survey area: West of Jordan Lake, mainly along U.S. Highway 64 between Pittsboro and Siler City
Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Interstream divides, broad to narrow ridges, hill slopes, and side slopes
Slope: 2 to 35 percent

Map Unit Composition

Extent of the map unit in the survey area: 150,370 acres or 35 percent
Extent of the components in the map unit:
Georgeville soils: 45 percent
Badin soils: 15 percent
Nanford soils: 10 percent
Minor soils: 30 percent, including Cid, Lignum, and Herndon soils

Soil Characteristics

Georgeville
Surface layer: Red silty clay loam
Subsoil: Upper part—red clay; lower part—red silty clay loam
Underlying material: Reddish yellow silt loam saprolite that has red mottles
Depth class: Very deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 2 to 30 percent
Parent material: Residuum weathered from fine-grained metavolcanic rock

Badin

Surface layer: Brown silt loam
Subsoil: Upper part—strong brown clay; next part—strong brown silty clay loam; lower part—strong brown clay loam
Bedrock: Weathered, moderately fractured argillite
Depth class: Moderately deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 2 to 35 percent
Parent material: Residuum weathered from fine-grained metavolcanic rock

Nanford

Surface layer: Brown silt loam
Subsurface layer: Light brown silt loam
Subsoil: Upper part—strong brown silty clay loam; next part—strong brown silty clay that has brown mottles; lower part—strong brown silty clay loam that has brown mottles
Underlying material: Reddish yellow loam saprolite
Bedrock: Weathered, moderately fractured fine-grained metavolcanic rock
Depth class: Deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 2 to 30 percent
Parent material: Residuum weathered from fine-grained metavolcanic rock

Minor soils

- Somewhat poorly drained or moderately well drained Cid and Lignum soils that have a yellower subsoil and are in concave areas at the heads of drainageways, on foot slopes, and along drainageways
- Random areas of Herndon soils that are similar to the Georgeville soil but have a yellower subsoil

Use and Management

Major uses: Woodland, pasture and hayland, cropland, and urban development

Cropland

Management concerns: Erodibility on all slopes and equipment limitations on slopes greater than 15 percent

Woodland

Management concerns: Erodibility on eroded map units and on slopes greater than 15 percent and equipment use on slopes greater than 15 percent

Urban development

Management concerns: Restricted permeability, low strength, and steepness of slope on slopes greater than 15 percent

Recreational development

Management concerns: Steepness of slope and erodibility

2. Cid-Nanford-Lignum

Gently sloping to steep, somewhat poorly drained to well drained soils that have a silt loam surface layer and a clayey subsoil; on uplands

Setting

Location in the survey area: West of U.S. Highway 15-501 and Jordan Lake

Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Interstream divides, broad to narrow ridges, and side slopes
Slope: 2 to 30 percent

Map Unit Composition

Extent of the map unit in the survey area: 123,238 acres or 28 percent
Extent of the components in the map unit:
Cid soils: 45 percent
Nanford soils: 15 percent
Lignum soils: 15 percent
Minor soils: 25 percent, including Badin, Georgeville, and Goldston soils

Soil Characteristics

Cid
Surface layer: Brown silt loam
Subsurface layer: Very pale brown silt loam
Subsoil: Upper part—yellow silty clay loam that has strong brown mottles; next part—yellow silty clay that has strong brown and light gray mottles; lower part—gray silty clay loam that has strong brown mottles
Bedrock: Upper part—soft weathered argillite; lower part—hard unweathered argillite
Depth class: Moderately deep
Agricultural drainage class: Somewhat poorly drained or moderately well drained
Depth to seasonal high water table: 1.5 to 2.5 feet
Slope: 2 to 10 percent
Parent material: Residuum weathered from fine-grained metavolcanic rock

Nanford
Surface layer: Brown silt loam
Subsurface layer: Light brown silt loam
Subsoil: Upper part—strong brown silty clay loam; next part—strong brown silty clay that has brown mottles; lower part—strong brown silty clay loam that has brown mottles
Underlying material: Reddish yellow loam saprolite
Bedrock: Weathered, moderately fractured fine-grained metavolcanic rock
Depth class: Deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 2 to 30 percent
Parent material: Residuum weathered from fine-grained metavolcanic rock

Lignum
Surface layer: Pale yellow silt loam
Subsurface layer: Very pale brown silt loam
Subsoil: Upper part—brownish yellow silty clay loam that has light gray mottles: next part—brownish yellow silty clay loam that has reddish yellow and light gray mottles: next part—yellow, strong brown, red, and light gray silty clay; lower part—reddish yellow silt loam that has white mottles
Bedrock: Weathered, moderately fractured argillite
Depth class: Deep
Agricultural drainage class: Somewhat poorly drained or moderately well drained
Depth to seasonal high water table: 1.0 to 2.5 feet
Slope: 2 to 6 percent
Parent material: Residuum weathered from fine-grained metavolcanic rock

Minor soils

- Random areas of well drained, moderately deep Badin soils
- Random areas of well drained, very deep Georgeville soils
- Random areas of well drained, shallow Goldston soils that have soft bedrock at a depth of 10 to 20 inches and a rock fragment content greater than 35 percent, by volume

Use and Management

Major uses: Woodland and pasture (fig. 3) and hayland

Cropland

Management concerns: Cid—wetness, erodibility, and equipment use; Nanford—erodibility on all slopes and equipment use on slopes greater than 15 percent; Lignum—wetness, erodibility, and equipment use

Woodland

Management concerns: Cid—windthrow hazard, seedling survival, and equipment use; Nanford—seedling survival on all slopes and equipment use on slopes greater than 15 percent; Lignum—seedling survival and equipment use

Urban development

Management concerns: Cid—wetness, depth to bedrock, restricted permeability, shrink-swell potential, and erodibility; Nanford—erodibility and restricted permeability on all slopes and steepness of slope on slopes greater than 15 percent; Lignum—wetness, restricted permeability, shrink-swell potential, and erodibility

Recreational development

Management concerns: Cid—wetness, steepness of slope, and erodibility; Nanford—erodibility and steepness of slope; Lignum—wetness, steepness of slope, and erodibility

Figure 3.—A windthrown tree an in area of Carbonton-Brickhaven complex.

3. Creedmoor-Green Level

Gently sloping to moderately steep, somewhat poorly drained or moderately well drained, slowly to very slowly permeable soils that have loamy surface layers and a firm, moderately plastic to very firm, very plastic clay subsoil on uplands.

Setting

Location in the survey area: Eastern part of the county around Jordan Lake, the west side of Harris Lake, eastward to the Wake County line, and northward to the Durham County line.
Landscape: Piedmont Triassic Basin
Landform: Interstream divides, broad to narrow ridges, hill slopes, and side slopes
Slope: 2 to 15 percent

Map Unit Composition

Extent of the map unit in the survey area: 51,658 acres or 12 percent
Extent of the components in the map unit:
Creedmoor soils: 45 percent
Green Level soils: 30 percent
Minor soils: 25 percent, including White Store, Polkton, and Mayodan soils

Soil Characteristics

Creedmoor
Surface layer: Brown sandy loam
Subsurface layer: Very pale brown sandy loam
Subsoil: Upper part—yellowish brown sandy clay loam; next part—yellowish brown clay that has red and strong brown mottles; lower part—yellowish brown clay that has light brownish gray, pale brown, and strong brown mottles
Underlying material: Multicolored in shades of yellow, brown, red, gray, and white sandy clay loam saprolite
Depth class: Very deep
Agricultural drainage class: Somewhat poorly drained or moderately well drained
Depth to seasonal high water table: 1.0 to 2.0 feet below the soil surface
Slope: 2 to 15 percent
Parent material: Residuum weathered from Triassic sandstone, mudstone, shale, siltstone, and conglomerate

Green Level
Surface layer: Yellowish brown sandy loam
Subsurface layer: Pale brown sandy loam
Subsoil: Upper part—brownish yellow sandy loam that has light brownish gray mottles; next part—brownish yellow clay that has light brownish gray mottles; next part—yellowish brown clay that has red and light gray mottles; next part—yellowish red clay that has red and light brownish gray mottles; next part—light gray clay that has red and strong brown mottles; next part—light brownish gray clay that has yellowish red mottles; lower part—light brownish gray clay loam
Underlying material: Upper part—pale yellow sandy loam saprolite that has reddish yellow mottles; lower part—pink sandy loam saprolite that has reddish yellow mottles
Depth class: Very deep
Agricultural drainage class: Somewhat poorly drained or moderately well drained
Depth to seasonal high water table: 1.0 to 1.5 feet below the soil surface
Slope: 2 to 15 percent

Parent material: Residuum weathered from Triassic sandstone, mudstone, siltstone, shale, and conglomerate

Minor soils

- Random areas of moderately well drained, deep White Store soils that have soft bedrock at a depth of 40 to 60 inches
- Random areas of moderately well drained, moderately deep Polkton soils that have soft bedrock at a depth of 20 to 40 inches

Use and Management

Major uses: Woodland, public recreational facilities, cropland, pasture and hayland, and urban development

Cropland
Management concerns: Wetness, erodibility, and soil fertility

Woodland
Management concerns: Creedmoor—equipment use; Green Level—erodibility and equipment use

Urban development
Management concerns: Wetness, restricted permeability, shrink-swell potential, and low strength

Recreational development
Management concerns: Wetness, restricted permeability, steepness of slope, and erodibility

4. Callison-Lignum

Gently sloping to strongly sloping, somewhat poorly drained or moderately well drained soils that have a loamy surface layer and a loamy or clayey subsoil; on uplands

Setting

Location in the survey area: Western part of the county, mainly the area around Harper's Crossroad to the Randolph County line
Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Broad interstream divides, ridges, side slopes, drainageways, and heads of drainageways
Slope: 2 to 10 percent

Map Unit Composition

Extent of the map unit in the survey area: 36,238 acres or 8 percent
Extent of the components in the map unit:
Callison soils: 45 percent
Lignum soils: 20 percent
Minor soils: 35 percent, including Nanford, Badin, Cid, Misenheimer, and Georgeville soils

Soil Characteristics

Callison
Surface layer: Brown silt loam
Subsurface layer: Light olive brown silt loam

Subsoil: Upper part—olive yellow silt loam; next part—light olive brown silty clay loam that has pale yellow mottles; lower part—light olive brown silty clay loam that has light gray and strong brown mottles
Underlying material: Light olive brown silt loam saprolite that has white and light yellowish brown mottles
Bedrock: Upper part—weathered, moderately fractured argillite; lower part—unweathered, slightly fractured argillite
Depth class: Moderately deep
Agricultural drainage class: Somewhat poorly drained or moderately well drained
Depth to seasonal high water table: 1.5 to 3.0 feet
Slope: 2 to 10 percent
Parent material: Residuum weathered from fine-grained metavolcanic rock

Lignum
Surface layer: Pale yellow silt loam
Subsurface layer: Very pale brown silt loam
Subsoil: Upper part—brownish yellow silty clay loam that has light gray mottles; next part—brownish yellow silty clay loam that has reddish yellow and light gray mottles; next part—yellow, strong brown, red, and light gray silty clay; lower part—reddish yellow silt loam that has white mottles
Bedrock: Soft, weathered argillite
Depth class: Deep
Agricultural drainage class: Somewhat poorly drained or moderately well drained
Depth to seasonal high water table: 1.0 to 2.5 feet
Slope: 2 to 6 percent
Parent material: Residuum weathered from fine-grained metavolcanic rock

Minor soils
- Random areas of deep well drained Nanford soils that have soft bedrock at a depth of 40 to 60 inches
- Random areas of moderately deep, well drained Badin soils that have soft bedrock at a depth of 20 to 40 inches
- Random areas of moderately deep, somewhat poorly drained or moderately well drained Cid soils that have a clayey subsoil and have bedrock at a depth of 20 to 40 inches
- Random areas of shallow, somewhat poorly drained or moderately well drained Misenheimer soils that have soft bedrock at a depth of 10 to 20 inches
- Random areas of well drained, very deep Georgeville soils

Use and Management

Major uses: Woodland and pasture and hayland
Management concerns: Wetness, erodibility, and equipment use

Woodland
Management concerns: Callison—windthrow hazard, seedling survival, and equipment use; Lignum—seedling survival and equipment use

Urban development
Management concerns: Callison—wetness, depth to bedrock, erodibility, and steepness of slope on slopes greater than 15 percent; Lignum—wetness, restricted permeability, shrink-swell potential, and erodibility

Recreational developmental
Management concerns: Wetness, steepness of slope, and erodibility

5. Wedowee

Gently sloping to steep, well drained soils that have a loamy surface layer and a clayey subsoil; on uplands

Setting

Location in the survey area: Northern part of the county, south of Chapel Hill
Landscape: Piedmont uplands
Landform: Ridges and side slopes
Slope: 2 to 35 percent

Map Unit Composition

Extent of the map unit in the survey area: 23,431 acres or 5 percent
Extent of the components in the map unit:
Wedowee soils: 80 percent
Minor soils: 20 percent, including Helena and Vance soils

Soil Characteristics

Wedowee soils
Surface layer: Yellowish brown sandy loam
Subsurface layer: Brown sandy loam
Subsoil: Upper part—strong brown clay that has yellowish red mottles; lower part—reddish yellow clay loam that has yellow and very pale brown mottles
Underlying material: Reddish yellow sandy loam saprolite that has yellow and very pale brown mottles
Depth class: Very deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope: 2 to 35 percent
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock

Minor soils
- Very deep, moderately well drained Helena soils in low areas and at the heads of drainageways
- Random areas of very deep, well drained Vance soils that have a slowly permeable subsoil

Use and Management

Major uses: Woodland, pasture and hayland, and urban development

Cropland
Management concerns: Erodibility, large stones and boulders in some areas, and steepness of slope and equipment use for slopes greater than 15 percent

Woodland
Management concerns: Equipment use on slopes over 15 percent

Urban development
Management concerns: Large stones and boulders in some areas and erodibility and equipment use on slopes over 15 percent

Recreational development
Management concerns: Large stones and boulders in some areas, steepness of slope, and restricted permeability

6. Peawick-Riverview-Mattaponi

Nearly level to strongly sloping, moderately well drained or well drained soils that have a loamy surface layer and a clayey or loamy subsoil; on low to high stream terraces and flood plains along major rivers and streams

Location in the survey area: Southern part of the county along the Deep River and the Cape Fear River
Landscape: Piedmont river and stream valleys
Landform: Low to high stream terraces and flood plains
Slope: 0 to 15 percent

Map Unit Composition

Extent of the map unit in the survey area: 13,229 acres or 3 percent
Extent of the components in the map unit:
Peawick soils: 35 percent
Riverview soils: 20 percent
Mattaponi soils: 15 percent
Minor soils: 30 percent, including Chewacla, Wehadkee, State, Merry Oaks, and Moncure soils

Soil Characteristics

Peawick
Surface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish brown loam; next part—strong brown clay that has light yellowish brown mottles; next part—strong brown clay that has brownish yellow, light gray, and red mottles; next part—brownish yellow clay that has light gray and red mottles; lower part—strong brown clay loam that has light gray mottles
Depth class: Very deep
Agricultural drainage class: Moderately well drained
Depth to seasonal high water table: 1.5 to 3.0 feet
Slope: 0 to 15 percent
Parent material: Alluvium derived mainly from fine-grained sedimentary rock of the Triassic Basin and fine-grained metavolcanic rock of the Carolina Slate Belt

Riverview
Surface layer: Brown silt loam
Subsoil: Upper part—brown loam; next part—strong brown loam that has light brown and brown mottles; lower part—strong brown loam that has brown and pinkish gray mottles
Underlying material: Upper part—brown sandy loam; lower part—reddish yellow clay loam that has strong brown mottles
Depth class: Very deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: 3.0 to 5.0 feet
Slope: 0 to 3 percent
Parent material: Recent alluvium

Mattaponi
Surface layer: Light yellowish brown fine sandy loam
Subsurface layer: Brownish yellow fine sandy loam
Subsoil: Upper part—yellowish brown sandy clay loam that has yellowish red mottles; next part—strong brown clay that has yellowish red and brownish yellow mottles; lower part—strong brown clay that has red, white, and very pale brown mottles

Depth class: Very deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: 3.0 to 6.0 feet
Slope: 0 to 15 percent
Parent material: Alluvium derived mainly from fine-grained sedimentary rock of the Triassic Basin and fine-grained metavolcanic rock of the Carolina Slate Belt

Minor soils
- Somewhat poorly drained Chewacla and poorly drained Wehadkee soils on flood plains
- Random areas of well drained State soils that have a loamy subsoil
- Somewhat poorly drained Merry Oaks and poorly drained Moncure soils in low lying areas and depressions

Use and Management

Major uses: Cropland, woodland, pasture and hayland, and urban development

Cropland
Management concerns: Peawick—erodibility and wetness; Riverview—flooding; Mattaponi—erodibility

Woodland
Management concerns: Equipment use

Urban development
Management concerns: Peawick—wetness, restricted permeability, low strength, flooding, and shrink-swell potential; Riverview—flooding; Mattaponi—restricted permeability and low strength

Recreational development
Management concerns: Peawick—restricted permeability, erodibility, steepness of slope, and flooding; Riverview—flooding; Mattaponi—restricted permeability, erodibility, and steepness of slope

7. Carbonton-Brickhaven

Gently sloping to moderately steep, somewhat poorly drained or moderately well drained, slowly permeable soils that have a loamy surface layer and a clayey subsoil; on uplands

Setting

Location in the survey area: South-central part of the county along the Lee County line near the Gulf community
Landscape: Piedmont uplands in the Triassic Basin
Landform: Interstream divides, heads of drainageways, ridges, and side slopes
Slope: 2 to 30 percent

Map Unit Composition

Extent of the map unit in the survey area: 12,207 acres or 3 percent
Extent of the components in the map unit:
Carbonton soils: 35 percent
Brickhaven soils: 30 percent
Minor soils: 35 percent, including Creedmoor, Green Level, Mayodan, and Iredell soils

Soil Characteristics

Carbonton

Surface layer: Brown silt loam
Subsoil: Upper part—strong brown silt loam; next part—reddish brown silty clay; lower part—reddish brown silty clay loam
Bedrock: Weathered, moderately fractured Triassic siltstone
Depth class: Moderately deep
Agricultural drainage class: Somewhat poorly drained
Depth to seasonal high water table: 1.0 to 2.0 feet
Slope: 2 to 15 percent
Parent material: Residuum weathered from Triassic siltstone, mudstone, shale, sandstone, and conglomerate

Brickhaven

Surface layer: Brown silt loam
Subsurface layer: Light yellowish brown silt loam
Subsoil: Upper part—yellowish red silty clay loam; next part—reddish brown silty clay; lower part—reddish brown silty clay loam
Bedrock: Weathered, moderately fractured Triassic siltstone
Depth class: Deep
Agricultural drainage class: Moderately well drained
Depth to seasonal high water table: 1.5 to 3.0 feet
Slope: 2 to 30 percent
Parent material: Residuum weathered from Triassic siltstone, mudstone, shale, sandstone, and conglomerate

Minor soils

- Random areas of very deep, moderately well drained Creedmoor soils that have a high shrink-swell potential and bedrock at a depth of more than 60 inches
- Random areas of very deep, somewhat poorly drained Green Level soils that have a very high shrink swell potential and very slow permeability
- Random areas of very deep, moderately well drained Iredell soils that have bedrock at a depth of 40 to more than 60 inches, a very high shrink-swell potential, very slow permeability, and are slightly acid to alkaline

Use and Management

Major uses: Woodland and strip mining for source material in manufacture of brick

Cropland

Management concerns: Carbonton—erodibility, wetness, rooting depth, and soil fertility; Brickhaven—erodibility, wetness, and soil fertility

Woodland

Management concerns: Carbonton—windthrow hazard (fig. 4) and equipment use; Brickhaven—no significant limitations

Urban development

Management concerns: Carbonton—wetness, depth to bedrock, erodibility, restricted permeability, and shrink-swell potential; Brickhaven—wetness, erodibility, restricted permeability, and shrink-swell potential

Recreational developmental

Management concerns: Carbonton—depth to bedrock, restricted permeability, wetness, and steepness of slope; Brickhaven—restricted permeability, wetness, and steepness of slope

Figure 4.—A pasture in an area of Cid-Lignum complex, 2 to 6 percent slopes. These soils are moderately suited to pasture.

8. Mayodan

Gently sloping to steep, well drained, moderately permeable soils that have a loamy surface layer and a clayey subsoil; on uplands

Setting

Location in the survey area: Around the southern end of Jordan Lake and the town of Moncure
Landscape: Piedmont uplands in the Triassic Basin
Landform: Interstream divides, ridges, and side slopes
Slope: 2 to 30 percent

Map Unit Composition

Extent of the map unit in the survey area: 7,865 acres or 2 percent
Extent of the components in the map unit:
Mayodan soils: 60 percent
Minor soils: 40 percent, including Brickhaven, Carbonton, Creedmoor, Green Level, Riverview, and Peawick soils

Soil Characteristics

Mayodan
Surface layer: Light yellowish brown fine sandy loam
Subsurface layer: Pale yellow fine sandy loam
Subsoil: Upper part—brownish yellow loam; next part—reddish yellow clay loam; next

part—reddish yellow clay that has red mottles; lower part—reddish yellow clay loam that has yellow and red mottles
Underlying material: Brownish yellow loam saprolite that has yellow, red, and light gray mottles
Depth class: Very deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope: 2 to 30 percent
Parent material: Residuum weathered from Triassic sandstone and conglomerate

Minor soils

- Random areas of deep, moderately well drained Brickhaven soils that have soft bedrock at a depth to 40 to 60 inches and have more than 30 percent silt in the subsoil
- Random areas of moderately deep, somewhat poorly drained Carbonton soils that have soft bedrock at a depth of 20 to 40 inches and have more than 30 percent silt in the subsoil
- Random areas of very deep, moderately well drained Creedmoor soils that have a high shrink-swell potential
- Random areas of very deep, moderately well drained Green Level soils that have a very high shrink-swell potential
- Very deep, well drained Riverview soils on flood plains
- Very deep, moderately well drained Peawick soils on low to high stream terraces along major rivers and streams

Use and Management

Major uses: Woodland, recreational areas, pasture and hayland, cropland, and urban development

Cropland
Management concerns: Erodibility and equipment use on slopes greater than 15 percent

Woodland
Management concerns: Erodibility and equipment use on slopes greater than 15 percent

Urban development
Management concerns: Restricted permeability, shrink-swell potential, and low strength

Recreational development
Management concerns: Steepness of slope

9. Cecil-Pacolet

Gently sloping to steep, well drained soils that have a gravelly sandy loam surface layer and a predominately clayey subsoil; on uplands

Setting

Location in the survey area: Far southeastern panhandle of the county, southeast of Harris Lake to the Harnett County line and south to the Cape Fear River
Landscape: Piedmont uplands
Landform: Interstream divides, ridges, and side slopes
Slope: 2 to 25 percent

Map Unit Composition

Extent of the map unit in the survey area: 6,956 acres or 2 percent
Extent of the components in the map unit:
Cecil soils: 50 percent
Pacolet soils: 35 percent
Minor soils: 15 percent, including Wedowee and Louisa soils

Soil Characteristics

Cecil
Surface layer: Dark yellowish brown gravelly sandy loam
Subsurface layer: Yellowish brown gravelly sandy loam
Subsoil: Upper part—red clay; lower part—red clay loam that has reddish yellow mottles
Underlying material: Mottled red, reddish yellow, and pinkish white loam saprolite
Depth class: Very deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope: 2 to 15 percent
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock

Pacolet
Surface layer: Brown gravelly sandy loam
Subsoil: Upper part—reddish yellow clay loam; next part—red clay; lower part—red clay loam
Underlying material: Yellowish red loam saprolite that has reddish yellow and red mottles
Depth class: Very deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope: 15 to 25 percent
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock

Minor soils
- Random areas of Wedowee soils that have a yellower subsoil
- Shallow Louisa soils that have soft bedrock at a depth of 10 to 20 inches and are on very steep side slopes

Use and Management

Major uses: Woodland, pasture and hayland, and urban development

Cropland
Management concerns: Erodibility and equipment use on slopes greater than 15 percent

Woodland
Management concerns: Equipment use on slopes greater than 15 percent

Urban development
Management concerns: Restricted permeability and steepness of slope

Recreational development
Management concerns: Steepness of slope and rock fragment content

10. Nanford-Badin

Gently sloping to steep, well drained soils that have a silt loam surface layer and a clayey subsoil; on uplands

Setting

Location in the survey area: Southwestern part of the county along the Moore County line
Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Interstream divides, broad to narrow ridges, hill slopes, and side slopes
Slope: 2 to 35 percent

Map Unit Composition

Extent of the map unit in the survey area: 6,166 acres or 1 percent
Extent of the components in the map unit:
Nanford soils: 35 percent
Badin soils: 35 percent
Minor soils: 30 percent, including Goldston, Georgeville, Callison, Tarrus, and Cid soils

Soil Characteristics

Nanford
Surface layer: Brown silt loam
Subsurface layer: Light brown silt loam
Subsoil: Upper part—strong brown silty clay loam; next part—strong brown silty clay that has brown mottles; lower part—strong brown silty clay loam that has brown mottles
Underlying material: Reddish yellow loam saprolite
Bedrock: Weathered, moderately fractured fine-grained metavolcanic rock
Depth class: Deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 2 to 30 percent
Parent material: Residuum weathered from fine-grained metavolcanic rock

Badin
Surface layer: Brown silt loam
Subsoil: Upper part—strong brown clay; next part—strong brown silty clay loam; lower part—strong brown clay loam
Bedrock: Weathered, moderately fractured fine-grained metavolcanic rock
Depth class: Moderately deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 2 to 35 percent
Parent material: Residuum weathered from fine-grained metavolcanic rock

Minor soils
- Shallow Goldston soils that have soft bedrock at a depth of 10 to 20 inches and are on steep side slopes
- Random areas of very deep Georgeville soils that have bedrock at more than 6 feet
- Random areas of deep Tarrus soils that are similar to the Nanford soils but have a redder subsoil
- The moderately deep, somewhat poorly drained or moderately well drained Callison and Cid soils that have a yellower subsoil and are in concave areas at the head of drainageways, on foot slopes, and along drainageways

Use and Management

Major uses: Woodland, pasture and hayland, cropland, and urban development

Cropland
Management concerns: Erodibility on all slopes and equipment limitations on slopes greater than 15 percent

Woodland
Management concerns: Nanford—erodibility and equipment use on slopes greater than 15 percent; Badin—erodibility and equipment use on slopes greater than 15 percent and windthrow hazard

Urban development
Management concerns: Restricted permeability, low strength, corrosivity, and steepness of slope on slopes greater than 15 percent

Recreational development
Management concerns: Steepness of slope and erodibility

11. Helena-Vance-Wedowee

Gently sloping to strongly sloping, moderately well drained or well drained soils that have a loamy surface layer and a firm, moderately plastic, clayey subsoil; on uplands

Setting

Location in the survey area: North central part of the county along the Alamance and Orange County lines
Landscape: Piedmont uplands
Landform: Ridges, drainageways, and heads of drainageways
Slope: 2 to 35 percent

Map Unit Composition

Extent of the map unit in the survey area: 3,355 acres or 1 percent
Extent of the components in the map unit:
Helena soils: 40 percent
Vance soils: 30 percent
Wedowee soils: 25 percent
Minor soils: 5 percent, including Pittsboro soils

Soil Characteristics

Helena
Surface layer: Dark grayish brown sandy loam
Subsurface layer: Light yellowish brown sandy loam
Subsoil: Upper part—yellowish brown sandy clay loam; next part—yellowish brown clay that has strong brown mottles; next part—brownish yellow clay that has yellowish brown and light brownish gray mottles; lower part—reddish yellow clay loam that has light brownish gray and yellowish brown mottles
Underlying material: Mottled in shades of brown, red, yellow, and gray sandy clay loam saprolite
Depth class: Very deep
Agricultural drainage class: Moderately well drained
Depth to seasonal high water table: 1.5 to 2.5 feet
Slope: 2 to 10 percent

Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock

Vance

Surface layer: Dark yellowish brown sandy loam
Subsoil: Upper part—strong brown clay that has red mottles; next part—strong brown clay that has red, reddish yellow, and light yellowish brown mottles; lower part—yellowish red sandy clay that has pockets of sandy clay loam saprolite and strong brown and white mottles
Underlying material: Yellowish red sandy clay loam saprolite that has strong brown and white mottles
Depth class: Very deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope: 2 to 6 percent
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock

Wedowee

Surface layer: Yellowish brown sandy loam
Subsoil: Upper part—strong brown clay that has yellowish red mottles; lower part—reddish yellow clay loam that has yellow and very pale brown mottles
Underlying material: Reddish yellow sandy loam saprolite that has yellow and very pale brown mottles
Depth class: Very deep
Agricultural drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope: 2 to 35 percent
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock

Minor soils

- Random areas of moderately deep, moderately well drained Pittsboro soils that have soft bedrock at a depth of 20 to 40 inches, have a very high shrink-swell potential, are very slowly permeable, and are neutral or alkaline

Use and Management

Major uses: Woodland and pasture and hayland

Cropland

Management concerns: Helena—erodibility, wetness, and equipment use; Vance—erodibility; Wedowee—erodibility

Woodland

Management concerns: No significant limitations

Urban development

Management concerns: Helena—erodibility, wetness, shrink-swell potential, and restricted permeability; Vance—erodibility, shrink swell potential, and restricted permeability; Wedowee—erodibility and equipment use on slopes over 15 percent

Recreational development

Management concerns: Helena—wetness, erodibility, and restricted permeability; Vance—erodibility and restricted permeability; Wedowee—steepness of slope and restricted permeability

12. Chewacla-Wehadkee

Nearly level, poorly drained or somewhat poorly drained soils that have loamy surface and subsoil layers; on flood plains

Setting

Location in the survey area: Northeastern corner of the county at the headwaters of Jordan Lake along the Durham County line and along other major streams in the county
Landscape: Piedmont river and stream valleys
Landform: Floodplains
Slope: 0 to 2 percent

Map Unit Composition

Extent of the map unit in the survey area: 2,870 acres or 1 percent
Extent of the components in the map unit: 95 percent
Chewacla soils: 60 percent
Wehadkee soils: 35 percent
Minor soils: 5 percent, including Peawick and Riverview soils

Soil Characteristics

Chewacla
Surface layer: Yellowish brown silt loam
Subsoil: Upper part—yellowish brown silt loam; next part—brownish yellow loam that has pale brown mottles; next part—light brownish gray loam that has brownish yellow and strong brown mottles; next part—light gray loam that has dark yellowish brown mottles; lower part—light gray loam that has yellowish brown and brown mottles
Underlying material: Light gray sandy loam that has yellowish brown mottles and dark brown mottles
Depth class: Very deep
Agricultural drainage class: Somewhat poorly drained
Depth to seasonal high water table: 0.5 to 1.5 feet
Slope: 0 to 2 percent
Parent material: Recent alluvium

Wehadkee soils
Surface layer: Dark brown silt loam
Subsoil: Upper part—light brownish gray silt loam that has strong brown mottles; lower part—light brownish gray loam that has strong brown and yellowish brown mottles
Underlying material: Light brownish gray coarse sandy loam
Depth class: Very deep
Agricultural drainage class: Poorly drained
Depth to seasonal high water table: 0 to 1.0 foot
Slope: 0 to 2 percent
Parent material: Recent alluvium

Minor soils
- Moderately well drained Peawick soils that have a clayey subsoil and are on the higher stream terraces
- Well drained Riverview soils on the higher parts of the flood plain

Use and Management

Major uses: Woodland

Cropland
Management concerns: Frequent flooding and wetness

Woodland
Management concerns: Wehadkee—equipment use, windthrow hazard, and seedling survival; Chewacla—equipment use and windthrow hazard

Urban development
Management concerns: Frequent flooding and wetness

Recreational development
Management concerns: Frequent flooding and wetness

Detailed Soil Map Units

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

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, 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, Georgeville silty clay loam, 2 to 6 percent slopes, moderately eroded is a phase of the Georgeville series.

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

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Cid-Lignum complex, 2 to 6 percent slopes is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded is an undifferentiated group in this survey area.

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

The table "Acreage and Proportionate Extent of the Soils" lists the map units in this survey area. 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.

BaE—Badin-Nanford complex, 15 to 30 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the western part of the county and along the Haw River, in the Carolina Slate Belt
Landform: Narrow ridges and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 200 acres

Composition

Badin and similar soils: 50 percent
Nanford and similar soils: 30 percent
Dissimilar soils: 20 percent

Typical Profile

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

Subsoil:
6 to 16 inches—strong brown clay
16 to 24 inches—strong brown silty clay loam
24 to 32 inches—strong brown clay loam that has reddish yellow mottles

Bedrock:
32 to 42 inches—weathered, moderately fractured, fine-grained metavolcanic rock

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

Subsurface layer:
3 to 7 inches—light brown silt loam

Subsoil:
7 to 12 inches—strong brown silty clay loam
12 to 27 inches—strong brown silty clay that has brown mottles
27 to 38 inches—strong brown silty clay loam that has brown mottles

Underlying material:
38 to 57 inches—reddish yellow loam saprolite

Bedrock:
57 to 67 inches—weathered, moderately fractured, fine-grained metavolcanic rock

Soil Properties and Qualities

Depth class: Badin—moderately deep; Nanford—deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Badin—low; Nanford—moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Badin—moderate; Nanford—low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Very severe
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: Badin—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Nanford—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Somewhat poorly drained or moderately well drained Cid, Callison, and Lignum soils in concave areas at the heads of drainageways, on foot slopes, and along drainageways
- Random areas of surface stones and boulders that are usually designated by special symbols
- Random areas of shallow, well drained to excessively drained Goldston soils that have soft bedrock at a depth of less than 20 inches
- Random areas of very deep, well drained Georgeville soils that have a red subsoil and have bedrock at a depth of more than 60 inches

Similar:
- Random areas of Badin and Nanford soils that have a channery or gravelly surface layer
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or is less than 30 inches in depth
- Random areas of deep, well drained Tarrus soils that have a red subsoil and have soft bedrock at a depth of 40 to 60 inches
- Random areas of Badin or Nanford soils that have a loam, fine sandy loam, or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Urban development and cropland

Agricultural Development

Cropland

Suitability: Poorly suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Badin—erodibility, equipment use, and rooting depth; Nanford—erodibility and equipment use
Management measures and considerations:

- This map unit is difficult to manage for cultivated crops because the slope limits the use of equipment.
- This map unit has severe limitations for cultivated crops because of steepness of slope.

Pasture and hayland

Suitability: Moderately suited to pasture; poorly suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and equipment use
Management measures and considerations:

- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity when establishing, maintaining, or renovating hay and pasture.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- The slope limits the use of equipment in the steeper areas.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland

Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Badin—erodibility, equipment use, and windthrow hazard; Nanford—erodibility and equipment use
Management measures and considerations:

- Restricting logging operations to periods when the soil is not saturated helps to prevent rutting and damage to tree roots resulting from soil compaction.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding all disturbed areas using adapted grasses and legumes helps to prevent soil erosion and siltation of streams.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome slope limitations.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Badin soils.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.

Urban Development

Dwellings

Suitability: Moderately suited

Management concerns: Badin—steepness of slope, depth to bedrock, and shrink-swell potential; Nanford—steepness of slope

Management measures and considerations:

- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling in the Badin soils.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields

Suitability: Badin—poorly suited; Nanford—moderately suited

Management concerns: Badin—steepness of slope, restricted permeability, and depth to bedrock; Nanford—steepness of slope

Management measures and considerations:

- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets

Suitability: Poorly suited

Management concerns: Badin—steepness of slope, low strength, and shrink-swell potential; Nanford—steepness of slope and low strength

Management measures and considerations:

- Incorporating sand and gravel into the soil, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas

Suitability: Poorly suited

Management concerns: Steepness of slope and erodibility

Management measures and considerations:

- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas

Suitability: Poorly suited

Management concerns: Steepness of slope and erodibility

Management measures and considerations:

- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.

- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Unsuited
Management concerns: Steepness of slope
Management measures and considerations:
- This map unit is severely limited for playgrounds because of steepness of slope. A site should be selected on better suited soils.

Paths and trails
Suitability: Poorly suited
Management concerns: Steepness of slope and erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 4e

BdB—Badin-Tarrus complex, 2 to 8 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border, in the Carolina Slate Belt
Landform: Interstream divides and ridges
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Badin and similar soils: 50 percent
Tarrus and similar soils: 40 percent
Dissimilar soils: 10 percent

Typical Profile

Badin
Surface layer:
0 to 6 inches—strong brown silt loam

Subsoil:
6 to 24 inches—red clay
24 to 32 inches—red sandy clay loam that has yellowish red and brown mottles

Bedrock:
32 to 60 inches—weathered, moderately fractured argillite

Tarrus
Surface layer:
0 to 6 inches—reddish yellow silt loam

Subsoil:
6 to 20 inches—red silty clay
20 to 44 inches—red clay that has brownish yellow mottles

Bedrock:
44 to 62 inches—weathered, moderately fractured argillite

Soil Properties and Qualities

Depth class: Badin—moderately deep; Tarrus—deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Badin—low; Tarrus—moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Badin—moderate; Tarrus—low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: Badin—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Tarrus—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of very deep, well drained Georgeville and Herndon soils that have bedrock at a depth of more than 60 inches
- Random areas of shallow, well drained to excessively drained Goldston soils that have soft bedrock at a depth of less than 20 inches
- Somewhat poorly drained or moderately well drained Callison, Cid, and Lignum soils along drainageways and at the heads of drainageways
- Random areas of moderately deep, moderately well drained Pittsboro soils, very deep, well drained Enon soils, and moderately deep, well drained Wynott soils that have a slow or very slow permeability and a high or very high shrink-swell potential
- Random areas of Badin and Tarrus soils that have a channery surface layer
- Random areas of surface stones and boulders that are usually designated by special symbols

Similar:
- Random areas of deep, well drained Nanford soils that have a strong brown or yellowish brown subsoil and soft bedrock at a depth of 40 to 60 inches
- Random areas of Badin and Tarrus soils that have a fine sandy loam or loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Cropland and urban development

Agricultural Development

Cropland
Suitability: Badin—moderately suited; Tarrus—well suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Badin—erodibility and rooting depth; Tarrus—erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.

- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity.
- Incorporating plant residue into the soil improves the water-holding capacity.
- Using shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchard grass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces soil erosion and increases germination.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity when establishing, maintaining, or renovating hay and pasture.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Badin—windthrow hazard; Tarrus—no significant limitations
Management measures and considerations:
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Badin soils.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Badin—depth to bedrock and shrink-swell potential; Tarrus—no significant limitations
Management measures and considerations:
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Badin—poorly suited; Tarrus—moderately suited
Management concerns: Depth to bedrock and restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Locating and installing septic tank absorption fields in the deeper Tarrus soil improves the performance of filter fields.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength

Management measures and considerations:
- Incorporating sand and gravel into the soil, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove small stones.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

BdC—Badin-Tarrus complex, 8 to 15 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border, in the Carolina Slate Belt
Landform: Ridges and hill slopes
Shape of areas: Long and narrow
Size of areas: 5 to 150 acres

Composition

Badin and similar soils: 45 percent
Tarrus and similar soils: 45 percent
Dissimilar soils: 10 percent

Typical Profile

Badin
Surface layer:
0 to 6 inches—strong brown silt loam

Subsoil:
6 to 24 inches—red clay
24 to 32 inches—red sandy clay loam that has yellowish red and brown mottles

Bedrock:
32 to 60 inches—weathered, moderately fractured argillite

Tarrus
Surface layer:
0 to 6 inches—reddish yellow silt loam

Subsoil:
6 to 20 inches—red silty clay
20 to 44 inches—red clay that has brownish yellow mottles

Bedrock:
44 to 62 inches—weathered, moderately fractured argillite

Soil Properties and Qualities

Depth class: Badin—moderately deep; Tarrus—deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Badin—low; Tarrus—moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Badin—moderate; Tarrus—low
Hazard of flooding: None
Surface runoff: Rapid
Hazard of water erosion: Severe
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: Badin—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Tarrus—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Very deep, well drained Georgeville soils that have bedrock at a depth of more than 60 inches and are on the higher landscape positions
- Shallow, well drained to excessively drained Goldston soils that have bedrock at a depth of less than 20 inches and are on the more sloping parts of the map unit
- Somewhat poorly drained or moderately well drained Callison, Cid, and Lignum soils along drainageways and at the heads of drainageways
- Random areas of surface stones and boulders that are usually designated by special symbols

Similar:
- Random areas of Badin and Tarrus soils that have a channery surface layer
- Random areas of deep, well drained Nanford soils that have a strong brown or yellowish brown subsoil and have soft bedrock at a depth of 40 to 60 inches
- Random areas of Badin and Tarrus soils that have a fine sandy loam or loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Cropland and urban development

Agricultural Development

Cropland
Commonly grown crops: Corn, soybeans, and small grains
Suitability: Moderately suited
Management concerns: Badin—erodibility and rooting depth; Tarrus—erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and crop rotation reduce soil erosion and help control surface runoff and maximize rainfall infiltration.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity.
- Incorporating plant residue into the soil improves the water-holding capacity.
- Using shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Steepness of slope may limit equipment use in the steeper areas when harvesting hay crops.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high
Management concerns: Badin—windthrow hazard; Tarrus—no significant limitations
Management measures and considerations:
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Badin soils.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Badin—steepness of slope and shrink-swell potential; Tarrus—steepness of slope
Management measures and considerations:
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Designing structures to conform to the natural slope improves soil performance.

- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Badin—poorly suited; Tarrus—moderately suited
Management concerns: Badin—depth to bedrock, restricted permeability, and steepness of slope; Tarrus—depth to bedrock and restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- Locating and installing septic tank absorption fields in the deeper Tarrus soil improves the performance of filter fields.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength, steepness of slope, and erodibility
Management measures and considerations:
- Incorporating sand and gravel into the soil, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Locating facilities in the less sloping areas helps to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations

Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

BeB2—Badin-Tarrus complex, 2 to 8 percent slopes, moderately eroded

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border, in the Carolina Slate Belt
Landform: Interstream divides and ridges
Shape of areas: Elongated or irregular
Size of areas: 5 to 50 acres

Composition

Badin and similar soils: 45 percent
Tarrus and similar soils: 40 percent
Dissimilar soils: 15 percent

Typical Profile

Badin
Surface layer:
0 to 8 inches—strong brown silty clay loam

Subsoil:
8 to 12 inches—yellowish red silty clay loam
12 to 27 inches—red clay
27 to 37 inches—red silty clay loam

Bedrock:
37 to 60 inches—weathered, moderately fractured, fine-grained metavolcanic rock

Tarrus
Surface layer:
0 to 10 inches—red silty clay loam

Subsoil:
10 to 25 inches—red silty clay
25 to 32 inches—red silty clay loam

Underlying material:
32 to 47 inches—red silt loam saprolite

Bedrock:
47 to 60 inches—weathered, moderately fractured, fine-grained metavolcanic rock

Soil Properties and Qualities

Depth class: Badin—moderately deep; Tarrus—deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Badin—low; Tarrus—moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Badin—moderate; Tarrus—low

Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Severe
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: Badin—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Tarrus—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of very deep Georgeville and Herndon soils that have soft bedrock at a depth of more than 60 inches
- Random areas of Goldston soils that have soft bedrock at a depth of less than 20 inches
- Somewhat poorly drained or moderately well drained Callison, Cid, and Lignum soils along drainageways and at the heads of drainageways
- Random areas of Pittsboro, Enon, and Wynott soils that have a slow or very slow permeability and a high shrink-swell potential
- Random areas of surface stones and boulders that are usually designated by special symbols

Similar:
- Random areas of Badin and Tarrus soils that have a channery surface layer
- Random areas of Nanford soils that have a strong brown or yellowish brown subsoil and have soft bedrock at a depth of 40 to 60 inches
- Random areas of Badin and Tarrus soils that have a fine sandy loam or loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Cropland and urban development

Agricultural Development

Cropland
Suitability: Badin—moderately suited; Tarrus—well suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Badin—erodibility and rooting depth; Tarrus—erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity.
- Incorporating plant residue into the soil improves the water-holding capacity.
- Using shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchard grass, and clover
Management concerns: Erodibility

Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces soil erosion and increases germination.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity when establishing, maintaining, or renovating hay and pasture.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Badin—windthrow hazard; Tarrus—no significant limitations
Management measures and considerations:
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Badin soils.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Badin—depth to bedrock and shrink-swell potential; Tarrus—no significant limitations
Management measures and considerations:
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Badin—poorly suited; Tarrus—moderately suited
*Management concerns:*Depth to bedrock and restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Locating and installing septic tank absorption fields in the deeper Tarrus soil improves the performance of filter fields.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations

Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove small stones.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

BeC2—Badin-Tarrus complex, 8 to 15 percent slopes, moderately eroded

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border, in the Carolina Slate Belt
Landform: Ridges, hill slopes, and side slopes
Shape of areas: Long and narrow
Size of areas: 5 to 150 acres

Composition

Badin and similar soils: 60 percent
Tarrus and similar soils: 35 percent
Dissimilar soils: 5 percent

Typical Profile

Badin
Surface layer:
0 to 8 inches—strong brown silty clay loam

Subsoil:
8 to 12 inches—yellowish red silty clay loam

12 to 27 inches—red clay
27 to 37 inches—red silty clay loam

Bedrock:
37 to 60 inches—weathered, moderately fractured, fine-grained metavolcanic rock

Tarrus
Surface layer:
0 to 10 inches—red silty clay loam

Subsoil:
10 to 25 inches—red silty clay
25 to 32 inches—red silty clay loam

Underlying material:
32 to 47 inches—red silt loam

Bedrock:
47 to 60 inches—weathered, moderately fractured, fine-grained metavolcanic rock

Soil Properties and Qualities

Depth class: Badin—moderately deep; Tarrus—deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Badin—low; Tarrus—moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Badin—moderate; Tarrus—low
Hazard of flooding: None
Surface runoff: Rapid
Hazard of water erosion: Severe
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: Badin—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Tarrus—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Very deep Georgeville soils that have bedrock at a depth of more than 60 inches and are on the higher landscape positions
- Goldston soils that have bedrock at a depth of less than 20 inches and are on the more sloping parts of the map unit
- Somewhat poorly drained or moderately well drained Callison, Cid, and Lignum soils at the heads of drainageways
- Random areas of surface stones and boulders that are usually designated by special symbols

Similar:
- Random areas of Badin and Tarrus soils that have a channery surface layer
- Random areas of Nanford soils that have a strong brown or yellowish brown subsoil and have soft bedrock at a depth of 40 to 60 inches
- Random areas of Badin and Tarrus soils that have a fine sandy loam or loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Cropland and urban development

Agricultural Development

Cropland
Commonly grown crops: Corn, soybeans, and small grains
Suitability: Poorly suited
Management concerns: Badin—erodibility and rooting depth; Tarrus—erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and crop rotation reduce soil erosion and help control surface runoff and maximize rainfall infiltration.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity.
- Incorporating plant residue into the soil improves the water-holding capacity.
- Using shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Steepness of slope may limit equipment use in the steeper areas when harvesting hay crops.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high
Management concerns: Badin—windthrow hazard; Tarrus—no significant limitations
Management measures and considerations:
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Badin soils.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Badin—steepness of slope and shrink-swell potential; Tarrus—steepness of slope
Management measures and considerations:
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Designing structures to conform to the natural slope improves soil performance.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Badin—poorly suited; Tarrus—moderately suited
Management concerns: Badin—depth to bedrock and steepness of slope; Tarrus—steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- Locating and installing septic tank absorption fields in the deeper Tarrus soil improves the performance of filter fields.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Locating facilities in the less sloping areas helps to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Steepness of slope and erodibility

Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

CaB—Callison-Lignum complex, 2 to 6 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the southwestern part of the county, in the Carolina Slate Belt
Landform: Broad interstream divides, ridges, drainageways, and heads of drainageways
Shape of areas: Irregular
Size of areas: 50 to 1,500 acres

Composition

Callison and similar soils: 55 percent
Lignum and similar soils: 30 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsurface layer:
3 to 7 inches—light olive brown silt loam

Subsoil:
7 to 15 inches—olive yellow silt loam
15 to 21 inches—light olive brown silty clay loam that has pale yellow mottles
21 to 30 inches—light olive brown silty clay loam that has light gray and strong brown mottles

Underlying material:
30 to 32 inches—light olive brown silt loam saprolite that has few white and light yellowish brown mottles

Bedrock:
32 to 42 inches—weathered, moderately fractured argillite
42 inches—unweathered, slightly fractured argillite

Lignum
Surface layer:
0 to 6 inches—pale yellow silt loam

Subsurface layer:
6 to 11 inches—very pale brown silt loam

Subsoil:
11 to 15 inches—brownish yellow silty clay loam that has light gray mottles
15 to 22 inches—brownish yellow silty clay loam that has reddish yellow and light gray mottles
22 to 29 inches—yellow, strong brown, red, and light gray silty clay
29 to 47 inches—reddish yellow silt loam that has white mottles

Bedrock:
47 to 60 inches—weathered, moderately fractured argillite

Soil Properties and Qualities

Depth class: Callison—moderately deep; Lignum—deep
Drainage class: Somewhat poorly drained or moderately well drained
Permeability: Callison—moderately slow; Lignum—very slow
Available water capacity: Callison—low; Lignum—moderate
Seasonal high water table: Callison—perched, at a depth of 1.0 to 3.0 feet from December through March; Lignum—perched, at a depth of 1.0 to 2.5 feet from December through May
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Slow to medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock
Depth to bedrock: Callison—20 to 40 inches to soft bedrock and 40 to 60 inches to hard bedrock; Lignum—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of Cid soils that have a clayey subsoil and have soft bedrock at a depth of 20 to 40 inches
- Random areas of moderately well drained soils that have hard bedrock at a depth of 40 to 60 inches
- Random areas of widely scattered surface stones and cobbles that are usually designated by special symbols

Similar:
- Random areas of Callison and Lignum soils that have a gravelly or channery surface layer
- Random areas of Callison and Lignum soils that have a loam or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland and cropland

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Callison—erodibility, rooting depth, and wetness; Lignum—erodibility and wetness
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.
- Maintaining drainageways and ditches helps to remove excess surface water.
- Returning plant residue to the soil improves the water-holding capacity.

- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of the Callison soils.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and wetness
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.

Woodland
Suitability: Well suited
Productivity class: Callison—moderately high; Lignum—high
Management concerns: Seedling survival
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Reducing the remaining canopy during site preparation increases the natural regeneration of hardwoods.
- Maintaining drainageways and planting wetness-tolerant trees increase seedling survival rates.
- Site preparation practices, such as chopping, prescribed burning, and herbicide application, reduce competition from unwanted plants.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Callison—depth to bedrock and wetness; Lignum—wetness
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Callison—depth to bedrock, wetness, and restricted permeability; Lignum—restricted permeability and wetness
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength and wetness
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.

- Constructing roads on raised, well-compacted fill material helps to overcome the wetness limitation.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the wetness limitation.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.

Picnic areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.

Playgrounds
Suitability: Poorly suited
Management concerns: Callison—steepness of slope and wetness; Lignum—wetness and restricted permeability
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove rock fragments.

Paths and trails
Suitability: Poorly suited
Management concerns: Wetness
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.
- Locating paths and trails on raised beds of gravel fill material helps to minimize the wetness problem.

Interpretive Group

Land capability classification: 2e

CbC—Callison-Misenheimer complex, 6 to 10 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the southwestern part of the county, in the Carolina Slate Belt

Landform: Broad interstream divides, ridges, drainageways, and heads of drainageways
Shape of areas: Irregular
Size of areas: 5 to 500 acres

Composition

Callison and similar soils: 50 percent
Misenheimer and similar soils: 35 percent
Dissimilar soils: 15 percent

Typical Profile

Callison
Surface layer:
0 to 9 inches—light gray silt loam that has pale yellow mottles

Subsurface layer:
9 to 14 inches—pale yellow silt loam that has light gray and yellow mottles

Subsoil:
14 to 26 inches—yellow silty clay loam that has pale yellow and light gray mottles
26 to 30 inches—light gray silt loam that has yellow, pale yellow, and strong brown mottles

Underlying material:
30 to 36 inches—white silt loam saprolite that has few yellow mottles

Bedrock:
36 to 40 inches—weathered, moderately fractured argillite
40 inches—unweathered, slightly fractured argillite

Misenheimer
Surface layer:
0 to 8 inches—light yellowish brown channery silt loam

Subsoil:
8 to 16 inches—brownish yellow channery silty clay loam that has light gray mottles

Bedrock:
16 to 22 inches—weathered, moderately fractured, fine-grained metavolcanic rock that has seams of brownish gray silt loam in cracks
22 inches—unweathered, moderately fractured, fine-grained metavolcanic rock

Soil Properties and Qualities

Depth class: Callison—moderately deep; Misenheimer—shallow
Drainage class: Somewhat poorly drained or moderately well drained
Permeability: Callison—moderately slow; Misenheimer—moderately rapid
Available water capacity: Callison—low; Misenheimer—very low
Seasonal high water table: Callison—perched, at a depth of 1.0 to 3.0 feet from December through March; Misenheimer—perched, at a depth of 1.0 to 1.5 feet from December through April
Hazard of flooding: None
Shrink-swell potential: Callison—moderate; Misenheimer—low
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock
Depth to bedrock: Callison—20 to 40 inches to soft bedrock and 40 to 60 inches to hard bedrock; Misenheimer—10 to 20 inches to soft bedrock and 20 to 40 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of Cid soils that have a clayey subsoil and have soft bedrock at a depth of 20 to 40 inches
- Random areas of deep Lignum soils that have a clayey subsoil and have soft bedrock at a depth of 40 to 60 inches

Similar:
- Random areas of Callison soils that have a gravelly or channery surface layer
- Random areas of Misenheimer soils that have a very gravelly or very channery surface layer
- Random areas of Callison and Misenheimer soils that have a loam or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland and cropland

Agricultural Development

Cropland
Suitability: Callison—moderately suited; Misenheimer—poorly suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Erodibility, rooting depth, and wetness
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.
- Maintaining drainageways and ditches helps to remove excess water.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of the Callison soils.

Pasture and hayland
Suitability: Callison—moderately suited; Misenheimer—poorly suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility, rooting depth, and wetness
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Misenheimer soils are difficult to manage for the production of pasture and hay crops because of the low available water capacity caused by the shallow rooting depth.

Woodland
Suitability: Well suited
Productivity class: Moderately high
Management concerns: Callison—windthrow hazard and seedling survival; Misenheimer—windthrow hazard, seedling survival, and equipment limitation
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction that occur when the soil is saturated.
- Reducing the remaining canopy during site preparation increases the natural regeneration of hardwoods.
- Maintaining drainageways and planting wetness-tolerant trees increase seedling survival rates.
- Site preparation practices, such as chopping, prescribed burning, and herbicide application, reduce competition from unwanted plants.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Misenheimer soil.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Callison—wetness; Misenheimer—depth to bedrock and wetness
Management measures and considerations:
- The drilling and blasting of hard rock or the use of special earth-moving equipment may be needed to increase the soil depth in areas of the Misenheimer soil.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Callison—depth to bedrock, wetness, and restricted permeability; Misenheimer—depth to bedrock and wetness
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Callison—wetness and low strength; Misenheimer—depth to bedrock and wetness
Management measures and considerations:
- Blasting or special grading equipment may be needed to construct roads on the Misenheimer soils.
- Designing roads to safely remove surface runoff improves soil performance.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Callison—moderately suited; Misenheimer—poorly suited
Management concerns: Callison—wetness, steepness of slope, and restricted permeability; Misenheimer—wetness, depth to bedrock, and steepness of slope
Management measures and considerations:
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.
- Providing a raised, level pad of gravel fill material helps to overcome the slope, depth to bedrock, and wetness limitations.
- Blasting or special grading equipment may be needed to construct access roads or campsites on the Misenheimer soils.

Picnic areas
Suitability: Moderately suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Designing picnic areas on raised pads of gravel fill material helps to minimize the wetness, depth to bedrock, steepness of slope, and restricted permeability problems.
- Blasting or special grading equipment may be needed to construct access roads or picnic areas on the Misenheimer soils.

Playgrounds
Suitability: Poorly suited
Management concerns: Callison—steepness of slope; Misenheimer—steepness of slope, depth to bedrock, and rock fragment content
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove rock fragments.

Paths and trails
Suitability: Callison—poorly suited; Misenheimer—moderately suited
Management concerns: Callison—erodibility; Misenheimer—wetness
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.
- Locating paths and trails on raised beds of gravel fill material helps to minimize the wetness problem.

Interpretive Group

Land capability classification: 3e

CcB—Carbonton-Brickhaven complex, 2 to 6 percent slopes

Setting

Landscape: Uplands; mainly in the southeastern part of the county near the communities of Gulf and Moncure and near the southern end of Jordan Lake, in the Triassic Basin

Landform: Interstream divides, heads of drainageways, ridges, and side slopes
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Carbonton and similar soils: 50 percent
Brickhaven and similar soils: 45 percent
Dissimilar soils: 5 percent

Typical Profile

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

Subsoil:
8 to 12 inches—strong brown silt loam
12 to 28 inches—reddish brown silty clay
28 to 34 inches—reddish brown silty clay loam

Bedrock:
34 to 62 inches—weathered, moderately fractured Triassic siltstone

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

Subsurface layer:
4 to 7 inches—light yellowish brown silt loam

Subsoil:
7 to 12 inches—yellowish red silty clay loam
12 to 37 inches—reddish brown silty clay
37 to 51 inches—reddish brown silty clay loam

Bedrock:
51 to 62 inches—weathered, moderately fractured Triassic siltstone

Soil Properties and Qualities

Depth class: Carbonton—moderately deep; Brickhaven—deep
Drainage class: Carbonton—somewhat poorly drained; Brickhaven—moderately well drained
Permeability: Slow
Available water capacity: Carbonton—low; Brickhaven—moderate
Seasonal high water table: Carbonton—perched, at a depth of 1.0 to 2.0 feet from November through May; Brickhaven—perched, at a depth of 1.5 to 3.0 feet from November through May
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from Triassic siltstone, mudstone, shale, and conglomerate
Depth to bedrock: Carbonton—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Brickhaven—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of moderately well drained soils that have bedrock at a depth of more than 60 inches
- Random areas of well drained Mayodan soils that have bedrock at a depth of more than 60 inches
- Random areas of Hallison and Mooshaunee soils that have less clay in the subsoil
- Random areas of eroded Carbonton and Brickhaven soils that have a silty clay loam or clay loam surface layer

Similar:
- Random areas of Carbonton and Brickhaven soils that have a gravelly, cobbly, or channery surface layer
- Random areas of similar soils that have a dark red subsoil
- Random areas of similar soils that have gray mottles in the upper subsoil
- Random areas of similar soils that have a loam, sandy loam, or fine sandy loam surface layer

Land Use

Dominant uses: Woodland (fig. 5)
Other uses: Pasture and hayland

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Carbonton—erodibility, wetness, rooting depth, and soil fertility; Brickhaven—erodibility, wetness, and soil fertility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize productivity.

Pasture and hayland
Suitability: Moderately suited
Commonly grown crops: Tall fescue and orchard grass
Management concerns: Erodibility, soil fertility, and wetness
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Figure 5.—Forestland in an area of Carbonton-Brickhaven complex, 2 to 6 percent slopes.

- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Installing and maintaining a subsurface drainage system improve the productivity of moisture-sensitive crops, such as alfalfa.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize productivity.

- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Well suited
Productivity class: Carbonton—moderately high for loblolly pine; Brickhaven—high for loblolly pine
Management concerns: Carbonton—windthrow hazard and equipment use; Brickhaven—no significant limitations
Management measures and considerations:
- Restricting logging operations to periods when the soil is not saturated helps to prevent rutting and damage to tree roots resulting from soil compaction.
- Maintaining surface litter increases water infiltration and reduces seedling mortality rates.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Carbonton soils.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Carbonton—shrink-swell potential, wetness, and depth to bedrock; Brickhaven—shrink-swell potential and wetness
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Carbonton—wetness, restricted permeability, and depth to bedrock; Brickhaven—wetness and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- These soils are subject to uneven settling and may be unstable if not properly compacted.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Restricted permeability and wetness
Management measures and considerations:
- Providing a gravel pad for tents and other facilities helps to overcome the wetness and restricted water movement in the soil.

Picnic areas
Suitability: Moderately suited
Management concerns: Restricted permeability and wetness
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.

Playgrounds
Suitability: Poorly suited
Management concerns: Carbonton—steepness of slope, depth to bedrock, restricted permeability, and wetness; Brickhaven—steepness of slope, restricted permeability, and wetness
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Determining the depth to bedrock prior to grading for the construction of playgrounds may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Wetness
Management measures and considerations:
- Locating paths and trails on raised beds of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

CcC—Carbonton-Brickhaven complex, 6 to 10 percent slopes

Setting

Landscape: Uplands; mainly in the southeastern part of the county near the communities of Gulf and Moncure and near the southern end of Jordan Lake, in the Triassic Basin
Landform: Interstream divides, heads of drainageways, ridges, and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 200 acres

Composition

Carbonton and similar soils: 50 percent
Brickhaven and similar soils: 35 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
8 to 12 inches—strong brown silt loam
12 to 28 inches—reddish brown silty clay
28 to 34 inches—reddish brown silty clay loam

Bedrock:
34 to 62 inches—weathered, moderately fractured, Triassic siltstone

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

Subsurface layer:
4 to 7 inches—light yellowish brown silt loam

Subsoil:
7 to 12 inches—yellowish red silty clay loam
12 to 37 inches—reddish brown silty clay
37 to 51 inches—reddish brown silty clay loam

Bedrock:
51 to 62 inches—weathered, moderately fractured, Triassic siltstone

Soil Properties and Qualities

Depth class: Carbonton—moderately deep; Brickhaven—deep
Drainage class: Carbonton—somewhat poorly drained; Brickhaven—moderately well drained
Permeability: Slow
Available water capacity: Carbonton—low; Brickhaven—moderate
Seasonal high water table: Carbonton—perched, at a depth of 1.0 to 2.0 feet from November through May; Brickhaven—perched, at a depth of 1.5 to 3.0 feet from November through May
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from Triassic siltstone, mudstone, shale, and conglomerate
Depth to bedrock: Carbonton—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Brickhaven—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of moderately well drained soils that have bedrock at a depth of more than 60 inches

- Random areas of well drained Mayodan soils that have bedrock at a depth of more than 60 inches
- Random areas of Hallison and Mooshaunee soils that have less clay in the subsoil
- Random areas of eroded Carbonton and Brickhaven soils that have a silty clay loam or clay loam surface layer

Similar:
- Random areas of Carbonton and Brickhaven soils that have a gravelly, cobbly, or channery surface layer
- Random areas of similar soils that have a dark red subsoil
- Random areas of similar soils that have gray mottles in the upper subsoil
- Random areas of similar soils that have a loam, sandy loam, or fine sandy loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Carbonton—erodibility, wetness, rooting depth, and soil fertility; Brickhaven—erodibility, wetness, and soil fertility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize productivity.

Pasture and hayland
Suitability: Moderately suited
Commonly grown crops: Tall fescue and orchard grass
Management concerns: Erodibility, soil fertility, and wetness
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.

- Installing and maintaining a subsurface drainage system improve the productivity of moisture-sensitive crops, such as alfalfa.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize productivity.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Well suited
Productivity class: Carbonton—moderately high for loblolly pine; Brickhaven—high for loblolly pine
Management concerns: Carbonton—windthrow hazard and equipment use; Brickhaven—no significant limitations
Management measures and considerations:
- Restricting logging operations to periods when the soil is not saturated helps to prevent rutting and damage to tree roots resulting from soil compaction.
- Maintaining surface litter increases water infiltration and reduces seedling mortality rates.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Carbonton soils.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Carbonton—shrink-swell potential and depth to bedrock; Brickhaven—shrink-swell potential and wetness
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Carbonton—wetness, restricted permeability, and depth to bedrock; Brickhaven—wetness and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness limitation.

- These soils are subject to uneven settling and may be unstable if not properly compacted.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Restricted permeability, slope, and wetness
Management measures and considerations:
- Providing a raised, level pad of gravel fill material helps to overcome the slope, restricted permeability, and wetness limitations.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Restricted permeability, slope, and wetness
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Carbonton—steepness of slope, depth to bedrock, restricted permeability, and wetness; Brickhaven—steepness of slope, restricted permeability, and wetness
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required in the steeper areas.
- Determining the depth to bedrock prior to grading for the construction of playgrounds may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Erodibility and wetness
Management measures and considerations:
- Locating paths and trails on raised beds of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

CcD—Carbonton-Brickhaven complex, 10 to 15 percent slopes

Setting

Landscape: Uplands; mainly in the southeastern part of the county near the communities of Gulf and Moncure and near the southern end of Jordan Lake, in the Triassic Basin
Landform: Narrow ridges and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 100 acres

Composition

Carbonton and similar soils: 45 percent
Brickhaven and similar soils: 40 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
8 to 12 inches—strong brown silt loam
12 to 28 inches—reddish brown silty clay
28 to 34 inches—reddish brown silty clay loam

Bedrock:
34 to 62 inches—weathered, moderately fractured Triassic siltstone

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

Subsurface layer:
4 to 7 inches—light yellowish brown silt loam

Subsoil:
7 to 12 inches—yellowish red silty clay loam
12 to 37 inches—reddish brown silty clay
37 to 51 inches—reddish brown silty clay loam

Bedrock:
51 to 62 inches—weathered, moderately fractured Triassic siltstone

Soil Properties and Qualities

Depth class: Carbonton—moderately deep; Brickhaven—deep
Drainage class: Carbonton—somewhat poorly drained; Brickhaven—moderately well drained
Permeability: Slow
Available water capacity: Carbonton—low; Brickhaven—moderate
Seasonal high water table: Carbonton—perched, at a depth of 1.0 to 2.0 feet from November through May; Brickhaven—perched, at a depth of 1.5 to 3.0 feet from November through May
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Very rapid

Hazard of water erosion: Severe
Parent material: Residuum weathered from Triassic siltstone, mudstone, shale, and conglomerate
Depth to bedrock: Carbonton—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Brickhaven—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of moderately well drained soils that have bedrock at a depth of more than 60 inches
- Random areas of well drained Mayodan soils that have bedrock at a depth of more than 60 inches
- Random areas of Hallison and Mooshaunee soils that have less clay in the subsoil
- Random areas of eroded Carbonton and Brickhaven soils that have a silty clay loam or clay loam surface layer
- Random areas of Carbonton and Brickhaven soils that have slopes up to 25 percent

Similar:
- Random areas of Carbonton and Brickhaven soils that have a gravelly, cobbly, or channery surface layer
- Random areas of similar soils that have a dark red subsoil
- Random areas of similar soils that have gray mottles in the upper subsoil
- Random areas of similar soils that have a loam, sandy loam, or fine sandy loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Carbonton—erodibility, wetness, rooting depth, and soil fertility; Brickhaven—erodibility, wetness, and soil fertility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize productivity.

Pasture and hayland
Suitability: Moderately suited to pasture; poorly suited to hayland
Commonly grown crops: Tall fescue and orchard grass
Management concerns: Erodibility, equipment use, soil fertility, and wetness

Management measures and considerations:
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Installing and maintaining a subsurface drainage system improve the productivity of moisture-sensitive crops, such as alfalfa.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize productivity.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland

Suitability: Well suited

Productivity class: Carbonton—moderately high for loblolly pine; Brickhaven—high for loblolly pine

Management concerns: Carbonton—windthrow hazard and equipment use; Brickhaven—no significant limitations

Management measures and considerations:
- Restricting logging operations to periods when the soil is not saturated helps to prevent rutting and damage to tree roots resulting from soil compaction.
- Maintaining surface litter increases water infiltration and reduces seedling mortality rates.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Carbonton soils.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings

Suitability: Moderately suited

Management concerns: Carbonton—shrink-swell potential, wetness, steepness of slope, and depth to bedrock; Brickhaven—shrink-swell potential, steepness of slope, and wetness

Management measures and considerations:
- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Carbonton—wetness, restricted permeability, and depth to bedrock; Brickhaven—wetness and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness limitation.
- These soils are subject to uneven settling and may be unstable if not properly compacted.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Restricted permeability, slope, and wetness
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope, restricted permeability, and wetness
Management measures and considerations:
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Carbonton—steepness of slope, depth to bedrock, restricted permeability, and wetness; Brickhaven—steepness of slope, restricted permeability, and wetness
Management measures and considerations:
- Extensive grading, including cutting and filling slopes, may be required in the steeper areas.

- Determining the depth to bedrock prior to grading for the construction of playgrounds may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Erodibility and wetness
Management measures and considerations:
- Locating paths and trails on raised beds of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 4e

CeB—Cecil gravelly sandy loam, 2 to 6 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the southeastern part of the county near the Harnett County border
Landform: Interstream divides and broad ridges
Shape of areas: Irregular
Size of areas: 10 to 50 acres

Composition

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

Typical Profile

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

Subsurface layer:
7 to 14 inches—yellowish brown gravelly sandy loam

Subsoil:
14 to 35 inches—red clay
35 to 44 inches—red clay loam that has reddish yellow mottles

Underlying material:
44 to 60 inches—variegated red, reddish yellow, and pinkish white loam saprolite

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Slight

Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Moderately well drained, slowly permeable Helena soils at the heads of drainageways and along drainageways

Similar:
- Random areas of Cecil soils that have a non-gravelly surface layer
- Random areas of Pacolet soils that have saprolite at a depth of less than 40 inches
- Random areas of Wedowee soils that have a yellower subsoil and have saprolite at a depth of less than 40 inches

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland and cropland

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Tobacco, corn, soybeans, and small grains
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, clover, and bermudagrass
Management concerns: No significant limitations
Management measures and considerations:
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing helps to maintain a protective plant cover that minimizes soil blowing.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Well suited
Management concerns: No significant limitations

Management measures and considerations:
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Rock fragment content
Management measures and considerations:
- Raking camp areas helps to remove rock fragments.
- Suitable material should be used for the construction of elevated campsites.

Picnic areas
Suitability: Moderately suited
Management concerns: Rock fragment content
Management measures and considerations:
- Raking picnic areas helps to remove rock fragments.
- Suitable material should be used for the construction of elevated picnic areas.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope and rock fragment content
Management measures and considerations:
- Extensive grading, including cutting and filling slopes, may be required.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove rock fragments.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations

Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

CeC—Cecil gravelly sandy loam, 6 to 10 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the southeastern part of the county near the Harnett County border
Landform: Interstream divides, ridges, and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 10 to 100 acres

Composition

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

Typical Profile

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

Subsurface layer:
7 to 14 inches—yellowish brown gravelly sandy loam

Subsoil:
14 to 35 inches—red clay
35 to 44 inches—red clay loam that has reddish yellow mottles

Underlying material:
44 to 60 inches—variegated red, reddish yellow, and pinkish white loam saprolite

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Moderately well drained, slowly permeable Helena soils at the heads of drainageways and along drainageways

Similar:
- Random areas of Cecil soils that have a non-gravelly surface layer

- Random areas of Pacolet soils that have saprolite at a depth of less than 40 inches
- Random areas of Wedowee soils that have a yellower subsoil and have saprolite at a depth of less than 40 inches

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland and cropland

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Tobacco, corn, soybeans, and small grains
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, clover, and bermudagrass
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength and steepness of slope
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Rock fragment content and steepness of slope
Management measures and considerations:
- Raking camp areas helps to remove rock fragments.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Rock fragment content and steepness of slope
Management measures and considerations:
- Raking picnic areas helps to remove rock fragments.
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope and rock fragment content
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations

Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

CeD—Cecil gravelly sandy loam, 10 to 15 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the southeastern part of the county near the Harnett County border
Landform: Interstream divides, ridges, and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 10 to 100 acres

Composition

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

Typical Profile

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

Subsurface layer:
7 to 14 inches—yellowish brown gravelly sandy loam

Subsoil:
14 to 35 inches—red clay
35 to 44 inches—red clay loam that has reddish yellow mottles

Underlying material:
44 to 60 inches—variegated red, reddish yellow, and pinkish white loam saprolite

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Severe
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Moderately well drained, slowly permeable Helena soils at the heads of drainageways and along drainageways

Similar:
- Random areas of Cecil soils that have a non-gravelly surface layer

- Random areas of Pacolet soils
- Random areas of Wedowee soils that have a yellower subsoil and have saprolite at a depth of less than 40 inches
- Random areas of Appling soils that have a yellower subsoil

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, clover, and bermudagrass
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited

Management concerns: Steepness of slope
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength and steepness of slope
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Rock fragment content and steepness of slope
Management measures and considerations:
- Raking camp areas helps to remove rock fragments.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope and rock fragment content
Management measures and considerations:
- Raking picnic areas helps to remove rock fragments.
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.

- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope and rock fragment content
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

ChA—Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded

Setting

Landscape: Piedmont river and stream valleys; mainly along the major rivers and streams throughout the county
Landform: Flood plain
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 150 acres

Composition

Chewacla and similar soils: 60 percent
Wehadkee and similar soils: 35 percent
Dissimilar soils: 5 percent

Typical Profile

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

Subsurface layer:
7 to 12 inches—light yellowish brown silt loam

Subsoil:
12 to 18 inches—brownish yellow loam that has pale brown mottles
18 to 30 inches—light brownish gray loam that has brownish yellow and strong brown mottles
30 to 40 inches—light gray loam that has dark yellowish brown mottles
40 to 47 inches—light gray loam that has yellowish brown and brown mottles

Underlying material:
47 to 60 inches—light gray sandy loam that has yellowish brown and dark brown mottles

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

Subsoil:
2 to 20 inches—light brownish gray silt loam that has strong brown mottles
20 to 32 inches—light brownish gray loam that has strong brown and yellowish brown mottles

Underlying material:
32 to 62 inches—light brownish gray loamy coarse sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Chewacla—somewhat poorly drained; Wehadkee—poorly drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: Chewacla—apparent, at a depth of 0.5 to 2.0 feet from November through April; Wehadkee—apparent, at a depth of 0 to 1.0 foot from November through May
Shrink-swell potential: Low
Hazard of flooding: Chewacla—frequent from November through April for 1 to 7 days; Wehadkee—frequent from November through May for 1 to 7 days
Surface runoff: Chewacla—slow; Wehadkee—very slow
Hazard of water erosion: Slight
Parent material: Recent alluvium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Well drained Riverview soils that are adjacent to stream channels and are in the slightly higher positions
- Moderately well drained Peawick soils on adjacent low stream terraces
- Random areas of Chastain soils that have more clay in the subsoil and have a slow or very slow permeability

Similar:
- Chewacla and Wehadkee soils that have a fine sandy loam or loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Agricultural Development

Cropland
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Suitability: Poorly suited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited for crop production because of flooding and wetness. A site should be selected on better suited soils.

- Harvesting row crops as soon as possible can reduce the risk of damage from flooding.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.

Pasture and hayland

Suitability: Poorly suited
Commonly grown crops: Tall fescue and orchardgrass
Management concerns: Flooding and wetness
Management measures and considerations:

- Flooding may pose a hazard to livestock.
- Although most flooding occurs during winter, livestock production may be adversely affected and hay crops may be damaged any time of the year.
- Preventing overgrazing or preventing grazing when the soil is too wet helps to prevent soil compaction, decreased productivity, and a rough soil surface.

Woodland

Suitability: Moderately suited
Productivity class: Moderately high
Management concerns: Chewacla—equipment use, windthrow hazard, and competition from undesirable plants; Wehadkee—equipment use, seedling survival, windthrow hazard, and competition from undesirable plants
Management measures and considerations:

- Harvesting timber during the summer reduces the risk of damage from flooding.
- Productivity may be increased by periodically harvesting windthrown trees.
- Using site preparation practices such as chopping, prescribed burning, and herbicide application reduces competition from unwanted plants.
- Bedding the soil prior to planting helps to establish seedlings and increases their survival rate.

Urban Development

Dwellings

Suitability: Unsuited
Management concerns: Flooding
Management measures and considerations:

- This map unit is severely limited for urban development because of frequent flooding. A site should be selected on better suited soils.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:

- This map unit is severely limited for septic tank absorption fields because of frequent flooding. The Chatham County Health Department should be contacted for guidance.

Local roads and streets

Suitability: Poorly suited (fig. 6)
Management concerns: Flooding and wetness (fig. 7)
Management measures and considerations:

- This map unit is severely limited for roads and streets because of frequent flooding. A site should be selected on better suited soils.
- Using well-compacted fill material as a road base helps to elevate roads above the level of flooding.

Figure 6.—Alton King Road, which crosses an area of Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded.

Figure 7.—The same section of Alton King Road after it has been flooded.

Recreational Development

Camp areas
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited for camp areas because of frequent flooding. A site should be selected on better suited soils.
- Camping should be avoided during periods of heavy rainfall when flooding is likely.

Picnic areas
Suitability: Poorly suited
Management concerns: Wetness and flooding
Management measures and considerations:
- This map unit has severe limitations affecting picnic areas. A site should be selected on better suited soils.
- Restricting use after heavy rains, when flooding is a hazard, may be necessary.
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the wetness limitation.

Playgrounds
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited for playgrounds because of frequent flooding and wetness. A site should be selected on better suited soils.

Paths and trails
Suitability: Poorly suited
Management concerns: Wetness
Management measures and considerations:
- Designing paths and trails on raised pads helps to minimize wetness problems.

Interpretive Group

Land capability classification: Chewacla—3w; Wehadkee—6w

CkC—Cid silt loam, 6 to 10 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the central and western parts of the county, in the Carolina Slate Belt
Landform: Interstream divides, ridges, drainageways, and heads of drainageways
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Cid and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 2 inches—brown silt loam

Subsurface layer:
2 to 5 inches—very pale brown silt loam

Subsoil:
5 to 14 inches—yellow silty clay loam that has strong brown mottles
14 to 24 inches—yellow silty clay that has strong brown and light gray mottles
24 to 28 inches—light gray silty clay loam that has strong brown mottles

Bedrock:
28 to 35 inches—weathered, highly fractured argillite
35 inches—unweathered, slightly fractured argillite

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Somewhat poorly drained
Permeability: Slow
Available water capacity: Low
Seasonal high water table: Perched, at a depth of 1.0 to 2.5 feet from December through May
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from argillite and other fine-grained metavolcanic rock
Depth to bedrock: 20 to 40 inches to soft bedrock and 20 to 40 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of Callison soils that have less clay in the subsoil and have hard bedrock at a depth of 40 to 60 inches
- Random areas of deep, somewhat poorly drained or moderately well drained Lignum soils that have soft bedrock at a depth of 40 to 60 inches
- Random areas of very slowly permeable Pittsboro soils that have hard bedrock at a depth of 40 to more than 60 inches
- Random areas of Misenheimer soils that have a loamy subsoil and have soft bedrock at a depth of 10 to 20 inches
- Random areas of well drained Nanford soils that have soft bedrock at a depth of 40 to 60 inches and are on small knolls

Similar:
- Random areas of Cid soils that have a gravelly or channery surface layer
- Random areas of Cid soils that have a loam or fine sandy loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Cropland

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Erodibility and wetness
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.

- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.
- Maintaining drainageways and ditches helps to remove excess water.

Pasture and hayland
Suitability: Moderately suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and wetness
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Some areas may need artificial drainage to help achieve maximum productivity.

Woodland
Suitability: Moderately suited
Productivity class: Moderately high for loblolly pine
Management concerns: Equipment use and windthrow hazard
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction that occurs when the soil is saturated.
- Periodically harvesting windthrown trees increases the soil productivity.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Wetness, shrink-swell potential, and depth to bedrock
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- The drilling and blasting of hard rock or the use of special earth-moving equipment may be needed to increase the depth of the soil.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Depth to bedrock, wetness, and restricted permeability
Management measures and considerations:
- This map unit is difficult to manage for septic tank absorption fields because the dominant soils have a high water table at a depth of 1.5 to 2.5 feet.
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Depth to bedrock, low strength, and wetness

Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness limitation.
- Designing roads to safely remove surface runoff improves soil performance.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the wetness limitation.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.

Picnic areas
Suitability: Moderately suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope, wetness, and rock fragment content
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove rock fragments.
- Artificial drainage systems or diversions help to remove excess surface water and minimize the wetness limitation.

Paths and trails
Suitability: Severe
Management concerns: Wetness and erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

CmB—Cid-Lignum complex, 2 to 6 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the central and western parts of the county, in the Carolina Slate Belt

Landform: Interstream divides, broad ridges, drainageways, and heads of drainageways
Shape of areas: Irregular
Size of areas: 50 to 1,500 acres

Composition

Cid and similar soils: 50 percent
Lignum and similar soils: 25 percent
Dissimilar soils: 25 percent

Typical Profile

Cid
Surface layer:
0 to 2 inches—brown silt loam

Subsurface layer:
2 to 5 inches—very pale brown silt loam

Subsoil:
5 to 14 inches—yellow silty clay loam that has strong brown mottles
14 to 24 inches—yellow silty clay that has strong brown and light gray mottles
24 to 28 inches—light gray silty clay loam that has strong brown mottles

Bedrock:
28 to 35 inches—weathered, highly fractured argillite
35 inches—unweathered, slightly fractured argillite

Lignum
Surface layer:
0 to 6 inches—pale yellow silt loam

Subsurface layer:
6 to 11 inches—very pale brown silt loam

Subsoil:
11 to 15 inches—brownish yellow silty clay loam that has light gray mottles
15 to 22 inches—brownish yellow silty clay loam that has reddish yellow and light gray mottles
22 to 29 inches—yellow, strong brown, red, and light gray silty clay
29 to 47 inches—reddish yellow silt loam that has white mottles

Bedrock:
47 to 60 inches—weathered moderately fractured argillite

Soil Properties and Qualities

Depth class: Cid—moderately deep; Lignum—deep
Drainage class: Somewhat poorly drained or moderately well drained
Permeability: Cid—slow; Lignum—very slow
Available water capacity: Cid—low; Lignum—moderate
Seasonal high water table: Cid—perched, at a depth of 1.0 to 2.5 feet from December through May; Lignum—perched, at a depth of 1.0 to 2.5 feet from December through May
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Slow or medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from argillite and other fine-grained metavolcanic rock

Depth to bedrock: Cid—20 to 40 inches to soft bedrock and 20 to 40 inches to hard bedrock; Lignum—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of Callison soils that have less clay in the subsoil and have hard bedrock at a depth of 20 to 40 inches
- Random areas of soils that have less clay in the subsoil and have hard bedrock at a depth of 40 to more than 60 inches
- Random areas of Misenheimer soils that have loamy subsoil and have soft bedrock at a depth of 10 to 20 inches
- Deep, well drained Nanford soils that have soft bedrock at a depth of 40 to 60 inches and are on small knolls
- Well drained Badin soils that have soft bedrock at a depth of 20 to 40 inches and are on small knolls
- Well drained soils that have less clay in the subsoil, have soft bedrock at a depth of 20 to 40 inches, and are on small knolls
- Well drained Herndon soils that have soft bedrock at a depth of more than 60 inches and are on small knolls
- Shallow, somewhat excessively drained Goldston soils that have soft bedrock at a depth of 10 to 20 inches and are on small knolls
- Poorly drained soils in depressions and seep areas
- Random areas of very slowly permeable, Pittsboro soils that have a high shrink-swell potential and have soft bedrock at a depth of 20 to 40 inches
- Widely scattered surface cobbles, stones, and boulders that are usually designated by special symbols

Similar:
- Random areas of Cid and Lignum soils that have a fine sandy loam or loam surface layer
- Random areas of Cid and Lignum soils that have a gravelly or channery surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Cropland

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Erodibility and wetness
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.
- Maintaining drainageways and ditches helps to remove excess water.

Pasture and hayland

Suitability: Moderately suited (fig. 8)
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and wetness
Management measures and considerations:

- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Some areas may need artificial drainage to help achieve maximum productivity.

Woodland

Suitability: Moderately suited
Productivity class: Moderately high for loblolly pine
Management concerns: Cid—equipment use and windthrow hazard; Lignum—equipment use
Management measures and considerations:

- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction that occurs when the soil is saturated.
- Periodically harvesting windthrown trees increases the productivity of these soils.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.

Urban Development

Dwellings

Suitability: Poorly suited

Figure 8.—Hay bales in an area of Cid-Lignum complex, 2 to 6 percent slopes. These soils are moderately suited to hayland.

Management concerns: Cid—wetness, shrink-swell potential, and depth to bedrock; Lignum—wetness

Management measures and considerations:

- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- The drilling and blasting of hard rock or the use of special earth-moving equipment may be needed to increase the depth of the Cid soil.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields

Suitability: Poorly suited

Management concerns: Cid—depth to bedrock, wetness, and restricted permeability; Lignum—restricted permeability and wetness

Management measures and considerations:

- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets

Suitability: Poorly suited

Management concerns: Cid—depth to bedrock, wetness, and low strength; Lignum—wetness and low strength

Management measures and considerations:

- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness limitation.
- Designing roads to safely remove surface runoff improves soil performance.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas

Suitability: Poorly suited

Management concerns: Wetness and restricted permeability

Management measures and considerations:

- Locating campsites on raised pads of gravel fill material helps to minimize the wetness limitation.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.

Picnic areas

Suitability: Poorly suited

Management concerns: Wetness and restricted permeability

Management measures and considerations:

- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.

Playgrounds

Suitability: Poorly suited

Management concerns: Cid—steepness of slope and wetness; Lignum—wetness and restricted permeability

Management measures and considerations:

- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove rock fragments.
- Artificial drainage systems or diversions help to remove excess surface water and minimize the wetness limitation.

Paths and trails

Suitability: Cid—poorly suited; Lignum—moderately suited

Management concerns: Wetness and erodibility

Management measures and considerations:

- Locating paths and trails on raised beds of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

CrB—Creedmoor-Green Level complex, 2 to 6 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the eastern part of the county near Jordan Lake and the Wake County border, in the Triassic Basin

Landform: Interstream divides, ridges, and side slopes

Shape of areas: Irregular

Size of areas: 5 to 200 acres

Composition

Creedmoor and similar soils: 45 percent

Green Level and similar soils: 45 percent

Dissimilar soils: 10 percent

Typical Profile

Creedmoor

Surface layer:

0 to 5 inches—brown sandy loam

Subsurface layer:

5 to 10 inches—very pale brown sandy loam

Subsoil:

10 to 15 inches—yellowish brown sandy clay loam

15 to 25 inches—yellowish brown clay that has red and strong brown mottles

25 to 45 inches—yellowish brown clay that has light brownish gray, pale brown, and strong brown mottles

Underlying material:
45 to 62 inches—variegated yellow, brown, red, gray, and white sandy clay loam saprolite

Green Level
Surface layer:
0 to 7 inches—yellowish brown sandy loam

Subsurface layer:
7 to 10 inches—pale brown sandy loam

Subsoil:
10 to 13 inches—brownish yellow sandy loam that has light brownish gray mottles
13 to 26 inches—strong brown clay that has light brownish gray mottles
26 to 33 inches—yellowish red clay that has red and light brownish gray mottles
33 to 41 inches—light gray clay that has red and strong brown mottles
41 to 51 inches—light brownish gray clay that has yellowish red mottles
51 to 65 inches—light brownish gray clay loam

Underlying material:
65 to 73 inches—pale yellow sandy loam saprolite that has reddish yellow mottles
73 to 97 inches—pink sandy loam saprolite that has reddish yellow mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Creedmoor—somewhat poorly drained or moderately well drained; Green Level—somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Creedmoor—perched, at a depth of 1.0 to 2.0 feet from January through March; Green Level—perched, at a depth of 1.0 to 1.5 feet from December through May
Shrink-swell potential: Creedmoor—high; Green Level—very high
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Creedmoor—moderate; Green Level—severe
Parent material: Residuum weathered from Triassic sandstone, mudstone, shale, siltstone, and conglomerate
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of well drained Mayodan soils that have a moderate shrink-swell potential
- Random areas of loamy soils that have less clay in the subsoil, a low shrink-swell potential, and higher rates of permeability
- Random areas of moderately well drained soils that have a moderate shrink-swell potential
- Random areas of moderately well drained Brickhaven soils
- Random areas of Polkton soils that have soft bedrock at a depth of 20 to 40 inches
- Random areas of eroded Creedmoor and Green Level soils that have a clay loam or sandy clay loam surface layer

Similar:

- Random areas of Creedmoor and Green Level soils that have a fine sandy loam, coarse sandy loam, loamy sand, silt loam, or loam surface layer

Land Use

Dominant uses: Woodland and recreational uses associated with publicly owned lands around Jordan Lake

Other uses: Pasture and hayland (fig. 9), cropland, and urban development

Agricultural Development

Cropland

Suitability: Creedmoor—well suited; Green Level—moderately suited

Commonly grown crops: Tobacco and small grains

Management concerns: Erodibility, wetness, and soil fertility

Management measures and considerations:

- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize crop productivity.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.

Figure 9.—Hayland in an area of Creedmoor-Green Level complex, 2 to 6 percent slopes.

Pasture and hayland

Suitability: Creedmoor—well suited to pasture and moderately suited to hayland; Green Level—moderately suited to pasture and poorly suited to hayland

Commonly grown crops: Tall fescue, Bermuda grass, orchardgrass, and clover

Management concerns: Creedmoor—wetness and soil fertility; Green Level—erodibility, wetness, and soil fertility

Management measures and considerations:

- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Some areas may need artificial drainage to help achieve maximum productivity.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize the production of forage and hay crops.

Woodland

Suitability: Well suited

Productivity class: Creedmoor—high for loblolly pine; Green Level—moderately high for loblolly pine

Management concerns: Equipment use

Management measures and considerations:

- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction that occurs when the soil is saturated.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings

Suitability: Poorly suited

Management concerns: Wetness and high shrink-swell potential

Management measures and considerations:

- Artificial drainage systems or diversions help to remove excess surface water.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by the shrinking and swelling of the clayey subsoil.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields

Suitability: Poorly suited

Management concerns: Wetness and restricted permeability

Management measures and considerations:

- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets

Suitability: Poorly suited

Management concerns: Low strength and high shrink-swell potential

Management measures and considerations:
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope, wetness, and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Artificial drainage systems or diversions help to remove excess surface water and minimize the wetness limitation.
- Restricting use after heavy rains, when the soil is saturated, may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Moderately suited
Management concerns: Wetness and erodibility
Management measures and considerations:
- Locating paths and trails on raised pads of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Interpretive Group

Land capability classification: 2e

CrC—Creedmoor-Green Level complex, 6 to 10 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the eastern part of the county near Jordan Lake and the Wake County border, in the Triassic Basin
Landform: Interstream divides, ridges, and side slopes
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Creedmoor and similar soils: 65 percent
Green Level and similar soils: 25 percent
Dissimilar soils: 10 percent

Typical Profile

Creedmoor
Surface layer:
0 to 5 inches—brown sandy loam

Subsurface layer:
5 to 10 inches—very pale brown sandy loam

Subsoil:
10 to 15 inches—yellowish brown sandy clay loam
15 to 25 inches—yellowish brown clay that has red and strong brown mottles
25 to 45 inches—yellowish brown clay that has light brownish gray, pale brown, and strong brown mottles

Underlying material:
45 to 62 inches—variegated yellow, brown, red, gray, and white sandy clay loam saprolite

Green Level
Surface layer:
0 to 7 inches—yellowish brown sandy loam

Subsurface layer:
7 to 10 inches—pale brown sandy loam

Subsoil:
10 to 13 inches—brownish yellow sandy loam that has light brownish gray mottles
13 to 26 inches—strong brown clay that has light brownish gray mottles
26 to 33 inches—yellowish red clay that has red and light brownish gray mottles
33 to 41 inches—light gray clay that has red and strong brown mottles
41 to 51 inches—light brownish gray clay that has yellowish red mottles
51 to 65 inches—light brownish gray clay loam

Underlying material:
65 to 73 inches—pale yellow sandy loam saprolite that has reddish yellow mottles

73 to 97 inches—pink sandy loam saprolite that has reddish yellow mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Creedmoor—somewhat poorly drained or moderately well drained; Green Level—somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Creedmoor—perched, at a depth of 1.0 to 2.0 feet from January through March; Green Level—perched, at a depth of 1.0 to 1.5 feet from December through May
Shrink-swell potential: Creedmoor—high; Green Level—very high
Hazard of flooding: None
Surface runoff: Creedmoor—rapid; Green Level—rapid
Hazard of water erosion: Creedmoor—moderate; Green Level—severe
Parent material: Residuum weathered from Triassic sandstone, mudstone, shale, siltstone, and conglomerate
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Polkton soils that have soft bedrock at a depth of 20 to 40 inches
- Random areas of well drained Mayodan soils that have a moderate shrink-swell potential
- Random areas of loamy soils that have less clay in the subsoil and higher rates of permeability
- Random areas of eroded Creedmoor or Green Level soils that have a clay loam or sandy clay loam surface layer

Similar:
- Random areas of Creedmoor soils that have a fine sandy loam, coarse sandy loam, loamy sand, silt loam, or loam surface layer
- Gravelly or cobbly areas that are usually designated by special symbols

Land Use

Dominant uses: Woodland and recreational uses associated with publicly owned lands around Jordan Lake
Other uses: Pasture and hayland, cropland, and urban development

Agricultural Development

Cropland
Suitability: Creedmoor—moderately suited; Green Level—poorly suited
Commonly grown crops: Tobacco and small grains
Management concerns: Wetness, erodibility, and soil fertility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.

- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize crop productivity.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.

Pasture and hayland

Suitability: Creedmoor—well suited to pasture and moderately suited to hayland; Green Level—moderately suited to pasture and poorly suited to hayland

Commonly grown crops: Tall fescue, Bermuda grass, orchardgrass, and clover

Management concerns: Creedmoor—wetness; Green Level—erodibility, wetness, and soil fertility

Management measures and considerations:

- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Some areas may need artificial drainage to help achieve maximum productivity.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize the production of forage and hay crops.

Woodland

Suitability: Well suited

Productivity class: Creedmoor—high for loblolly pine; Green Level—moderately high for loblolly pine

Management concerns: Equipment use

Management measures and considerations:

- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction that occurs when the soil is saturated.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings

Suitability: Poorly suited

Management concerns: Wetness and shrink-swell potential

Management measures and considerations:

- Artificial drainage systems or diversions help to remove excess surface water.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength and high shrink-swell potential
Management measures and considerations:
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.

Picnic areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope, wetness, and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Artificial drainage systems or diversions help to remove excess surface water and minimize the wetness limitation.
- Restricting use after heavy rains, when the soil is saturated, may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Moderately suited
Management concerns: Wetness and erodibility
Management measures and considerations:
- Locating paths and trails on raised pads of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Interpretive Group

Land capability classification: 3e

CrD—Creedmoor-Green Level complex, 10 to 15 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the eastern part of the county near Jordan Lake and along the Wake County border, in the Triassic Basin
Landform: Narrow ridges and side slopes
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Creedmoor and similar soils: 60 percent
Green Level and similar soils: 20 percent
Dissimilar soils: 20 percent

Typical Profile

Creedmoor
Surface layer:
0 to 5 inches—brown sandy loam

Subsurface layer:
5 to 10 inches—very pale brown sandy loam

Subsoil:
10 to 15 inches—yellowish brown sandy clay loam
15 to 25 inches—yellowish brown clay that has red and strong brown mottles
25 to 45 inches—yellowish brown clay that has light brownish gray, pale brown, and strong brown mottles

Underlying material:
45 to 62 inches—variegated yellow, brown, red, gray, and white sandy clay loam saprolite

Green Level
Surface layer:
0 to 7 inches—yellowish brown sandy loam

Subsurface layer:
7 to 10 inches—pale brown sandy loam

Subsoil:
10 to 13 inches—brownish yellow sandy loam that has light brownish gray mottles
13 to 26 inches—strong brown clay that has light brownish gray mottles
26 to 33 inches—yellowish red clay that has red and light brownish gray mottles
33 to 41 inches—light gray clay that has red and strong brown mottles
41 to 51 inches—light brownish gray clay that has yellowish red mottles
51 to 65 inches—light brownish gray clay loam

Underlying material:
65 to 73 inches—pale yellow sandy loam saprolite that has reddish yellow mottles
73 to 97 inches—pink sandy loam saprolite that has reddish yellow mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Creedmoor—somewhat poorly drained or moderately well drained; Green Level—somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Creedmoor—perched, at a depth of 1.0 to 2.0 feet from January through March; Green Level—perched, at a depth of 1.0 to 1.5 feet from December through May
Shrink-swell potential: Creedmoor—high; Green Level—very high
Hazard of flooding: None
Surface runoff: Rapid
Hazard of water erosion: Creedmoor—severe; Green Level—very severe
Parent material: Residuum weathered from Triassic sandstone, mudstone, shale, siltstone, and conglomerate
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of slowly permeable Brickhaven soils that have a moderate shrink-swell potential
- Random areas of Polkton soils that have soft bedrock at a depth of 20 to 40 inches
- Random areas of well drained soils that have a loamy subsoil and have higher rates of permeability
- Random areas of eroded Creedmoor or Green Level soils that have a clay loam or sandy clay loam surface layer

Similar:
- Random areas of Creedmoor or Green Level soils that have a fine sandy loam, coarse sandy loam, loamy sand, loam, or silt loam surface layer
- Gravelly or cobbly areas that are usually designated by special symbols

Land Use

Dominant uses: Woodland and recreational uses associated with publicly owned lands around Jordan Lake
Other uses: Pasture and hayland and urban development

Agricultural Development

Cropland
Suitability: Creedmoor—moderately suited; Green Level—poorly suited
Commonly grown crops: Tobacco and small grains
Management concerns: Wetness, erodibility, soil fertility, and equipment use

Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize crop productivity.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.

Pasture and hayland

Suitability: Creedmoor—well suited to pasture and moderately suited to hayland; Green Level—moderately suited to pasture and poorly suited to hayland
Commonly grown crops: Tall fescue, Bermuda grass, orchardgrass, and clover
Management concerns: Erodibility, wetness, soil fertility, and equipment use
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize the production of forage and hay crops.

Woodland

Suitability: Well suited
Productivity class: Creedmoor—high for loblolly pine; Green Level—moderately high for loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction that occurs when the soil is saturated.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings

Suitability: Poorly suited
Management concerns: Wetness, steepness of slope, and shrink-swell potential
Management measures and considerations:
- Artificial drainage systems or diversions help to remove excess surface water.

- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness, restricted permeability, and steepness of slope
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength and high shrink-swell potential
Management measures and considerations:
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Wetness, restricted permeability, and steepness of slope
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.

Picnic areas
Suitability: Poorly suited
Management concerns: Wetness, restricted permeability, and steepness of slope
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope, wetness, and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.

- Artificial drainage systems or diversions help to remove excess surface water and minimize the wetness limitation.
- Restricting use after heavy rains, when the soil is saturated, may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Creedmoor—moderately suited; Green Level—poorly suited
Management concerns: Wetness and erodibility
Management measures and considerations:

- Locating paths and trails on raised pads of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Interpretive Group

Land capability classification: 3e

DAM—Dam

This map unit is made up of the Jordan Lake Dam and Harris Lake Dam. These concrete structures impound water and form Jordan Lake and Harris Lake. The Jordan Lake Dam is a barrier that obstructs the flow of water from the Haw River and New Hope Creek. The Harris Lake Dam is a barrier that obstructs the flow of water from White Oak Creek and Tom Jack Creek.

Interpretive Group

Land capability classification: 8s

GaB—Georgeville silt loam, 2 to 6 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the central and western parts of the county, in the Carolina Slate Belt
Landform: Broad ridges
Shape of areas: Rounded or irregular
Size of areas: 5 to 300 acres

Composition

Georgeville and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 10 inches—yellowish red silty clay loam
10 to 36 inches—red clay
36 to 44 inches—red clay that has strong brown mottles

44 to 53 inches—red silty clay loam that has yellow and brown mottles

Underlying material:
53 to 62 inches—variegated red, yellow, and brown loam saprolite that has white mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 5.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of deep well drained Tarrus soils that have soft bedrock at a depth of 40 to 60 inches
- Moderately deep, somewhat poorly drained Cid soils that have soft bedrock at a depth of 20 to 40 inches and are along drainageways and at the heads of drainageways
- Random areas of moderately eroded Georgeville soils that have a silty clay loam or clay loam surface layer
- Random areas of surface stones and boulders that are usually designated by special symbols

Similar:
- Random areas of Herndon soils that have a subsoil that is yellowish red or yellower
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or is less than 30 inches in depth
- Random areas of Georgeville soils that have a loam or very fine sandy loam surface layer
- Random areas of Georgeville soils that have a gravelly or cobbly surface layer

Land Use

Dominant uses: Woodland, pasture and hayland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.

- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove small stones.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

GaC—Georgeville silt loam, 6 to 10 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the central and western parts of the county, in the Carolina Slate Belt
Landform: Ridges and side slopes
Shape of areas: Long and narrow, rounded, or irregular
Size of areas: 5 to 150 acres

Composition

Georgeville and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 10 inches—yellowish red silty clay loam
10 to 36 inches—red clay
36 to 44 inches—red clay that has strong brown mottles
44 to 53 inches—red silty clay loam that has yellow and brown mottles

Underlying material:
53 to 62 inches—variegated red, yellow, and brown loam saprolite that has white mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 5.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of deep, well drained Tarrus soils that have soft bedrock at a depth of 40 to 60 inches
- Somewhat poorly drained Cid soils that have soft bedrock at a depth of 20 to 40 inches and are along drainageways and at the heads of drainageways
- Random areas of moderately eroded Georgeville soils that have a silty clay loam or clay loam surface layer
- Random areas of surface stones and boulders that are usually designated by special symbols
- Moderately deep, well drained Badin soils that have soft bedrock at a depth of 20 to 40 inches and are on small knolls, nose slopes, and on the outer edges of map units

Similar:
- Random areas of Georgeville soils that have a loam or fine sandy loam surface layer
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or that extends to less than 30 inches in depth
- Random areas of Herndon soils that have a subsoil that is yellowish red or yellower
- Random areas of Georgeville soils that have a gravelly or cobbly surface layer

Land Use

Dominant uses: Woodland, pasture and hayland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Erodibility

Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.

- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength, steepness of slope, and erodibility
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.

Picnic areas
Suitability: Well suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove small stones.

Paths and trails
Suitability: Poorly suited
Management concerns: Erodibility and steepness of slope
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

GbB—Georgeville silt loam, 2 to 8 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border, in the Carolina Slate Belt
Landform: Broad ridges
Shape of areas: Rounded or irregular
Size of areas: 5 to 50 acres

Composition

Georgeville and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to13 inches—yellowish brown silt loam

Subsoil:
13 to 48 inches—red clay
48 to 52 inches—red silty clay loam that has yellowish red mottles

Underlying material:
52 to 63 inches—red silt loam saprolite that has light reddish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 5.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of deep, well drained Tarrus and Nanford soils that have soft bedrock at a depth of 40 to 60 inches
- Deep, somewhat poorly drained or moderately well drained Lignum soils that have soft bedrock at a depth of 40 to 60 inches
- Moderately deep, somewhat poorly drained Cid soils that have soft bedrock at a depth of 20 to 40 inches and are along drainageways and at the heads of drainageways
- Random areas of moderately eroded Georgeville soils that have a silty clay loam or clay loam surface layer
- Random areas of surface stones and boulders that are usually designated by special symbols

- Moderately deep, well drained Badin soils that have soft bedrock at a depth of 20 to 40 inches and are on small knolls and on the outer edges of map units

Similar:
- Areas that have a gravelly or cobbly surface layer and are usually designated by special symbols
- Random areas of Herndon soils that have a subsoil that is yellowish red or yellower
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or that extends to less than 30 inches in depth
- Random areas of Georgeville soils that have a loam or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland, pasture and hayland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove small stones.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited

Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

GbC—Georgeville silt loam, 8 to 15 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border, in the Carolina Slate Belt
Landform: Ridges and side slopes
Shape of areas: Long and narrow, rounded, or irregular
Size of areas: 5 to 25 acres

Composition

Georgeville and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 13 inches—yellowish brown silt loam

Subsoil:
13 to 48 inches—red clay
48 to 52 inches—red silty clay loam that has yellowish red mottles

Underlying material:
52 to 63 inches—red silt loam saprolite that has light reddish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 5.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of deep, well drained Tarrus and Nanford soils that have soft bedrock at a depth of 40 to 60 inches
- Deep, somewhat poorly drained or moderately well drained Lignum soils that have soft bedrock at a depth of 40 to 60 inches and are along drainageways and at the heads of drainageways

- Random areas of moderately eroded Georgeville soils that have a silty clay loam or clay loam surface layer
- Random areas of surface stones and boulders that are usually designated by special symbols
- Moderately deep, well drained Badin soils that have soft bedrock at a depth of 20 to 40 inches and are on small knolls, nose slopes, and on the outer edges of map units

Similar:
- Random areas of Georgeville soils that have a gravelly or cobbly surface layer
- Random areas of Georgeville soils that have a loam or fine sandy loam surface layer
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or that extends to less than 30 inches in depth
- Random areas of Herndon soils that have a subsoil that is yellowish red or yellower

Land Use

Dominant uses: Woodland, pasture and hayland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Steepness of slope may limit equipment use in the steeper areas when harvesting hay crops.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations

Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength, steepness of slope, and erodibility
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.

Picnic areas
Suitability: Well suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove small stones.

Paths and trails
Suitability: Poorly suited
Management concerns: Erodibility and steepness of slope
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

GeB2—Georgeville silty clay loam, 2 to 6 percent slopes, moderately eroded

Setting

Landscape: Piedmont uplands; mainly in the central and western parts of the county, in the Carolina Slate Belt
Landform: Broad ridges
Shape of areas: Rounded or irregular
Size of areas: 5 to 300 acres

Composition

Georgeville and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 7 inches—red silty clay loam

Subsoil:
7 to 44 inches—red clay
44 to 52 inches—red silty clay loam that has strong brown mottles

Underlying material:
52 to 62 inches—reddish yellow silt loam saprolite that has red mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained

Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 5.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of deep, well drained Tarrus and Nanford soils that have soft bedrock at a depth of 40 to 60 inches
- Somewhat poorly drained Cid soils that have soft bedrock at a depth of 40 to 60 inches and are along drainageways and at the heads of drainageways
- Random areas of uneroded Georgeville soils that have a silt loam or loam surface layer
- Random areas of surface stones and boulders that are usually designated by special symbols
- Badin soils that have soft bedrock at a depth of 20 to 40 inches and are on small knolls and on the outer edges of map units

Similar:
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or that extends to less than 30 inches in depth
- Random areas of Herndon soils that have a subsoil that is yellowish red or yellower
- Random areas of Georgeville soils that have a gravelly or cobbly surface layer

Land Use

Dominant uses: Pasture and hayland, woodland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems including contour farming, conservation tillage, crop residue management, stripcropping, and sod-based rotations help to prevent further erosion by stabilizing the soil, controlling runoff, and maximizing water infiltration.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Erodibility and seedling survival
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.
- Reducing the remaining canopy during site preparation increases the natural regeneration of hardwoods.

Urban Development

Dwellings
Suitability: Well suited
Management concerns: Erodibility
Management measures and considerations:
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: Erodibility
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: Erodibility
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove small stones.

Paths and trails
Suitability: Poorly suited
Management concerns: Erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Interpretive Group

Land capability classification: 2e

GeC2—Georgeville silty clay loam, 6 to 10 percent slopes, moderately eroded

Setting

Landscape: Piedmont uplands; in the Carolina Slate Belt
Landform: Ridges and side slopes
Shape of areas: Long and narrow, rounded, or irregular
Size of areas: 5 to 150 acres

Composition

Georgeville and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 7 inches—red silty clay loam

Subsoil:
7 to 44 inches—red clay
44 to 52 inches—red silty clay loam that has strong brown mottles

Underlying material:
52 to 62 inches—reddish yellow silt loam saprolite that has red mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 5.0 feet

Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Severe
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Tarrus soils that have soft bedrock at a depth of 40 to 60 inches
- Somewhat poorly drained Cid soils that have soft bedrock at a depth of 20 to 40 inches and are along drainageways and at the heads of drainageways
- Random areas of non-eroded Georgeville or Herndon soils that have a silt loam, loam, very fine sandy loam, fine sandy loam, or sandy loam surface layer
- Random areas of surface stones and boulders that are usually designated by special symbols
- Badin soils that have soft bedrock at a depth of 20 to 40 inches and are on small knolls, nose slopes, and on the outer edges of map units

Similar:
- Random areas of Herndon soils that have a subsoil that is yellowish red or yellower
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or that extends to less than 30 inches in depth
- Random areas of Georgeville soils that have a gravelly or cobbly surface layer

Land Use

Dominant uses: Woodland, pasture and hayland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems including contour farming, conservation tillage, crop residue management, stripcropping (fig. 10), and sod-based rotations help to prevent further erosion by stabilizing the soil, controlling runoff, and maximizing water infiltration.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.

Figure 10.—Stripcropping in an area of Georgeville silty clay loam, 6 to 10 percent slopes, moderately eroded. This soil is moderately suited to cropland.

- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Equipment use and seedling survival
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Unsurfaced roads may be impassible during wet periods because of the high content of clay in the soil.
- Restricting logging operations to dry periods helps to prevent rutting and possible root damage from compaction.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.

- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength, steepness of slope, and erodibility
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

- Raking playground areas helps to remove small stones.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Poorly suited
Management concerns: Erodibility and steepness of slope
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

GhB2—Georgeville silty clay loam, 2 to 8 percent slopes, moderately eroded

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border, in the Carolina Slate Belt
Landform: Broad ridges
Shape of areas: Rounded or irregular
Size of areas: 5 to 50 acres

Composition

Georgeville and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 8 inches—yellowish red silty clay loam

Subsoil:
8 to 30 inches—red clay
30 to 44 inches—red silty clay loam that has reddish yellow mottles

Underlying material:
44 to 63 inches—red silt loam saprolite that has light reddish brown and very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 5.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Tarrus and Nanford soils that have soft bedrock at a depth of 40 to 60 inches
- Somewhat poorly drained or moderately well drained Lignum soils that have soft bedrock at a depth of 40 to 60 inches and are along drainageways and at the heads of drainageways
- Random areas of uneroded Georgeville soils that have a silt loam or loam surface layer
- Random areas of surface stones and boulders that are usually designated by special symbols
- Badin soils that have soft bedrock at a depth of 20 to 40 inches and are on small knolls and on the outer edges of map units

Similar:
- Random areas of Georgeville soils that have a gravelly or cobbly surface layer
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or that extends to less than 30 inches in depth
- Random areas of Herndon soils that have a subsoil that is yellowish red or yellower

Land Use

Dominant uses: Pasture and hayland, woodland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems including contour farming, conservation tillage, crop residue management, stripcropping, and sod-based rotations help to prevent further erosion by stabilizing the soil, controlling runoff, and maximizing water infiltration.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Erodibility and seedling survival

Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Well suited
Management concerns: Erodibility
Management measures and considerations:
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: Erodibility
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: Erodibility
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Raking playground areas helps to remove small stones.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Poorly suited
Management concerns: Erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

GhC2—Georgeville silty clay loam, 8 to 15 percent slopes, moderately eroded

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border, in the Carolina Slate Belt
Landform: Ridges and side slopes
Shape of areas: Long and narrow, rounded, or irregular
Size of areas: 5 to 20 acres

Composition

Georgeville and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 8 inches—yellowish red silty clay loam

Subsoil:
8 to 30 inches—red clay
30 to 44 inches—red silty clay loam that has reddish yellow mottles

Underlying material:
44 to 63 inches—red silt loam saprolite that has light reddish brown and very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 5.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Very severe
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Tarrus and Nanford soils that have soft bedrock at a depth of 40 to 60 inches

- Somewhat poorly drained or moderately well drained Lignum soils that have soft bedrock at a depth of 40 to 60 inches and are along drainageways and at the heads of drainageways
- Random areas of uneroded Georgeville soils that have a silt loam or loam surface layer
- Random areas of surface stones and boulders that are usually designated by special symbols
- Badin soils that have soft bedrock at a depth of 20 to 40 inches and are on small knolls, nose slopes, and on the outer edges of map units

Similar:
- Random areas of Georgeville soils that have a loam or fine sandy loam surface layer
- Random areas of Georgeville soils that have a gravelly or cobbly surface layer
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or that extends to less than 30 inches in depth
- Random areas of Herndon soils that have a subsoil that is yellowish red or yellower

Land Use

Dominant uses: Woodland, pasture and hayland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine

Management concerns: Erodibility and seedling survival
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding all disturbed areas using adapted grasses and legumes helps to prevent soil erosion and siltation of streams.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength, steepness of slope, and erodibility
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.

Picnic areas
Suitability: Well suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove small stones.

Paths and trails
Suitability: Poorly suited
Management concerns: Erodibility and steepness of slope
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

GkD—Georgeville-Badin complex, 10 to 15 percent slopes

Setting

Landscape: Piedmont uplands; in the Carolina Slate Belt
Landform: Narrow ridges and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 200 acres

Composition

Georgeville and similar soils: 65
Badin and similar soils: 20 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
7 to 10 inches—yellowish red silty clay loam
10 to 36 inches—red clay
36 to 44 inches—red clay that has strong brown mottles

44 to 53 inches—red silty clay loam that has yellow and brown mottles

Underlying material:
53 to 62 inches—variegated red, yellow, and brown loam saprolite that has white mottles

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

Subsoil:
6 to16 inches—strong brown clay
16 to 24 inches—strong brown silty clay loam
24 to 32 inches—strong brown clay loam that has reddish yellow mottles

Bedrock:
32 to 60 inches—weathered, moderately fractured, fine-grained metavolcanic rock

Soil Properties and Qualities

Depth class: Georgeville—very deep; Badin—moderately deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Georgeville—high; Badin—low
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Georgeville—low; Badin—moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Very severe
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: Georgeville—more than 60 inches; Badin—20 to 40 inches to soft bedrock and 40 inches or more to hard bedrock

Minor Components

Dissimilar:
- Random areas of Tarrus and Nanford soils that have soft bedrock at a depth of 40 to 60 inches
- Random areas of shallow, well drained to excessively drained Goldston soils that have soft bedrock at a depth of less than 20 inches
- Somewhat poorly drained Lignum and Cid soils in concave areas at the heads of drainageways and on foot slopes along drainageways
- Random areas of surface stones and boulders that are usually designated by special symbols
- Random areas of soils that have a channery or gravelly surface layer

Similar:
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or that extends to less than 30 inches in depth
- Random areas of Herndon soils that have a subsoil that is reddish yellow or yellower and have bedrock at a depth of more than 60 inches
- Random areas of Georgeville, Badin, and similar soils that have a loam, fine sandy loam, or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Georgeville—erodibility; Badin—erodibility and rooting depth
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Georgeville—no significant limitations; Badin—windthrow hazard
Management measures and considerations:
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Badin soils.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.
- Restricting logging operations to periods when the soils are not saturated helps to prevent rutting and damage to tree roots resulting from soil compaction.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Georgeville—steepness of slope; Badin—steepness of slope, depth to bedrock, and shrink-swell potential
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling of the Badin soils.

- The soft bedrock underlying the Badin soils in this map unit does not require special equipment for excavation, but it is difficult to revegetate or pack if used in fill slopes.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Georgeville—steepness of slope and restricted permeability; Badin—steepness of slope, restricted permeability, and depth to bedrock
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Locating and installing septic tank absorption fields in the deeper Georgeville soils may improve the performance of filter fields.
- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Georgeville—low strength and steepness of slope; Badin—low strength, steepness of slope, and shrink-swell potential
Management measures and considerations:
- Incorporating sand and gravel into the soil, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Steepness of slope and erodibility
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope and erodibility
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited

Management concerns: Erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

GkE—Georgeville-Badin complex, 15 to 30 percent slopes

Setting

Landscape: Piedmont uplands; in the Carolina Slate Belt
Landform: Narrow ridges and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 200 acres

Composition

Georgeville and similar soils: 55
Badin and similar soils: 25 percent
Dissimilar soils: 20 percent

Typical Profile

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

Subsoil:
7 to 10 inches—yellowish red silty clay loam
10 to 36 inches—red clay
36 to 44 inches—red clay that has strong brown mottles
44 to 53 inches—red silty clay loam that has yellow and brown mottles

Underlying material:
53 to 62 inches—variegated red, yellow, and brown loam saprolite that has white mottles

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

Subsoil:
6 to16 inches—strong brown clay
16 to 24 inches—strong brown silty clay loam
24 to 32 inches—strong brown clay loam that has reddish yellow mottles

Bedrock:
32 to 60 inches—weathered, moderately fractured, fine-grained metavolcanic rock

Soil Properties and Qualities

Depth class: Georgeville—very deep; Badin—moderately deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Georgeville—high; Badin—low
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Georgeville—low; Badin—moderate
Hazard of flooding: None

Surface runoff: Medium
Hazard of water erosion: Very severe
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: Georgeville—more than 60 inches; Badin—20 to 40 inches to soft bedrock and 40 inches or more to hard bedrock

Minor Components

Dissimilar:
- Random areas of Nanford and Tarrus soils that have soft bedrock at a depth of 40 to 60 inches
- Random areas of shallow, well drained to excessively drained Goldston soils that have soft bedrock at a depth of less than 20 inches
- Somewhat poorly drained Cid and Lignum soils in concave areas at the heads of drainageways and on foot slopes along drainageways
- Random areas of surface stones and boulders that are usually designated by special symbols
- Random areas of soils that have a channery or gravelly surface layer

Similar:
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or that extends to less than 30 inches in depth
- Random areas of Herndon soils that have a subsoil that is reddish yellow or yellower and have bedrock at a depth of more than 60 inches
- Random areas of Georgeville, Badin, or similar soils that have a loam, fine sandy loam, or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Urban development and cropland

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Georgeville—erodibility and equipment use; Badin—erodibility, equipment use, and rooting depth
Management measures and considerations:
- This map unit is difficult to manage for cultivated crops because the slope limits the use of equipment.
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of the Badin soils.

Pasture and hayland
Suitability: Moderately suited to pasture; poorly suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and equipment use

Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- The slope limits the use of equipment in the steeper areas.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Georgeville—erodibility and equipment use; Badin—erodibility, equipment use, and windthrow hazard
Management measures and considerations:
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.
- Restricting logging operations to periods when the soils are not saturated helps to prevent rutting and damage to tree roots resulting from soil compaction.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding all disturbed areas using adapted grasses and legumes helps to prevent soil erosion and siltation of streams.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome slope limitations.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Badin soils.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Georgeville—steepness of slope; Badin—steepness of slope, depth to bedrock, and shrink-swell potential
Management measures and considerations:
- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling in the Badin soils
- The drilling and blasting of hard rock or the use of special earth-moving equipment may be needed to increase the depth in areas of the Badin soils or the shallow Goldston soils that occur as a minor component in this map unit.
- The soft bedrock underlying the Badin soils in this map unit does not require special equipment for excavation, but it is difficult to revegetate or pack if used in fill slopes.

- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Georgeville—steepness of slope and restricted permeability; Badin—steepness of slope, restricted permeability, and depth to bedrock
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- Accessing outlets of public sewage systems will help to eliminate the need to use these severely limited soils for septic tank systems.
- Locating and installing septic tank absorption fields in the deeper Georgeville soils may improve the performance of filter fields.
- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Georgeville—steepness of slope and low strength; Badin—steepness of slope, low strength, and shrink-swell potential
Management measures and considerations:
- Incorporating sand and gravel into the soil, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Steepness of slope and erodibility
Management measures and considerations:
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Poorly suited
Management concerns: Steepness of slope and erodibility
Management measures and considerations:
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.

- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Unsuited
Management concerns: Steepness of slope
Management measures and considerations:
- This map unit is severely limited for playgrounds because of steepness of slope. A site should be selected on better suited soils.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Poorly suited
Management concerns: Steepness of slope and erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 4e

GnC—Georgeville-Urban land complex, 2 to 10 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the corporate limits of Siler City and Pittsboro, in the Carolina Slate Belt
Landform: Broad and narrow ridges and side slopes
Shape of areas: Rounded or irregular
Size of areas: 5 to 200 acres

Composition

Georgeville and similar soils: 55 percent
Urban land and similar inclusions: 40 percent
Dissimilar soils: 5 percent

Typical Profile

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

Subsoil:
7 to 10 inches—yellowish red silty clay loam
10 to 36 inches—red clay
36 to 44 inches—red clay that has strong brown mottles
44 to 53 inches—red silty clay loam that has yellow and brown mottles

Underlying material:
53 to 62 inches—variegated red, yellow, and brown loam saprolite that has white mottles

Urban land

Urban land consists of areas mostly covered by commercial, industrial, or other urban buildings, paved streets and sidewalks, paved parking lots, closely spaced houses, or other impervious material so that identification of the natural soil is not feasible.

Soil Properties and Qualities

Depth class: Georgeville—very deep; Urban land—not applicable
Drainage class: Georgeville—well drained; Urban land—not applicable
Permeability: Georgeville—moderate; Urban land—not applicable
Available water capacity: Georgeville—high; Urban land—not applicable
Depth to seasonal high water table: Georgeville—more than 6.0 feet; Urban land—not applicable
Shrink-swell potential: Georgeville—low; Urban land—not applicable
Hazard of flooding: None
Surface runoff: Georgeville—medium; Urban land—very rapid
Hazard of water erosion: Georgeville—moderate; Urban land—not applicable
Parent material: Georgeville—residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt; Urban land—not applicable
Depth to bedrock: Georgeville—more than 60 inches; Urban land—not applicable

Minor Components:

Dissimilar:
- Random areas of loamy Udorthents and cut and fill areas
- Random areas of Tarrus soils that have soft bedrock at a depth of 40 to 60 inches
- Random areas of Badin soils that have soft bedrock at a depth of 20 to 40 inches

Similar:
- Georgeville soils that have a very fine sandy loam or loam surface layer
- Random areas of Herndon soils that have more yellow in the subsoil than the major soils

Land Use

Dominant uses: Urban development
Other uses: Lawns and gardens

Agricultural Development

Cropland
Suitability: Unsuited
Commonly grown crops: Non-commercial garden vegetables
Management concerns: Georgeville—small areas, erodibility, and steepness of slope; Urban land—not applicable

Pasture and hayland
Suitability: Unsuited

Woodland
Suitability: Unsuited

Urban Development

Dwellings
Suitability: Well suited
Management concerns: No significant limitations

Management measures and considerations:
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Georgeville—moderately suited; Urban land—not applicable
Management concerns: Restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.

Recreational Development

Camp areas
Suitability: Georgeville—well suited; Urban land—not applicable
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Georgeville—well suited; Urban land—not applicable
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Georgeville—moderately suited; Urban land—not applicable
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove small stones.

Paths and trails
Suitability: Georgeville—well suited; Urban land—not applicable
Management concerns: Erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: Georgeville—3e; Urban land—8s

GoC—Goldston-Badin complex, 2 to 15 percent slopes

Setting

Landscape: Piedmont uplands; mainly west of Jordan Lake, in the Carolina Slate Belt
Landform: Narrow ridges and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 200 acres

Composition

Goldston and similar soils: 60 percent
Badin and similar soils: 25 percent
Dissimilar soils: 15 percent

Typical Profile

Goldston
Surface layer:
0 to 7 inches—yellowish brown very channery silt loam

Subsoil:
7 to 11 inches—very pale brown very channery silt loam

Bedrock:
11 to 23 inches—weathered, highly fractured argillite that has a few seams of silt loam saprolite in cracks
23 inches—unweathered, moderately fractured argillite

Badin
Surface layer:
0 to 2 inches—brown channery silt loam

Subsurface layer:
2 to 9 inches—yellowish brown channery silt loam

Subsoil:
9 to 21 inches—strong brown channery silty clay loam
21 to 36 inches—strong brown silty clay

Bedrock:
36 to 45 inches—weathered, moderately fractured argillite
45 inches—unweathered, moderately fractured argillite

Soil Properties and Qualities

Depth class: Goldston—shallow; Badin—moderately deep
Drainage class: Goldston—well drained to excessively drained; Badin—well drained
Permeability: Goldston—moderately rapid; Badin—moderate
Available water capacity: Goldston—very low; Badin—low
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Goldston—low; Badin—moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Goldston—moderate; Badin—severe
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: Goldston—10 to 20 inches to soft bedrock and 20 to 40 inches to hard bedrock; Badin—20 to 40 inches to soft bedrock and 40 inches or more to hard bedrock

Minor Components

Dissimilar:
- Random areas of Nanford soils that have soft bedrock at a depth of 40 to 60 inches and hard bedrock at more than 60 inches
- Somewhat poorly drained Misenheimer and Cid soils in concave areas at the heads of drainageways and on foot slopes along drainageways
- Random areas of surface stones and boulders that are usually designated by special symbols

Similar:
- Random areas of soils that have a channery or gravelly surface layer
- Random areas of Goldston soils that have a channery or gravelly surface layer
- Random areas of Badin soils that have a loam, fine sandy loam, or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Goldston—rooting depth and droughtiness; Badin—erodibility and rooting depth
Management measures and considerations:
- This map unit is difficult to manage for commodity crop production because of the shallow rooting depth of the Goldston soils.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the shallow rooting depth of the Goldston soils and the moderately deep rooting depth of the Badin soils.
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase the available water capacity, help minimize crusting, and improve soil fertility.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Goldston—moderately suited to pasture and poorly suited to hayland; Badin—well suited to pasture and moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Goldston—rooting depth, droughtiness, and equipment use; Badin—erodibility and equipment use
Management measures and considerations:
- The shallow rooting depth and small stones makes Goldston soils in this map unit difficult to manage for commercial pasture and hay crop production.
- Planting drought-tolerant species increases productivity.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland

Suitability: Goldston—moderately suited; Badin—well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Goldston—windthrow hazard, rooting depth, and rock fragment content; Badin—windthrow hazard
Management measures and considerations:

- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of both the Goldston and Badin soils.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.
- Maintaining surface litter increases water infiltration and reduces seedling mortality rates.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings

Suitability: Goldston—poorly suited; Badin—moderately suited
Management concerns: Goldston—depth to bedrock, slope, rock fragment content, and large stones; Badin—steepness of slope, depth to bedrock, and shrink-swell potential
Management measures and considerations:

- The drilling and blasting of hard rock or the use of special earth-moving equipment may be needed to increase the depth of the Goldston soil.
- The soft bedrock underlying the Badin soils in this map unit does not require special equipment for excavation, but it is difficult to revegetate or pack if used in fill slopes.
- Designing structures to conform to the natural slope improves soil performance.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields

Suitability: Goldston—unsuited; Badin—poorly suited
Management concerns: Depth to bedrock and restricted permeability
Management measures and considerations:

- This map unit is severely limited for septic tank absorption fields because of depth to bedrock. The Chatham County Health Department should be contacted for guidance.
- Locating and installing septic tank absorption fields in the deeper included soils may improve the performance of filter fields.

- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Goldston—depth to bedrock; Badin—low strength
Management measures and considerations:
- Blasting or special grading equipment may be needed to construct roads on the Goldston soils.
- The soft bedrock underlying the Badin soils in this map unit does not require special equipment for excavation, but it is difficult to revegetate or pack if used in fill slopes.
- Incorporating sand and gravel into the soil, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Goldston—poorly suited; Badin—moderately suited
Management concerns: Goldston—depth to bedrock; Badin—erodibility
Management measures and considerations:
- Blasting or special grading equipment may be needed to construct access roads or campsites on the Goldston soils.
- Raking camp areas helps to remove rock fragments.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Goldston—poorly suited; Badin—moderately suited
Management concerns: Goldston—depth to bedrock, rock fragment content, and steepness of slope; Badin—steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Raking picnic areas helps to remove rock fragments.
- Suitable material should be used for the construction of elevated picnic sites.

Playgrounds
Suitability: Poorly suited
Management concerns: Goldston—depth to bedrock, rock fragment content, and steepness of slope; Badin—steepness of slope
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Extensive grading, including cutting and filling slopes, may be required in the steeper areas.

Paths and trails
Suitability: Moderately suited
Management concerns: Erodibility

Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: Goldston—4s; Badin—3e

GoE—Goldston-Badin complex, 15 to 35 percent slopes

Setting

Landscape: Piedmont uplands; mainly west of Jordan Lake, in the Carolina Slate Belt
Landform: Side slopes and narrow ridges
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 75 acres

Composition

Goldston and similar soils: 60 percent
Badin and similar soils: 30 percent
Dissimilar soils: 10 percent

Typical Profile

Goldston
Surface layer:
0 to 7 inches—yellowish brown very channery silt loam

Subsoil:
7 to 11 inches—very pale brown very channery silt loam

Bedrock:
11 to 23 inches—weathered, highly fractured argillite that has a few seams of silt loam saprolite in cracks
23 inches—unweathered, moderately fractured argillite

Badin
Surface layer:
0 to 2 inches—brown channery silt loam

Subsurface layer:
2 to 9 inches—yellowish brown channery silt loam

Subsoil:
9 to 21 inches—strong brown channery silty clay loam
21 to 36 inches—strong brown silty clay

Bedrock:
36 to 45 inches—weathered, moderately fractured argillite
45 inches—unweathered, moderately fractured argillite

Soil Properties and Qualities

Depth class: Goldston—shallow; Badin—moderately deep
Drainage class: Goldston—well drained to excessively drained; Badin—well drained
Permeability: Goldston—moderately rapid; Badin—moderate
Available water capacity: Goldston—very low; Badin—low
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Goldston—low; Badin—moderate
Hazard of flooding: None

Surface runoff: Medium to high
Hazard of water erosion: Severe or very severe
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: Goldston—10 to 20 inches to soft bedrock and 20 to 40 inches to hard bedrock; Badin—20 to 40 inches to soft bedrock and 40 inches or more to hard bedrock

Minor Components

Dissimilar:
- Random areas of Nanford soils that have soft bedrock at a depth of 40 to 60 inches and hard bedrock at a depth of more than 60 inches
- Random areas of surface stones and boulders that are usually designated by special symbols

Similar:
- Random areas of soils that have a channery or gravelly surface layer
- Random areas of Goldston soils that have a channery or gravelly surface layer
- Random areas of Badin soils that have a loam, fine sandy loam, or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Erodibility, equipment use, and rooting depth
Management measures and considerations:
- This map unit is difficult to manage for cultivated crops because the slope limits the use of equipment.
- This map unit is difficult to manage for crop production because of the shallow rooting depth of the Goldston soils.
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase the available water capacity, help minimize crusting, and improve soil fertility.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Moderately suited to pasture; poorly suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Goldston—rooting depth, droughtiness, and equipment use; Badin—erodibility and equipment use
Management measures and considerations:
- The slope limits the use of equipment in the steeper areas.
- Shallow rooting depth and small stones make Goldston soils in this map unit difficult to manage for pasture and hay crop production.

- Planting drought-tolerant species increases productivity.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland

Suitability: Moderately suited

Productivity class: Moderately high for loblolly pine

Management concerns: Goldston—windthrow hazard, rooting depth, rock fragment content, and erodibility; Badin—erodibility, equipment use, and windthrow hazard

Management measures and considerations:

- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding all disturbed areas using adapted grasses and legumes helps to prevent soil erosion and siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome slope limitations.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of both the Goldston and the Badin soils.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.
- Maintaining surface litter increases water infiltration and reduces seedling mortality rates.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings

Suitability: Poorly suited

Management concerns: Goldston—steepness of slope and depth to bedrock; Badin—steepness of slope

Management measures and considerations:

- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- The drilling and blasting of hard rock or the use of special earth-moving equipment may be needed to increase the soil depth in the Goldston soil.
- The soft bedrock underlying the Badin soils in this map unit does not require special equipment for excavation, but it is difficult to revegetate or pack if used in fill slopes.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Goldston—unsuited; Badin—poorly suited
Management concerns: Steepness of slope and depth to bedrock
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- Locating and installing septic tank absorption fields in the deeper included soils may improve the performance of filter fields.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.

Local roads and streets
Suitability: Poorly suited
Management concerns: Goldston—steepness of slope; Badin—steepness of slope and low strength
Management measures and considerations:
- This map unit has severe limitations affecting roads and streets. A site should be selected on better suited soils.
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Goldston—steepness of slope, rock fragment content, and depth to bedrock; Badin—steepness of slope
Management measures and considerations:
- This map unit has severe limitations affecting camp areas. A site should be selected on better suited soils.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Raking camp areas helps to remove rock fragments.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Poorly suited
Management concerns: Goldston—steepness of slope and rock fragment content; Badin—steepness of slope
Management measures and considerations:
- This map unit has severe limitations affecting picnic areas. A site should be selected on better suited soils.
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.

Playgrounds
Suitability: Unsuited

Management concerns: Goldston—steepness of slope, depth to bedrock, rock fragment content; Badin—steepness of slope
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Poorly suited
Management concerns: Goldston—steepness of slope and rock fragment content Badin—steepness of slope and erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: Goldston—7s; Badin—6e

HeB—Helena sandy loam, 2 to 6 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the northern part of the county, south of Chapel Hill
Landform: Ridges, drainageways, and heads of drainageways
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Helena and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsurface layer:
6 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 13 inches—yellowish brown sandy clay loam
13 to 22 inches—yellowish brown clay that has strong brown mottles
22 to 30 inches—brownish yellow clay that has light yellowish brown and light brownish gray mottles
30 to 44 inches—reddish yellow clay loam that has light brownish gray and yellowish brown mottles

Underlying material:
44 to 64 inches—variegated brown, red, yellow, and gray sandy clay loam saprolite

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained

Permeability: Slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 2.5 feet from January through April
Shrink-swell potential: High
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from felsic to mafic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of well drained Vance soils
- Random areas of Santuc soils that have less clay in the subsoil

Similar:
- Random areas of Helena soils that have a gravelly or cobbly surface layer
- Random areas of soils that have a reaction in the lower subsoil that ranges to moderately alkaline
- Random areas of Helena and similar soils that have a fine sandy loam, loam, and coarse sandy loam surface layer

Land Use

Dominant uses: Woodland, pasture and hayland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Erodibility and wetness
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.

Pasture and hayland
Suitability: Moderately suited
Commonly grown crops: Tall fescue and orchard grass
Management concerns: Erodibility and wetness
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Installing and maintaining a subsurface drainage system improve the productivity of moisture-sensitive crops, such as alfalfa.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Equipment use
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction, which occur when the soil is saturated.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell potential
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing basements or backfilling using coarse-textured material helps to strengthen foundations and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability and wetness
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- This map unit is difficult to manage for septic tank absorption fields because the dominant soils have a high water table at a depth of 1.5 to 3 feet.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength and shrink-swell potential
Management measures and considerations:
- Installing geotextile fabric between the base aggregate and the final surface of the road improves performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Restricted permeability and wetness
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the wetness limitation.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.

- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Restricted permeability and wetness
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.

Playgrounds
Suitability: Moderately suited
Management concerns: Restricted permeability, steepness of slope and wetness
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Artificial drainage systems or diversions help to remove excess surface water and minimize the wetness limitation.
- Using diversions helps to remove excess surface water.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Wetness
Management measures and considerations:
- Locating paths and trails on raised pads of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

HeC—Helena sandy loam, 6 to 10 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the northern part of the county, south of Chapel Hill
Landform: Ridges, drainageways, and heads of drainageways
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Helena and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

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

Subsurface layer:
6 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 13 inches—yellowish brown sandy clay loam

13 to 22 inches—yellowish brown clay that has strong brown mottles
22 to 30 inches—brownish yellow clay that has light yellowish brown and light brownish gray mottles
30 to 44 inches—reddish yellow clay loam that has light brownish gray and yellowish brown mottles

Underlying material:
44 to 64 inches—variegated brown, red, yellow, and gray sandy clay loam saprolite

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 2.5 feet from January through April
Shrink-swell potential: High
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from felsic to mafic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of well drained, moderately permeable Wedowee soils
- Random areas of well drained Vance soils
- Random areas of very slowly permeable Iredell soils that have a very high shrink-swell potential
- Random areas of Santuc soils that have less clay in the subsoil
- Poorly drained Worsham soils along drainageways and in depressions

Similar:
- Random areas of soils that have a reaction in the lower subsoil that ranges to moderately alkaline
- Random areas of Helena and similar soils that have a fine sandy loam, loam, or coarse sandy loam surface layer

Land Use

Dominant uses: Woodland, pasture and hayland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Erodibility and wetness
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.

Pasture and hayland
Suitability: Moderately suited
Commonly grown crops: Tall fescue and orchard grass
Management concerns: Erodibility and wetness
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Installing and maintaining a subsurface drainage system improve the productivity of moisture-sensitive crops, such as alfalfa.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Equipment use
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction, which occur when the soil is saturated.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly
Management concerns: Wetness and shrink-swell potential
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability and wetness
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- This map unit is difficult to manage for septic tank absorption fields because the dominant soils have a high water table at a depth of 1.5 to 3 feet.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength and shrink-swell potential

Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- The soil is subject to uneven settling and may be unstable if not properly compacted.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Restricted permeability, wetness, and steepness of slope
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Restricted permeability and wetness
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.

Playgrounds
Suitability: Moderately suited
Management concerns: Restricted permeability, steepness of slope, and wetness
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Artificial drainage systems or diversions help to remove excess surface water and minimize the wetness limitation.
- Restricting use after heavy rains, when the soil is saturated, may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Moderately suited
Management concerns: Wetness

Management measures and considerations:
- Locating paths and trails on raised pads of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.
- Restricting use after heavy rains, when flooding is a hazard, may be necessary.

Interpretive Group

Land capability classification: 3e

HrB—Herndon silt loam, 2 to 6 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the central and western parts of the county, in the Carolina Slate Belt
Landform: Interstream divides and broad ridges
Shape of areas: Rounded or irregular
Size of areas: 5 to 50 acres

Composition

Herndon and similar soils: 70 percent
Dissimilar soils: 30 percent

Typical Profile

Surface layer:
0 to 3 inches—light yellowish brown silt loam

Subsurface layer:
3 to 9 inches—brownish yellow silt loam

Subsoil:
9 to 14 inches—reddish yellow silty clay loam
14 to 34 inches—yellowish red silty clay that has yellow and reddish yellow mottles
34 to 48 inches—yellowish red silty clay loam that has yellow, very pale brown, and reddish yellow mottles

Underlying material:
48 to 60 inches—red silt loam saprolite that has yellow and reddish yellow mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 5.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Nanford and Tarrus soils that have soft bedrock at a depth of 40 to 60 inches
- Somewhat poorly drained or moderately well drained Lignum soils that have soft bedrock at a depth of 40 to 60 inches
- Cid soils that have soft bedrock at a depth of 20 to 40 inches and are along drainageways and at the heads of drainageways
- Random areas of moderately eroded Herndon soils that have a silty clay loam or clay loam surface layer
- Random areas of surface stones and boulders that are usually designated by special symbols
- Badin soils that have soft bedrock at a depth of 20 to 40 inches and are on small knolls and the outer edges of map units

Similar:
- Random areas of Herndon soils that have a gravelly or cobbly surface layer
- Random areas of Georgeville soils that have a red subsoil
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or that extends to less than 30 inches in depth
- Random areas of Herndon soils that have a loam or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland, pasture and hayland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Well suited
Management concerns: No significant limitations
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove small stones.

Paths and trails
Suitability: Poorly suited
Management concerns: Erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

HrC—Herndon silt loam, 6 to 10 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the central and western parts of the county, in the Carolina Slate Belt
Landform: Ridges, hills, and side slopes
Shape of areas: Long and narrow, rounded, or irregular
Size of areas: 5 to 50 acres

Composition

Herndon and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 3 inches—light yellowish brown silt loam

Subsurface layer:
3 to 9 inches—brownish yellow silt loam

Subsoil:
9 to 14 inches—reddish yellow silty clay loam
14 to 34 inches—yellowish red silty clay that has yellow and reddish yellow mottles
34 to 48 inches—yellowish red silty clay loam that has yellow, very pale brown, and reddish yellow mottles

Underlying material:
48 to 60 inches—red silt loam saprolite that has yellow and reddish yellow mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 5.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate

Parent material: Residuum weathered from metavolcanic rock of the Carolina Slate Belt
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Nanford soils that have soft bedrock at a depth of 40 to 60 inches
- Somewhat poorly drained or moderately well drained Lignum soils that have soft bedrock at a depth of 40 to 60 inches
- Cid soils that have soft bedrock at a depth of 20 to 40 inches and are along drainageways and at the heads of drainageways
- Random areas of moderately eroded Herndon soils that have a silty clay loam or clay loam surface layer
- Random areas of surface stones and boulders that are usually designated by special symbols
- Badin soils that have soft bedrock at a depth of 20 to 40 inches and are on small knolls and on the outer edges of map units

Similar:
- Random areas of Herndon soils that have a gravelly or cobbly surface layer
- Random areas of Georgeville soils that have a red subsoil
- Random areas of very deep soils that have a clayey subsoil that is less than 24 inches thick or that extends to less than 30 inches in depth
- Random areas of Herndon soils that have a loam or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland, pasture and hayland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.

- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength, steepness of slope, and erodibility
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.

Picnic areas
Suitability: Well suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove small stones.

Paths and trails
Suitability: Poorly suited
Management concerns: Erodibility and steepness of slope
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

IrB—Iredell fine sandy loam, 2 to 6 percent slopes

Setting

Landscape: Piedmont uplands; throughout the county
Landform: Broad ridges
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Iredell and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam

Subsurface layer:
5 to 8 inches—light brownish gray sandy loam

Subsoil:
8 to 18 inches—yellowish brown clay that has strong brown and brown mottles
18 to 27 inches—light olive brown clay that has grayish brown mottles
27 to 35 inches—yellowish brown sandy clay loam

Underlying material:
35 to 60 inches—yellowish brown sandy loam saprolite

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.0 to 2.0 feet from December through April
Shrink-swell potential: Very high
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from mafic high-grade metamorphic or igneous rock
Depth to bedrock: 40 to more than 60 inches

Minor Components

Dissimilar:
- Random areas of well drained Enon soils
- Random areas of well drained Mecklenburg soils that have a red subsoil
- Random areas of deep, well drained Winnsboro soils
- Random areas of moderately deep Pittsboro soils that have soft bedrock at a depth of 20 to 40 inches
- Random areas of moderately deep, well drained Wynott soils that have soft bedrock at a depth of 20 to 40 inches
- Poorly drained soils that have a black surface layer and are along drainageways and in depressions
- Random areas of soils that have less clay in the subsoil
- Widely scattered surface stones and boulders that are usually designated by special symbols

Similar:
- Random areas of Iredell soils that have a gravelly or cobbly surface layer
- Random areas of Iredell and similar soils that have a sandy loam, loam, or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland, pasture and hayland, and cropland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Corn, soybeans, and small grains

Management concerns: Erodibility and wetness
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.

Pasture and hayland
Suitability: Moderately suited
Commonly grown crops: Tall fescue and orchard grass
Management concerns: Erodibility and wetness
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Installing and maintaining a subsurface drainage system improve the productivity of moisture-sensitive crops, such as alfalfa.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction that occurs when the soil is saturated.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell potential
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing basements or backfilling using coarse-textured material helps to strengthen foundations and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability and wetness
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength and shrink-swell potential
Management measures and considerations:
- Installing geotextile fabric between the base aggregate and the final surface of the road improves performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the wetness limitation.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.

Playgrounds
Suitability: Poorly suited
Management concerns: Wetness, steepness of slope, and restricted permeability
Management measures and considerations:
- Artificial drainage systems or diversions help to remove excess surface water and minimize the wetness limitation.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Wetness
Management measures and considerations:
- Locating paths and trails on raised pads of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

LsF—Louisa fine sandy loam, 25 to 45 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the extreme southeast corner of the county near the Harnett County border
Landform: Steep side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 75 acres

Composition

Louisa and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 2 inches—brown fine sandy loam

Subsurface layer:
2 to 7 inches—grayish brown fine sandy loam

Subsoil:
7 to 15 inches—yellowish brown loam

Bedrock:
15 to 60 inches—weathered, moderately fractured mica schist

Soil Properties and Qualities

Depth class: Shallow
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Available water capacity: Very low
Depth to seasonal high water table: More than 5.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Very high
Parent material: Residuum weathered from mica schist or mica gneiss
Depth to bedrock: 10 to 20 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of Pacolet soils that have a clay subsoil and have bedrock at a depth of more than 60 inches
- Random areas of surface stones and boulders that are usually designated by special symbols

Similar:
- Random areas of Louisa soils that have a sandy loam or loam surface layer

Land Use

Dominant uses: Woodland
Other uses: None

Agricultural Development

Cropland
Suitability: Unsuited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Equipment use, droughtiness, rooting depth, and erodibility
Management measures and considerations:
- This map unit has severe limitations affecting crop production. A site should be selected on better suited soils.

Pasture and hayland
Suitability: Poorly suited to pasture; unsuited to hayland
Commonly grown crops: None
Management concerns: Equipment limitations, droughtiness, rooting depth, and erodibility
Management measures and considerations:
- This map unit is difficult to manage for pasture or hayland because of the slope.

Woodland
Suitability: Poorly suited
Productivity class: Moderate for loblolly pine
Management concerns: Erodibility, equipment use, and windthrow hazard
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding all disturbed areas using adapted grasses and legumes helps to prevent soil erosion and siltation of streams.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome slope limitations.
- Cable logging methods help to overcome equipment limitations and prevent the acceleration of erosion caused by the construction of roads and skid trails and the disturbance of the forest floor caused by heavy machinery.
- Periodically harvesting windthrown trees increases the soil productivity.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Steepness of slope and depth to bedrock
Management measures and considerations:
- This map unit is severely limited for dwellings because of the slope and the depth to bedrock. A site should be selected on better suited soils.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Steepness of slope and depth to bedrock
Management measures and considerations:
- This map unit is severely limited for septic tank absorption fields because of the slope and the depth to bedrock. The Chatham County Health Department should be contacted for guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Steepness of slope and depth to bedrock
Management measures and considerations:
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Unsuited
Management concerns: Steepness of slope and depth to bedrock
Management measures and considerations:
- This map unit is severely limited for camp areas because of the slope and the depth to bedrock. A site should be selected on better suited soils.

Picnic areas
Suitability: Poorly suited
Management concerns: Steepness of slope and depth to bedrock
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.

Playgrounds
Suitability: Unsuited
Management concerns: Steepness of slope and depth to bedrock
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.

Paths and trails
Suitability: Poorly suited
Management concerns: Steepness of slope and erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 7e

MaA—Mattaponi fine sandy loam, 0 to 2 percent slopes

Setting

Landscape: Piedmont river and stream valleys; mainly in the southern part of the county along major rivers and streams such as the Cape Fear River and the Deep River
Landform: High stream terraces
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Mattaponi and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 6 inches—light yellowish brown fine sandy loam

Subsurface layer:
6 to 15 inches—brownish yellow fine sandy loam

Subsoil:
15 to 23 inches—yellowish brown sandy clay loam that has yellowish red mottles
23 to 43 inches—strong brown clay that has yellowish red and brownish yellow mottles
43 to 60 inches—strong brown clay that has red, reddish yellow, white, and very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 3.0 to 6.0 feet from November through March
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Slow
Hazard of water erosion: Slight
Parent material: Old alluvium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of State soils that have less clay in the subsoil
- Moderately well drained, very slowly permeable Peawick soils in the slightly lower positions
- Moderately well drained Altavista soils that have less clay in the subsoil and are in the slightly lower positions

Similar:
- Random areas of Mattaponi soils that have a loamy sand, sandy loam, or loam surface layer
- Random areas of Mattaponi soils that have a gravelly surface layer

Land Use

Dominant uses: Cropland and pasture and hayland
Other uses: Woodland and urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Tobacco, cotton, corn, soybeans, small grains, and vegetable truck crops
Management concerns: No significant limitations

Management measures and considerations:
- Cropland management that leaves the maximum amount of plant residue on the soil surface helps to control soil blowing and conserve soil moisture.
- Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase the available water capacity, help minimize crusting, and improve soil fertility.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchard grass, Bermuda grass, and clover
Management concerns: No significant limitations
Management measures and considerations:
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing helps to maintain a protective plant cover that minimizes soil blowing.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Wetness
Management measures and considerations:
- Building structures in the highest areas and installing artificial drainage systems reduce the risk of damage from wetness.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of septic systems.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.

Local roads and streets
Suitability: Well suited

Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations

Playgrounds
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations

Interpretive Group

Land capability classification: 1

MaB—Mattaponi fine sandy loam, 2 to 8 percent slopes

Setting

Landscape: Piedmont river and stream valleys; mainly in the southern part of the county along major rivers and streams
Landform: High stream terraces
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Mattaponi and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 6 inches—light yellowish brown fine sandy loam

Subsurface layer:
6 to 15 inches—brownish yellow fine sandy loam

Subsoil:
15 to 23 inches—yellowish brown sandy clay loam that has yellowish red mottles
23 to 43 inches—strong brown clay that has yellowish red and brownish yellow mottles

43 to 60 inches—strong brown clay that has red, reddish yellow, white, and very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeabilty: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 3.0 to 6.0 feet from November through March
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Old alluvium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Moderately well drained, very slowly permeable Peawick soils in the slightly lower positions
- Random areas of State soils that have less clay in the subsoil

Similar:
- Random areas of Mattaponi soils that have a loamy sand, sandy loam, or loam surface layer
- Random areas of Mattaponi soils that have a gravelly surface layer

Land Use

Dominant uses: Cropland and pasture and hayland
Other uses: Woodland and urban development

Agricultural Development

Cropland
Suitability: Well suited (fig. 11)
Commonly grown crops: Tobacco, cotton, corn, soybeans, small grains, and vegetable truck crops
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Cropland management that leaves the maximum amount of plant residue on the soil surface helps to control soil blowing and conserve soil moisture.
- Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase the available water capacity, help minimize crusting, and improve soil fertility.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchard grass, Bermuda grass, and clover
Management concerns: No significant limitations

Figure 11.—Tobacco growing in an area of Mattaponi fine sandy loam, 2 to 8 percent slopes. This soil is well suited to cropland.

Management measures and considerations:
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing helps to maintain a protective plant cover that minimizes soil blowing.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Wetness
Management measures and considerations:
- Building structures in the highest areas and installing artificial drainage systems reduce the risk of damage from wetness.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.

- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of septic systems.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.

Local roads and streets
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Well suited
Management concerns: Slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

McC—Mattaponi-Peawick complex, 8 to 15 percent slopes

Setting

Landscape: Piedmont river and stream valleys; mainly in the southern part of the county along major rivers and streams
Landform: High stream terraces
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Mattaponi and similar soils: 55 percent
Peawick and similar soils: 30 percent
Dissimilar soils: 15 percent

Typical Profile

Mattaponi
Surface layer:
0 to 6 inches—light yellowish brown fine sandy loam

Subsurface layer:
6 to 15 inches—brownish yellow fine sandy loam

Subsoil:
15 to 23 inches—yellowish brown sandy clay loam that has yellowish red mottles
23 to 43 inches—strong brown clay that has yellowish red and brownish yellow mottles
43 to 60 inches—strong brown clay that has red, reddish yellow, white, and very pale brown mottles

Peawick
Surface layer:
0 to 6 inches—yellowish brown fine sandy loam

Subsoil:
6 to 10 inches—yellowish brown loam
10 to 25 inches—strong brown clay that has light yellowish brown mottles
25 to 42 inches—strong brown clay that has brownish yellow, light gray, and red mottles
42 to 64 inches—brownish yellow clay that has light gray and red mottles
64 to 80 inches—strong brown clay loam that has light gray mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Mattaponi—well drained; Peawick—moderately well drained
Permeability: Mattaponi—moderately slow; Peawick—very slow
Available water capacity: Moderate
Seasonal high water table: Mattaponi—apparent, at a depth of 3.0 to 6.0 feet from November through March; Peawick—perched, at a depth of 1.5 to 3.0 feet from December through March
Shrink-swell potential: Mattaponi—moderate; Peawick—high
Hazard of flooding: None
Surface runoff: Mattaponi—rapid; Peawick—very rapid
Hazard of water erosion: Severe
Parent material: Old alluvium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of moderately well drained Altavista soils that have less clay in the subsoil
- Random areas of well drained State soils that have less clay in the subsoil

Similar:
- Random areas of Mattaponi soils that have a loamy sand, sandy loam, or loam surface layer
- Random areas of Mattaponi soils that have a gravelly surface layer
- Random areas of Peawick soils that have a loamy sand or loam surface layer
- Random areas of Peawick soils that have less silt in the subsoil

Land Use

Dominant uses: Woodland
Other uses: Cropland, pasture and hayland, and urban development

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Tobacco, cotton, corn, soybeans, small grains, and vegetable truck crops
Management concerns: Mattaponi—erodibility; Peawick—erodibility and wetness
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase the available water capacity, help minimize crusting, and improve soil fertility.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.

Pasture and hayland
Suitability: Mattaponi—well suited to pasture and moderately suited to hayland; Peawick—moderately suited
Commonly grown crops: Tall fescue, orchard grass, Bermuda grass, and clover
Management concerns: Mattaponi—erodibility and equipment use; Peawick—erodibility, equipment use, and wetness
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.

- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

Woodland

Suitability: Well suited

Productivity class: Mattaponi—high for loblolly pine; Peawick—moderately high for loblolly pine

Management concerns: No significant limitations

Management measures and considerations:

- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings

Suitability: Mattaponi—moderately suited; Peawick—poorly suited

Management concerns: Mattaponi—steepness of slope and moderate shrink-swell potential; Peawick—steepness of slope, high shrink-swell potential, and wetness

Management measures and considerations:

- Designing structures to conform to the natural slope improves soil performance.
- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Building structures in the highest areas and installing artificial drainage systems reduce the risk of damage from wetness.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields

Suitability: Mattaponi—moderately suited; Peawick—poorly suited

Management concerns: Mattaponi—restricted permeability, steepness of slope, and wetness; Peawick—wetness, steepness of slope, and restricted permeability

Management measures and considerations:

- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of septic systems.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.

Local roads and streets

Suitability: Mattaponi—moderately suited; Peawick—poorly suited

Management concerns: Mattaponi—low strength; Peawick—shrink-swell potential and low strength

Management measures and considerations:

- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Mattaponi—moderately suited; Peawick—poorly suited
Management concerns: Mattaponi—steepness of slope; Peawick—restricted permeability
Management measures and considerations:
- Locating facilities in the less sloping areas helps to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.

Picnic areas
Suitability: Mattaponi—moderately suited; Peawick—poorly suited
Management concerns: Mattaponi—steepness of slope; Peawick—restricted permeability
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Providing a gravel pad for picnic tables and other facilities helps to overcome the restricted permeability.

Playgrounds
Suitability: Unsuited
Management concerns: Slope and erodibility
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Mattaponi—well suited; Peawick—poorly suited
Management concerns: Mattaponi—no significant limitations; Peawick—erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

MdB—Mayodan fine sandy loam, 2 to 6 percent slopes

Setting

Landscape: Uplands; mainly in the southeastern part of the county near Jordan Lake and the town of Moncure, in the Triassic Basin
Landform: Interstream divides
Shape of areas: Rounded or irregular
Size of areas: 5 to 200 acres

Composition

Mayodan and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Mayodan
Surface layer:
0 to 4 inches—light yellowish brown fine sandy loam

Subsurface layer:
4 to 10 inches—pale yellow fine sandy loam

Subsoil:
10 to 17 inches—brownish yellow loam
17 to 30 inches—reddish yellow clay loam
30 to 48 inches—reddish yellow clay that has red mottles
48 to 53 inches—reddish yellow clay loam that has yellow and red mottles

Underlying material:
53 to 80 inches—brownish yellow loam saprolite that has yellow, red, and light gray mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from Triassic sandstone and conglomerate
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Peakin soils that have a seasonal high water table at a depth of 3 to 6 feet
- Random areas of moderately well drained Brickhaven soils that have soft bedrock at a depth of 40 to 60 inches
- Somewhat poorly drained Carbonton soils that have soft bedrock at a depth of 20 to 40 inches and hard bedrock at a depth of 40 to 60 inches
- Moderately well drained Creedmoor soils in the slightly lower positions
- Random areas of moderately eroded Mayodan soils that have a clay loam, silty clay loam, or sandy clay loam surface layer

Similar:
- Random areas of Mayodan soils that have a gravelly or cobbly surface layer and are usually designated by special symbols
- Random areas of Mayodan soils that have a sandy loam, very fine sandy loam, or loam surface layer

Land Use

Dominant uses: Woodland and recreational areas
Other uses: Pasture and hayland, cropland, and urban development

Agricultural Development

Cropland
Suitability: Well suited (fig. 12)
Commonly grown crops: Tobacco, corn, soybeans, and small grains
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity.

Figure 12.—Corn growing in an area of Mayodan fine sandy loam, 2 to 6 percent slopes. This soil is well suited to cropland.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Shrink-swell potential
Management measures and considerations:
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

MdC—Mayodan fine sandy loam, 6 to 10 percent slopes

Setting

Landscape: Uplands; mainly in the southeastern part of the county near the southern end of Jordan Lake and the town of Moncure, in the Triassic Basin
Landform: Ridges and side slopes
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Mayodan and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Mayodan soils
Surface layer:
0 to 4 inches—light yellowish brown fine sandy loam

Subsurface layer:
4 to 10 inches—pale yellow fine sandy loam

Subsoil:
10 to 17 inches—brownish yellow loam
17 to 30 inches—reddish yellow clay loam
30 to 48 inches—reddish yellow clay that has red mottles
48 to 53 inches—reddish yellow clay loam that has yellow and red mottles

Underlying material:
53 to 80 inches—brownish yellow loam saprolite that has yellow, red, and light gray mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained

Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6.0 feet
Hazard of flooding: None
Surface runoff: Medium
Shrink-swell potential: Moderate
Hazard of water erosion: Moderate
Parent material: Residuum weathered from Triassic sandstone and conglomerate
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Peakin soils that have a seasonal high water table at a depth of 3 to 6 feet
- Random areas of moderately well drained Brickhaven soils that have soft bedrock at a depth of 40 to 60 inches
- Somewhat poorly drained Carbonton soils that have soft bedrock at a depth of 20 to 40 inches and hard bedrock at a depth of 40 to 60 inches
- Moderately well drained Creedmoor soils in the slightly lower positions
- Random areas of moderately eroded Mayodan soils that have a clay loam, silty clay loam, or sandy clay loam surface layer

Similar:
- Random areas of Mayodan soils that have a gravelly or cobbly surface layer and are usually designated by special symbols
- Random areas of Mayodan soils that have a sandy loam, very fine sandy loam, or loam surface layer

Land Use

Dominant uses: Woodland and recreational areas
Other uses: Pasture and hayland, cropland, and urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Tobacco, corn, soybeans, and small grains
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Shrink-swell potential and steepness of slope
Management measures and considerations:
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.

- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

MgD—Mayodan gravelly sandy loam, 10 to 15 percent slopes

Setting

Landscape: Uplands; mainly in the southeastern part of the county near Jordan Lake and the town of Moncure, in the Triassic Basin
Landform: Very narrow ridges and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 10 to 75 acres

Composition

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

Typical Profile

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

Subsurface layer:
4 to 9 inches—brownish yellow gravelly sandy loam

Subsoil:
9 to 24 inches—yellowish red clay
24 to 52 inches—yellowish red clay that has strong brown mottles

Underlying material:
52 to 64 inches—red sandy loam saprolite
64 to 72 inches—variegated yellow and strong brown sandy clay loam saprolite that has white and dark red mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from Triassic sandstone and conglomerate
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Moderately well drained Creedmoor and Green Level soils in the slightly lower positions
- Random areas of moderately well drained Brickhaven soils that have soft bedrock at a depth of 40 to 60 inches
- Random areas of Peakin soils that have a seasonal high water table at a depth of 3 to 5 feet
- Random areas of moderately eroded Mayodan soils that a have a clay loam, silty clay loam, or sandy clay loam surface layer

Similar:
- Random areas of Mayodan soils that have a gravelly sandy loam or gravelly loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland, recreational areas, and urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Fescue, orchardgrass, and clover
Management concerns: Steepness of slope

Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Steepness of slope and shrink-swell potential
Management measures and considerations:
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength and steepness of slope
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and

designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Steepness of slope and small stones
Management measures and considerations:
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Raking camp areas helps to remove rock fragments.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope and small stones
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

MhE—Mayodan-Brickhaven complex, 15 to 30 percent slopes

Setting

Landscape: Uplands; mainly in the southeastern part of the county near Jordan Lake and the town of Moncure, in the Triassic Basin

Landform: Very narrow ridges and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 10 to 75 acres

Composition

Mayodan and similar soils: 55 percent
Brickhaven and similar soils: 35 percent
Dissimilar soils: 10 percent

Typical Profile

Mayodan
Surface layer:
0 to 4 inches—dark yellowish brown gravelly sandy loam

Subsurface layer:
4 to 9 inches—brownish yellow gravelly sandy loam

Subsoil:
9 to 24 inches—yellowish red clay
24 to 52 inches—yellowish red clay that has strong brown mottles

Underlying material:
52 to 64 inches—red sandy loam saprolite
64 to 72 inches—variegated yellow and strong brown sandy clay loam saprolite that has white and dark red mottles

Brickhaven
Surface layer:
0 to 3 inches—brown gravelly sandy loam

Subsurface layer:
3 to 12 inches—light yellowish brown gravelly sandy loam

Subsoil:
12 to 36 inches—red clay

Underlying material:
36 to 54 inches—red loam saprolite that has strong brown, brownish yellow, and white mottles

Bedrock:
54 to 60 inches—weathered Triassic sandstone

Soil Properties and Qualities

Depth class: Mayodan—very deep; Brickhaven—deep
Drainage class: Mayodan—well drained; Brickhaven—moderately well drained
Permeability: Mayodan—moderate; Brickhaven—slow
Available water capacity: Moderate
Seasonal high water table: Mayodan—more than 6.0 feet; Brickhaven—perched, at a depth of 1.5 to 3.0 feet from November through May
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Rapid
Hazard of water erosion: Severe
Parent material: Mayodan—Residuum weathered from Triassic sandstone and conglomerate; Brickhaven—Residuum weathered from Triassic siltstone, mudstone, shale, sandstone, and conglomerate

Depth to bedrock: Mayodan—more than 60 inches; Brickhaven—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Somewhat poorly drained Carbonton soils that have soft bedrock at a depth of 20 to 40 inches and hard bedrock at a depth of 40 to 60 inches
- Random areas of soils that have a loamy subsoil
- Random areas of Pinoka soils that have a loamy subsoil and have soft bedrock at a depth of 20 to 40 inches and hard bedrock at a depth of 40 to 60 inches

Similar:
- Random areas of Mayodan and Brickhaven soils that have a non-gravelly surface layer
- Random areas of Mayodan and Brickhaven soils that have a sandy loam or gravelly loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland, recreational areas, and urban development

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Mayodan—erodibility and equipment use; Brickhaven—erodibility, equipment use, and soil fertility
Management measures and considerations:
- Cultivation should be restricted to the least sloping areas in this map unit, or a site should be selected on better suited soils.
- This map unit is difficult to manage for cultivated crops because the slope limits the use of equipment.
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize crop productivity.

Pasture and hayland
Suitability: Moderately suited to pasture; poorly suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Mayodan—erodibility and equipment use; Brickhaven—erodibility, soil fertility, and equipment use
Management measures and considerations:
- The slope limits the use of equipment in the steeper areas.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize productivity.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.

- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Moderately suited
Productivity class: High for loblolly pine
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding all disturbed areas using adapted grasses and legumes helps to prevent soil erosion and siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome slope limitations.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Mayodan—steepness of slope; Brickhaven—steepness of slope, wetness, and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength and steepness of slope
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Rock fragment content and steepness of slope

Management measures and considerations:
- Raking camp areas helps to remove rock fragments.
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Poorly suited
Management concerns: Steepness of slope and rock fragment content
Management measures and considerations:
- Raking picnic areas helps to remove rock fragments.
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Unsuited
Management concerns: Steepness of slope and rock fragment content
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: Mayodan—4e; Brickhaven—6e

MrA—Merry Oaks-Moncure complex, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape: Piedmont river and stream valleys; mainly along the Cape Fear River, Deep River, and Haw River
Landform: Low stream terraces
Shape of areas: Irregular
Size of areas: 5 to 150 acres

Composition

Merry Oaks and similar soils: 45 percent
Moncure and similar soils: 40 percent

Dissimilar soils: 15 percent

Typical Profile

Merry Oaks
Surface layer:
0 to 5 inches—very dark gray silt loam

Subsurface layer:
5 to 10 inches—very pale brown silt loam that has grayish brown mottles

Subsoil:
10 to 22 inches—brownish yellow silt loam that has light gray and light yellowish brown mottles
22 to 31 inches—brownish yellow silty clay loam that has very pale brown and white mottles
31 to 43 inches—light gray silty clay loam that has yellow and brownish yellow mottles
43 to 51 inches—light gray silt loam that has brownish yellow and yellow mottles

Underlying material:
51 to 60 inches—strong brown loam that has white and very pale brown mottles

Moncure
Surface layer:
0 to 2 inches—partially decomposed leaves and twigs
2 to 4 inches—very dark grayish brown silt loam

Subsurface layer:
4 to 12 inches—light gray silt loam that has yellow and strong brown mottles

Subsoil:
12 to 20 inches—light brownish gray silt loam that has yellow and strong brown mottles
20 to 26 inches—light brownish gray silty clay loam that has strong brown mottles
26 to 41 inches—light brownish gray silty clay loam that has yellowish brown mottles
41 to 52 inches—light gray silt loam that has yellowish brown mottles

Underlying material:
52 to 60 inches—light gray silt loam that has yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Merry Oaks—somewhat poorly drained; Moncure—poorly drained
Permeability: Slow
Available water capacity: Moderate
Seasonal high water table: Merry Oaks—perched, at a depth of 0.5 to 1.5 feet; Moncure—apparent, at a depth of 0 to 1.0 foot
Shrink-swell potential: Low
Hazard of flooding: Merry Oaks—occasional during the months of November through March for 1 to 7 days; Moncure—occasional during the months of November through May for 1 to 7 days
Surface runoff: Merry Oaks—slow; Moncure—very slow
Hazard of water erosion: None or slight
Parent material: Old alluvium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Roanoke soils that have more clay in the subsoil

- Random areas of Tomotley soils that have more sand in the subsoil
- Well drained Riverview soils on flood plains near river or stream channels
- Chewacla and Wehadkee soils on lower flood plains near river or stream channels

Similar:
- Merry Oaks and Moncure soils that have a fine sandy loam or loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland and cropland

Agricultural Development

Cropland
Suitability: Merry Oaks—moderately suited; Moncure—poorly suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Merry Oaks—flooding and wetness; Moncure—flooding, wetness, and ponding
Management measures and considerations:
- This map unit is difficult to manage for cropland because of the potential for flooding during the growing season.
- Harvesting row crops as soon as possible can reduce the risk of damage from flooding.
- The construction of outlets for surface water that includes land shaping or grading helps to prevent ponding.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.

Pasture and hayland
Suitability: Merry Oaks—moderately suited to pasture and poorly suited to hayland; Moncure—poorly suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Merry Oaks—flooding and wetness; Moncure—flooding, wetness, and ponding
Management measures and considerations:
- Harvesting hay crops as soon as possible can reduce the risk of damage from flooding.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- The construction of outlets for surface water that includes land shaping or grading helps to prevent ponding.
- Maintaining drainageways and ditches helps to remove excess water.
- Installing and maintaining a subsurface drainage system improve the productivity of moisture-sensitive crops, such as alfalfa.

Woodland
Suitability: Moderately suited
Productivity class: High for loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Restricting logging operations to periods when the soil is not saturated helps to prevent rutting and damage to tree roots resulting from soil compaction.

- Harvesting timber during the summer reduces the risk of damage from flooding.
- Bedding prior to planting helps to establish seedlings and increases seedling survival rates.
- Site preparation practices, such as chopping, prescribed burning, and herbicide application, reduce competition from unwanted plants.

Urban Development

Dwellings
Suitability: Unsuited
Management concerns: Flooding, wetness, restricted permeability, and ponding
Management measures and considerations:
- This map unit has severe limitations affecting urban development. A site should be selected on better suited soils.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Flooding, wetness, restricted permeability, and ponding
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets
Suitability: Unsuited
Management concerns: Flooding, wetness, and low strength
Management measures and considerations:
- This map unit has severe limitations affecting roads and streets. A site should be selected on better suited soils.
- Using well-compacted fill material as a road base helps to elevate roads above the level of flooding.

Recreational Development

Camp areas
Suitability: Unsuited
Management concerns: Flooding, wetness, and ponding
Management measures and considerations:
- This map unit has severe limitations affecting camp areas. A site should be selected on better suited soils.

Picnic areas
Suitability: Poorly suited
Management concerns: Flooding, wetness, and ponding
Management measures and considerations:
- This map unit has severe limitations affecting picnic areas. A site should be selected on better suited soils.
- Restricting use after heavy rains, when flooding and ponding are a hazard, may be necessary.
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the wetness limitation.

Playgrounds
Suitability: Unsuited
Management concerns: Flooding, wetness, and ponding
Management measures and considerations:
- This map unit is severely limited for playgrounds. A site should be selected on better suited soils.

Paths and trails
Suitability: Poorly suited
Management concerns: Wetness and ponding
Management measures and considerations:
- Locating paths and trails on raised gravel beds helps minimize wetness and ponding.

Interpretive Group

Land capability classification: Merry Oaks—3w; Moncure—4w

M-W—Miscellaneous water

This map unit consists of waste ponds south of Siler City near the water treatment plant.

NaB—Nanford-Badin complex, 2 to 6 percent slopes

Composition

Nanford and similar soils: 35 percent
Badin and similar soils: 35 percent
Dissimilar soils: 30 percent

Typical Profile

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

Subsurface layer:
3 to 7 inches—light brown silt loam

Subsoil:
7 to 12 inches—strong brown silty clay loam
12 to 27 inches—strong brown silty clay that has brown mottles
27 to 38 inches—strong brown silty clay loam that has brown mottles

Underlying material:
38 to 57 inches—reddish yellow loam saprolite

Bedrock:
57 to 61 inches—weathered, moderately fractured, fine-grained metavolcanic rock

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

Subsoil:
6 to 16 inches—strong brown clay
16 to 24 inches—strong brown silty clay loam
24 to 32 inches—strong brown clay loam that has reddish yellow mottles

Bedrock:
32 to 60 inches—weathered, moderately fractured, fine-grained metavolcanic rock

Soil Properties and Qualities

Depth class: Nanford—deep; Badin—moderately deep
Drainage class: Well drained

Permeability: Moderate
Available water capacity: Nanford—moderate; Badin—low
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Nanford—low; Badin—moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock
Depth to bedrock: Nanford—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock; Badin—20 to 40 inches to soft bedrock and 40 inches or more to hard bedrock

Minor Components

Dissimilar:
- Random areas of well drained Herndon and Georgeville soils that have bedrock at a depth of more than 60 inches
- Somewhat poorly drained Cid and Lignum soils in concave areas at the heads of drainageways and along drainageways
- Random areas of shallow, well drained to excessively drained Goldston soils that have soft bedrock at a depth of less than 20 inches
- Random areas of very slowly permeable, somewhat poorly drained Pittsboro soils that have a very high shrink-swell potential and have hard bedrock at a depth of 40 to more than 60 inches
- Random areas of surface stones and boulders that are usually designated by special symbols

Similar:
- Random areas of Nanford or Badin soils that have a gravelly or cobbly surface layer
- Random areas of Tarrus soils that have a red or yellowish red subsoil and have soft bedrock at a depth of 40 to 60 inches
- Random areas of Nanford or Badin soils that have a loam, fine sandy loam, or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland, cropland, and urban development

Agricultural Development

Cropland

Suitability: Nanford—well suited; Badin—moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Nanford—erodibility; Badin—erodibility and rooting depth
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of the Badin soils

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility

Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Nanford—no significant limitations; Badin—windthrow hazard
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Maintaining surface litter increases water infiltration and reduces seedling mortality of the Badin soils.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Badin soils.

Urban Development

Dwellings
Suitability: Nanford—well suited; Badin—moderately suited
Management concerns: Nanford—no significant limitations; Badin—shrink-swell potential and depth to bedrock
Management measures and considerations:
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling of the Badin soils.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Nanford—moderately suited; Badin—poorly suited
Management concerns: Depth to bedrock and restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Locating and installing septic tank absorption fields in the deeper Nanford soils may improve the performance of filter fields.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength

Management measures and considerations:
- Incorporating sand and gravel into the soil, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: No significant limitations
Management concerns: Erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

NaC—Nanford-Badin complex, 6 to 10 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the central and western parts of the county, in the Carolina Slate Belt
Landform: Ridges and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 250 acres

Composition

Nanford and similar soils: 50 percent
Badin and similar soils: 30 percent
Dissimilar soils: 20 percent

Typical Profile

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

Subsurface layer:
3 to 7 inches—light brown silt loam

Subsoil:
7 to 12 inches—strong brown silty clay loam
12 to 27 inches—strong brown silty clay that has brown mottles
27 to 38 inches—strong brown silty clay loam that has brown mottles

Underlying material:
38 to 57 inches—reddish yellow loam saprolite

Bedrock:
57 to 61 inches—weathered, moderately fractured, fine-grained metavolcanic rock

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

Subsoil:
6 to 16 inches—strong brown clay
16 to 24 inches—strong brown silty clay loam
24 to 32 inches—strong brown clay loam that has reddish yellow mottles

Bedrock:
32 to 60 inches—weathered, moderately fractured, fine-grained metavolcanic rock

Soil Properties and Qualities

Depth class: Nanford—deep; Badin—moderately deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Nanford—moderate; Badin—low
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Nanford—low; Badin—moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Severe
Parent material: Residuum weathered from fine-grained metavolcanic rock
Depth to bedrock: Nanford—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock; Badin—20 to 40 inches to soft bedrock and 40 inches or more to hard bedrock

Minor Components

Dissimilar:
- Somewhat poorly drained Cid soils in concave areas at the heads of drainageways and along drainageways
- Random areas of shallow, well drained to excessively drained Goldston soils that have soft bedrock at a depth of less than 20 inches
- Slowly permeable Enon soils that have a high shrink-swell potential, have bedrock at a depth of more than 60 inches, and are on the outer edges of map units
- Random areas of very slowly permeable, somewhat poorly drained Pittsboro soils that have a very high shrink-swell potential and have hard bedrock at a depth of 40 to more than 60 inches

- Random areas of surface stones and boulders that are usually designated by special symbols
- Random areas of Herndon and Georgeville soils that have soft bedrock at a depth of more than 60 inches

Similar:
- Random areas of Tarrus soils that have a red or yellowish red subsoil and have soft bedrock at a depth of 40 to 60 inches
- Random areas of Nanford or Badin soils that have a loam, fine sandy loam, or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture, hayland, cropland, and urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Nanford—erodibility; Badin—erodibility and rooting depth
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Returning plant residue to the soil improves the water-holding capacity of these soils.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Nanford—no significant limitations; Badin—windthrow hazard
Management measures and considerations:
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Badin soils.

Urban Development

Dwellings
Suitability: Moderately suited

Management concerns: Nanford—steepness of slope; Badin—steepness of slope, depth to bedrock, and shrink-swell potential
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Nanford—moderately suited; Badin—poorly suited
Management concerns: Depth to bedrock and restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Locating and installing septic tank absorption fields in the deeper Nanford soils may improve the performance of filter fields.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Erodibility

Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

NaD—Nanford-Badin complex, 10 to 15 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the central and western parts of the county, in the Carolina Slate Belt
Landform: Narrow ridges and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 200 acres

Composition

Nanford and similar soils: 40 percent
Badin and similar soils: 35 percent
Dissimilar soils: 25 percent

Typical Profile

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

Subsurface layer:
3 to 7 inches—light brown silt loam

Subsoil:
7 to 12 inches—strong brown silty clay loam
12 to 27 inches—strong brown silty clay that has brown mottles
27 to 38 inches—strong brown silty clay loam that has brown mottles

Underlying material:
38 to 57 inches—reddish yellow loam saprolite

Bedrock:
57 to 61 inches—weathered, moderately fractured, fine-grained metavolcanic rock

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

Subsoil:
6 to16 inches—strong brown clay
16 to 24 inches—strong brown silty clay loam
24 to 32 inches—strong brown clay loam that has reddish yellow mottles

Bedrock:
32 to 60 inches—weathered, moderately fractured, fine-grained metavolcanic rock

Soil Properties and Qualities

Depth class: Nanford—deep; Badin—moderately deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Nanford—moderate; Badin—low

Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Nanford—low; Badin—moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Very severe
Parent material: Residuum weathered from fine-grained metavolcanic rock
Depth to bedrock: Nanford—40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock; Badin—20 to 40 inches to soft bedrock and 40 inches or more to hard bedrock

Minor Components

Dissimilar:
- Random areas of Herndon and Georgeville soils that have soft bedrock at a depth of more than 60 inches
- Random areas of shallow, well drained to excessively drained Goldston soils that have soft bedrock at a depth of less than 20 inches
- Random areas of surface stones and boulders that are usually designated by special symbols
- Random areas of Nanford and Badin soils that have a channery or gravelly surface layer

Similar:
- Random areas of Tarrus soils that have a red or yellowish red subsoil and have soft bedrock at a depth of 40 to 60 inches
- Random areas of Nanford or Badin soils that have a loam, fine sandy loam, or very fine sandy loam surface layer

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland, cropland, and urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Nanford—erodibility and equipment use; Badin—erodibility, equipment use, and rooting depth
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth.

Pasture and hayland
Suitability: Well suited to pasture (fig. 13); moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.

Figure 13.—A pasture and a chicken house in an area of Nanford-Badin complex, 6 to 10 percent slopes and Nanford-Badin complex, 10 to 15 percent slopes. These soils are well suited to pasture.

- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Nanford—no significant limitations; Badin—windthrow hazard
Management measures and considerations:
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Badin soils.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Nanford—steepness of slope; Badin—steepness of slope, depth to bedrock, and shrink-swell potential
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Badin—poorly suited; Nanford—moderately suited
Management concerns: Depth to bedrock and restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Locating and installing septic tank absorption fields in the deeper Nanford soils may improve the performance of filter fields.
- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

PaE—Pacolet gravelly sandy loam, 15 to 25 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the southeastern part of the county near the Harnett County border
Landform: Ridges and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 10 to 100 acres

Composition

Pacolet and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 7 inches—brown gravelly sandy loam

Subsurface layer:
7 to 10 inches—reddish yellow clay loam

Subsoil:
10 to 23 inches—red clay
23 to 30 inches—red clay loam

Underlying material:
34 to 60 inches—yellowish red loam saprolite that has reddish yellow and red mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Very severe
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Moderately well drained, slowly permeable Helena soils at the heads of drainageways and along drainageways
- Random areas of very deep, well drained Vance soils that have a slow permeability

Similar:
- Random areas of Pacolet soils that have a non-gravelly surface layer
- Random areas of Cecil soils that have a thicker subsoil
- Random areas of Wedowee soils that have a yellower subsoil

Land Use

Dominant uses: Woodland

Other uses: Pasture

Agricultural Development

Cropland

Suitability: Poorly suited

Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.

Management concerns: Erodibility and equipment use

Management measures and considerations:

- This map unit is difficult to manage for cultivated crops because the slope limits the use of equipment.
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland

Suitability: Moderately suited to pasture; poorly suited to hayland

Commonly grown crops: Tall fescue, orchardgrass, and clover

Management concerns: Erodibility and equipment use

Management measures and considerations:

- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.
- The slope limits the use of equipment in the steeper areas.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland

Suitability: Moderately suited

Productivity class: Moderately high for loblolly pine

Management concerns: Erodibility and equipment use

Management measures and considerations:

- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding all disturbed areas using adapted grasses and legumes helps to prevent soil erosion and siltation of streams.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome slope limitations.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.

- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 4e

PcA—Peawick fine sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landscape: Piedmont river and stream valleys; mainly along major rivers and streams throughout the county
Landform: Low stream terraces
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Peawick and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—yellowish brown fine sandy loam

Subsoil:
6 to 10 inches—yellowish brown loam
10 to 25 inches—strong brown clay that has light yellowish brown mottles
25 to 42 inches—strong brown clay that has brownish yellow, light gray, and red mottles
42 to 64 inches—brownish yellow clay that has light gray and red mottles
64 to 80 inches—strong brown clay loam that has light gray mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained

Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 3.0 feet from November through March
Shrink-swell potential: High
Hazard of flooding: Rare
Surface runoff: Slow
Hazard of water erosion: None or slight
Parent material: Old alluvium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Somewhat poorly drained Merry Oaks and poorly drained Moncure soils in depressions and low-lying areas

Similar:
- Random areas of Peawick soils that have a loam or sandy loam surface layer
- Random areas of Dogue soils that have more sand and less silt in the subsoil

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland and cropland

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Flooding and wetness
Management measures and considerations:
- Although most flooding occurs during winter, crop loss is a risk during the growing season.
- Harvesting row crops as soon as possible can reduce the risk of damage from flooding.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Flooding and wetness
Management measures and considerations:
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Although most flooding occurs during winter, livestock production and hay crops may be damaged any time of the year.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Some areas may need artificial drainage to help achieve maximum productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Equipment use

Management measures and considerations:
- Restricting logging operations to periods when the soil is not saturated helps to prevent rutting and damage to tree roots resulting from soil compaction.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Flooding, wetness, and shrink-swell potential
Management measures and considerations:
- This map unit has severe limitations affecting dwellings. A site should be selected on better suited soils.
- Building structures in the higher areas reduces the risk of damage from flooding.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness, flooding, and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of septic systems.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell potential and low strength
Management measures and considerations:
- Installing geotextile fabric under the base aggregate and the final surface of the road helps to improve performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Using well-compacted fill material as a road base helps to elevate roads above the level of flooding.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Flooding and restricted permeability
Management measures and considerations:
- Restricting use after heavy rains, when flooding is a hazard, may be necessary.

- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Restricted permeability and flooding
Management measures and considerations:
- Providing a gravel pad for picnic tables and other facilities helps to overcome the restricted permeability.
- Restricting use after heavy rains, when flooding is a hazard, may be necessary.

Playgrounds
Suitability: Poorly suited
Management concerns: Restricted permeability
Management measures and considerations:
- Restricting use after heavy rains, when the soil is saturated, may be necessary.
- Restricting use after heavy rains, when flooding is a hazard, may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Wetness
Management measures and considerations:
- Locating paths and trails on raised pads of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2w

PeA—Peawick fine sandy loam, 0 to 2 percent slopes

Setting

Landscape: Piedmont river and stream valleys; mainly along major rivers and streams throughout the county
Landform: High stream terraces
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Peawick and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—yellowish brown fine sandy loam

Subsoil:
6 to 10 inches—yellowish brown loam
10 to 25 inches—strong brown clay that has light yellowish brown mottles

25 to 42 inches—strong brown clay that has brownish yellow, light gray, and red mottles
42 to 64 inches—brownish yellow clay that has light gray and red mottles
64 to 80 inches—strong brown clay loam that has light gray mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 3.0 feet from November through March
Shrink-swell potential: High
Hazard of flooding: None
Surface runoff: Slow
Hazard of water erosion: None or slight
Parent material: Old alluvium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Somewhat poorly drained Merry Oaks soils and poorly drained Moncure soils in low-lying depressions
- Random areas of Tetotum soils that have less clay in the subsoil
- Well drained State soils that have less clay in the subsoil, are in slightly higher positions, and are on the outer edges of map units

Similar:
- Random areas of Peawick soils that have a loam or sandy loam surface layer
- Random areas of Dogue soils that have more sand and less silt in the subsoil

Land Use

Dominant uses: Cropland and woodland
Other uses: Pasture and hayland and urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Wetness
Management measures and considerations:
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Wetness
Management measures and considerations:
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.

- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Some areas may need artificial drainage to help achieve maximum productivity.

Woodland
Suitability: Well
Productivity class: Moderately high for loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Restricting logging operations to periods when the soil is not saturated helps to prevent rutting and damage to tree roots resulting from soil compaction.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell potential
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of septic systems.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell potential and low strength
Management measures and considerations:
- Installing geotextile fabric under the base aggregate and the final surface of the road helps to improve performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Restricted permeability

Management measures and considerations:
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Poorly suited
Management concerns: Restricted permeability
Management measures and considerations:
- Providing a gravel pad for picnic tables and other facilities helps to overcome the restricted permeability.

Playgrounds
Suitability: Poorly suited
Management concerns: Restricted permeability
Management measures and considerations:
- Restricting use after heavy rains, when the soil is saturated, may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Wetness
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2w

PeB—Peawick fine sandy loam, 2 to 8 percent slopes

Setting

Landscape: Piedmont river and stream valleys; mainly along major rivers and streams throughout the county
Landform: High stream terraces
Shape of areas: Irregular
Size of areas: 5 to 150 acres

Composition

Peawick and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—yellowish brown fine sandy loam

Subsoil:
6 to 10 inches—yellowish brown loam
10 to 25 inches—strong brown clay that has light yellowish brown mottles
25 to 42 inches—strong brown clay that has brownish yellow, light gray, and red mottles

42 to 64 inches—brownish yellow clay that has light gray and red mottles
64 to 80 inches—strong brown clay loam that has light gray mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 3.0 feet from November through March
Shrink-swell potential: High
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Old alluvium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of soils that have less clay in the subsoil

Similar:
- Random areas of Dogue soils that have more sand and less silt in the subsoil
- Random areas of Peawick soils that have a loam or sandy loam surface layer

Land Use

Dominant uses: Cropland and woodland
Other uses: Pasture and hayland and urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Erodibility and wetness
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and wetness
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Some areas may need artificial drainage to help achieve maximum productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Restricting logging operations to periods when the soil is not saturated helps to prevent rutting and damage to tree roots resulting from soil compaction.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell potential
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of septic systems.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell potential and low strength
Management measures and considerations:
- Installing geotextile fabric under the base aggregate and the final surface of the road helps to improve performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- Providing a gravel pad for picnic tables and other facilities helps to overcome the restricted permeability.

Playgrounds
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- Restricting use after heavy rains, when the soil is saturated, may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Paths and trails
Suitability: Moderately suited
Management concerns: Erodibility
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

PsB—Pittsboro-Iredell complex, 2 to 8 percent slopes

Setting

Landscape: Piedmont uplands
Landform: Narrow to broad ridges
Shape of areas: Rounded or irregular
Size of areas: 5 to 100 acres

Composition

Pittsboro and similar soils: 55 percent
Iredell and similar soils: 25 percent
Dissimilar soils: 20 percent

Typical Profile

Pittsboro
Surface layer:
0 to 5 inches—brown gravelly sandy loam
5 to 9 inches—dark yellowish brown gravelly loam

Subsoil:
9 to 16 inches—yellowish brown loam
16 to 24 inches—yellowish brown clay
24 to 33 inches—yellowish brown clay that has pale brown and black mottles
33 to 36 inches—yellowish brown clay loam that has grayish brown and light gray mottles

Underlying material:
36 to 38 inches—yellowish brown clay loam saprolite that has light gray mottles

Bedrock:
38 to 43 inches—weathered, slightly fractured meta-basalt
43 inches—unweathered, slightly fractured meta-basalt

Iredell
Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam

Subsurface layer:
5 to 8 inches—light brownish gray sandy loam

Subsoil:
8 to 14 inches—yellowish brown clay that has strong brown and brown mottles
14 to 27 inches—light olive brown clay that has grayish brown mottles
27 to 35 inches—yellowish brown sandy clay loam

Underlying material:
35 to 60 inches—yellowish brown sandy loam saprolite

Soil Properties and Qualities

Depth class: Pittsboro—moderately deep; Iredell—very deep
Drainage class: Moderately well drained
Permeability: Very slow
Available water capacity: Pittsboro—low; Iredell—moderate
Seasonal high water table: Pittsboro—perched, at a depth of 1.0 to 2.0 feet from November through April; Iredell—perched, at a depth of 1.0 to 2.0 feet from December through April
Shrink-swell potential: Pittsboro—high; Iredell—very high
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Pittsboro—residuum weathered from basalt, greenstone, gabbro, diabase, diorite, and other mafic rock; Iredell—residuum weathered from mafic high-grade metamorphic or igneous rock
Depth to bedrock: Pittsboro—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Iredell—40 to more than 60 inches to soft bedrock

Minor Components

Dissimilar:
- Random areas of Cid and Lignum soils that have a moderate shrink-swell potential
- Deep, well drained Nanford and Tarrus soils that have moderate permeability in the slightly steeper areas adjacent to drainageways and are intermingled in random areas
- Random areas of very deep, well drained Enon soils
- Random areas of deep, well drained Winnsboro soils

- Random areas of moderately deep, well drained Wynott soils that have soft bedrock at a depth of 20 to 40 inches
- Random areas of soils that have an extremely stony or extremely bouldery surface layer
- Random areas of Callison soils that have a low shrink-swell potential
- Random areas of shallow, well drained Wilkes soils that have moderate permeability
- Random areas of very deep, poorly drained Worsham soils that have moderate permeability

Similar:
- Random areas of soils that have a non-gravelly surface layer
- Random areas of soils that have a very gravelly surface layer
- Random areas that are bouldery
- Random areas that have a cobbly surface layer
- Random areas of deep Crawfordville soils that have soft bedrock at a depth of 40 to 60 inches

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Few, if any, commodity crops are currently grown in areas of this map unit
Management concerns: Erodibility, equipment use, and wetness
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.
- Maintaining drainageways and ditches helps to remove excess water.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchard grass, and clover
Management concerns: Equipment use, erodibility, and wetness
Management measures and considerations:
- Restricting the use of farm equipment to dry periods helps to minimize rutting and soil compaction that occur when the soil is saturated.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Fencing livestock away from creeks and streams helps to prevent stream bank erosion and sedimentation.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.

Woodland
Suitability: Moderately suited
Productivity class: Moderately high for loblolly pine
Management concerns: Equipment limitations, seedling mortality, and windthrow hazard
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction that occur when the soil is saturated.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and provides shade for the water surface.
- Periodically harvesting windthrown trees helps to increase the productivity of these soils.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Wetness, shrink-swell potential, and depth to bedrock
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- The drilling and blasting of hard rock or the use of special earth-moving equipment may be needed to increase the soil depth.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Depth to bedrock, wetness, and restricted permeability
Management measures and considerations:
- This map unit is difficult to manage for septic tank absorption fields because the dominant soils have a high water table at a depth of 1 to 2 feet.
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength, shrink-swell potential, and wetness
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness limitation.
- Designing roads to safely remove surface runoff improves soil performance.
- Blasting or special grading equipment may be needed to construct roads on the Pittsboro soils in this map unit.
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Installing geotextile fabric between the final graded soil surface and the base aggregate helps to improve performance

- Careful planning of road location helps to minimize removal of large stones.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the wetness limitation.
- Raking camp areas helps to remove rock fragments.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.

Picnic areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Raking picnic areas helps to remove rock fragments.
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope, rock fragment content, wetness, and restricted permeability
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Raking playground areas helps to remove rock fragments.

Paths and trails
Suitability: Moderately suited
Management concerns: Wetness
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.
- Locating paths and trails on raised beds of gravel fill material helps to minimize the wetness problem.

Interpretive Group

Land capability classification: 2e

Qr—Pits, quarry

Setting

Landscape: Piedmont uplands
Landform: Uplands where the natural soil has been removed, exposing hard bedrock at the surface
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Pits, quarries, and similar soils: 90 percent
Dissimilar areas: 10 percent

Typical Profile

A typical pedon is not given because of the variable nature of the soil material.

Quarries consist of active and inactive mining sites where bedrock has been removed for use as construction material and building stone. Therefore, the depth of the pits and the size of the areas are constantly changing.

Properties are variable and depend on the type of fill material used and the type of bedrock exposed at the surface.

Interpretive Group

Land capability classification: 8s

RvA—Riverview silt loam, 0 to 3 percent slopes, frequently flooded

Setting

Landscape: Piedmont river and stream valleys; mainly along major rivers and streams throughout the county
Landform: Flood plains
Shape of areas: Elongated or irregular
Size of areas: 5 to 100 acres

Composition

Riverview and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 18 inches—brown silt loam

Subsoil:
18 to 26 inches—brown loam
26 to 43 inches—strong brown loam that has light brown and brown mottles
43 to 46 inches—strong brown loam that has brown and pinkish gray mottles

Underlying material:
46 to 55 inches—brown sandy loam
55 to 60 inches—reddish yellow clay loam that has strong brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 3.0 to 5.0 feet from December through March
Shrink-swell potential: Low
Hazard of flooding: Frequent from December through March for 2 to 7 days
Surface runoff: Slow
Hazard of water erosion: None or slight

Parent material: Recent alluvium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Poorly drained Wehadkee soils in sloughs, depressions, and low-lying backwater areas at the bases of upland slopes
- Excessively drained Buncombe soils that are sandy throughout and are on natural levees adjacent to stream channel
- Somewhat poorly drained Chewacla soils in slightly lower positions and sloughs

Similar:
- Random areas of Riverview soils that have a sandy loam, fine sandy loam, or loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Cropland and recreation

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Flooding
Management measures and considerations:
- This map unit is severely limited for crop production because of frequent flooding.
- Although most flooding occurs during winter, crops may be damaged any time of the year.
- A site should be selected on better suited soils.

Pasture and hayland
Suitability: Moderately suited to pasture; poorly suited to hayland
Commonly grown crops: Tall fescue and orchardgrass
Management concerns: Flooding
Management measures and considerations:
- Although most flooding occurs during winter, livestock production and hay crops may be damaged any time of the year.
- Harvesting hay crops as soon as possible can reduce the risk of damage from flooding.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Unsuited
Management concerns: Flooding

Management measures and considerations:
- This map unit is severely limited for urban development because of frequent flooding. A site should be selected on better suited soils.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited for septic tank absorption fields because of frequent flooding. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns: Flooding
Management measures and considerations:
- This map unit is severely limited for roads and streets because of frequent flooding. A site should be selected on better suited soils.
- Using well-compacted fill material as a road base helps to elevate roads above the level of flooding.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Flooding
Management measures and considerations:
- This map unit is severely limited for camp areas because of frequent flooding. A site should be selected on better suited soils.
- Camping should be avoided during periods of heavy rainfall when flooding is likely.

Picnic areas
Suitability: Moderately suited
Management concerns: Flooding
Management measures and considerations:
- Restricting use after heavy rains, when flooding is a hazard, may be necessary.

Playgrounds
Suitability: Poorly suited
Management concerns: Flooding
Management measures and considerations:
- Restricting use after heavy rains, when flooding is a hazard, may be necessary.

Paths and trails
Suitability: Moderately suited
Management concerns: Flooding
Management measures and considerations:
- Restricting use after heavy rains, when flooding is a hazard, may be necessary.

Interpretive Group

Land capability classification: 3w

StB—State sandy loam, 2 to 6 percent slopes

Setting

Landscape: Piedmont river and stream valleys; mainly in the southern part of the county along major rivers and streams

Landform: Stream terraces
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

State and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 12 inches—light yellowish brown sandy loam

Subsoil:
12 to 17 inches—yellowish brown sandy loam
17 to 27 inches—strong brown sandy clay loam
27 to 45 inches—strong brown sandy clay loam that has yellowish red and brownish yellow mottles
45 to 58 inches—strong brown sandy clay loam that has brownish yellow, white, and red mottles
58 to 84 inches—strong brown sandy clay loam that has brownish yellow, white, and red mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 4.0 to 6.0 feet from December through May
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Slow
Hazard of water erosion: Moderate
Parent material: Old alluvium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Moderately well drained Peawick soils that have more clay in the subsoil and are in the slightly lower positions
- Moderately well drained Altavista soils that have similar textures and are in the slightly lower positions

Similar:
- Random areas of State soils that have a loamy sand, fine sandy loam, or loam surface layer
- Random areas of State soils that have a gravelly surface layer
- Random areas of soils, especially along the Cape Fear River near Brickhaven, that have a loamy sand surface layer and have less clay in the subsoil
- Random areas of Wickham soils that have a red subsoil

Land Use

Dominant uses: Cropland and pasture and hayland
Other uses: Woodland

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Tobacco, cotton, corn, soybeans, and small grains
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Cropland management that leaves the maximum amount of plant residue on the soil surface helps to control soil blowing and conserve soil moisture.
- Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase the available water capacity, help minimize crusting, and improve soil fertility.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue and bermudagrass
Management concerns: No significant limitations
Management measures and considerations:
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing helps to maintain a protective plant cover that minimizes soil blowing.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Wetness
Management measures and considerations:
- Building structures in the highest areas and installing artificial drainage systems reduce the risk of damage from wetness.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Wetness

Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of septic systems.

Local roads and streets
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Well suited
Management concerns: Slope
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

TuA—Turbeville fine sandy loam, 0 to 2 percent slopes

Setting

Landscape: Piedmont river and stream valleys; mainly in the southern part of the county along major rivers and streams such as the Deep River and the Cape Fear River
Landform: High stream terraces
Shape of areas: Irregular

Size of areas: 5 to 50 acres

Composition

Turbeville and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 9 inches—brown fine sandy loam

Subsoil:
9 to 16 inches—yellowish red clay loam
16 to 30 inches—red clay
30 to 65 inches—red clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Slow
Hazard of water erosion: Slight
Parent material: Very old alluvium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Mattaponi soils that have a yellower subsoil and a seasonal, perched water table at a depth of 3 to 6 feet
- Random areas of State soils that have less clay in the subsoil

Similar:
- Random areas of Turbeville soils that have a loamy sand, sandy loam, or loam surface layer

Land Use

Dominant uses: Cropland and pasture and hayland
Other uses: Woodland and urban development

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Tobacco, cotton, corn, soybeans, and small grains
Management concerns: No significant limitations
Management measures and considerations:
- Cropland management that leaves the maximum amount of plant residue on the soil surface helps to control soil blowing and conserve soil moisture.
- Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase the available water capacity, help minimize crusting, and improve soil fertility.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchard grass, Bermuda grass, and clover
Management concerns: No significant limitations
Management measures and considerations:
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing helps to maintain a protective plant cover that minimizes soil blowing.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Shrink-swell potential
Management measures and considerations:
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations

Playgrounds
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations

Interpretive Group

Land capability classification: 1

UdC—Udorthents loamy, 0 to 10 percent slopes

Setting

Landscape: Piedmont uplands; throughout the entire county, mainly near towns, major highways, industrial sites, and brick pits
Landform: Mainly uplands where the natural soil has been excavated or depressions that have been covered by earthy fill material
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Udorthents and similar soils: 90 percent
Dissimilar inclusions: 10 percent

Typical Profile

A typical pedon is not given because of the variable nature of the soil material.

Udorthents consist of borrow areas where soil has been removed and placed on an adjacent site, cut and fill areas where soil has been extensively graded, and strip mines associated with the manufacture of brick. To a lesser extent, it includes landfills and recreational areas such as athletic fields. Many strip-mined areas have been reclaimed through extensive grading, fertilization, and establishment of permanent vegetative cover. In other areas, the exposed soft Triassic bedrock has quickly weathered to form new soil and the areas have naturally revegetated.

Properties are variable and depend on the type of fill material used and the type of bedrock exposed at the surface.

Soil Properties and Qualities

Depth class: Moderately deep to very deep
Drainage class: Variable, excessively drained to moderately well drained
Permeability: Moderate to very slow
Seasonal high water table: Variable, perched or apparent
Hazard of flooding: None
Shrink-swell potential: Low to high
Surface runoff: Slow to very rapid
Hazard of water erosion: Variable
Parent material: Loamy residuum weathered from variable types of bedrock
Depth to bedrock: Variable, more than 20 inches to soft or hard bedrock

Minor Components

Dissimilar:
- Random areas of Udorthents that have soft bedrock at a depth of less than 20 inches
- Small areas of water in depressions in strip-mined areas
- Random areas of exposed bedrock in areas of active mining
- Udorthents that contain asphalt, wood, glass, and other waste materials
- Random areas of natural unaltered soils, commonly similar to the soils in the adjacent map units

Land Use

Dominant uses: Urban land, strip-mining, industrial sites, and highway right of ways
Other uses: Athletic fields, landfills, and borrow areas

Agricultural Development

Cropland
Suitability: Unsuited
Management concerns: Highly disturbed soils, limited size of areas, and soil fertility
Management measures and considerations:
- This map unit is difficult to manage for crop production because of highly variable soil properties and the small size of the map units.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity.

Pasture and hayland
Suitability: Unsuited
Management concerns: Highly disturbed soils, limited size of areas, and soil fertility
Management measures and considerations:
- This map unit is difficult to manage for pasture and hay production because of highly variable soil properties and the small size of the map units.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps to maximize productivity when establishing, maintaining, or renovating hay and pasture.
- Using rotational grazing and implementing a well-planned clipping and harvesting schedule help to maintain pastures and increases productivity.

Woodland
Suitability: Poorly suited
Productivity class: Variable
Management concerns: Highly disturbed soil areas and limited size of areas
Management measures and considerations:
- Soils in this map unit are difficult to manage for timber production because of highly variable soil properties and the small size of map units.

Urban Development

Dwellings
Suitability: Variable, moderately suited to unsuited
Management concerns: Variable, highly disturbed soils and differential setting
Management measures and considerations:
- Because of highly variable soil properties, detailed onsite investigations are needed to evaluate individual sites of this map unit.
- Because the soil was formed from cut and fill material, they are subject to uneven settling and may be unstable if not properly compacted.

Septic tank absorption fields
Suitability: Variable, poorly suited to unsuited
Management concerns: Highly disturbed soils
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- Accessing outlets of public sewage systems will eliminate the need to use these severely limited soils for septic tank systems.

Local roads and streets
Suitability: Variable, moderately suited to poorly suited
Management concerns: Highly disturbed soils
Management measures and considerations:
- These soils are subject to uneven settling and may be unstable if not properly compacted.
- Onsite investigation is needed to determine the suitability and limitations of this map unit for local roads and streets.

Recreational Development

Camp areas
Suitability: Variable, moderately suited to poorly suited
Management concerns: Highly disturbed soils
Management measures and considerations:
- Onsite investigation is needed to determine the suitability and limitations of this map unit for camp areas.

Picnic areas
Suitability: Variable, moderately suited to poorly suited
Management concerns: Highly disturbed soils
Management measures and considerations:
- Onsite investigation is needed to determine the suitability and limitations of this map unit for picnic areas.

Playgrounds
Suitability: Variable, moderately suited to poorly suited
Management concerns: Highly disturbed soils
Management measures and considerations:
- Onsite investigation is needed to determine the suitability and limitations of this map unit for playgrounds.

Paths and trails
Suitability: Variable, moderately suited to poorly suited
Management concerns: Highly disturbed soils
Management measures and considerations:
- Onsite investigation is needed to determine the suitability and limitations of this map unit for paths and trails.

Interpretive Group

Land capability classification: 7e

VaB—Vance sandy loam, 2 to 6 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the northern part of the county, south of Chapel Hill

Landform: Ridges and side slopes
Shape of areas: Irregular
Size of areas: 5 to 120 acres

Composition

Vance and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 8 inches—dark yellowish brown sandy loam

Subsoil:
8 to 18 inches—strong brown clay that has red mottles
18 to 30 inches—strong brown clay that has red, yellowish red, and light yellowish brown mottles
30 to 39 inches—yellowish red sandy clay that has pockets of sandy clay loam and strong brown and white mottles

Underlying material:
39 to 60 inches—yellowish red sandy clay loam saprolite that has strong brown and white mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Moderate
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from felsic to mafic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Moderately well drained Helena soils in the lower areas and at the heads of drainageways
- Random areas of Iredell soils that have a very high shrink-swell potential
- Random areas of Rion soils that have less clay in the subsoil
- Random areas of well drained Cecil soils that have a red, moderately permeable subsoil
- Random areas of well drained Wedowee and Appling soils that have a moderately permeable subsoil

Similar:
- Random areas of soils that have a thicker subsoil

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Urban development and cropland

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Tobacco, corn, soybeans, and small grains
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Installing and maintaining a subsurface drainage system improve the productivity of moisture-sensitive crops, such as alfalfa.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Shrink-swell potential
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen buildings and prevent damage caused by wetness and shrinking and swelling.

- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- Providing a gravel pad for picnic tables and other facilities helps to overcome the restricted permeability.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.

- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

W—Water

This map unit consists of areas of water, including lakes and rivers. This unit occurs in areas throughout the county. The largest water areas in the county are Jordan Lake and Harris Lake.

This map unit is not assigned a land capability classification.

WdC—Wedowee sandy loam, 2 to 15 percent slopes, bouldery

Setting

Landscape: Piedmont uplands; mainly in the northern part of the county, south of Chapel Hill
Landform: Broad ridges and side slopes
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Wedowee and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown sandy loam

Subsoil:
5 to 28 inches—strong brown clay that has yellowish red mottles
28 to 51 inches—reddish yellow clay loam that has yellow and very pale brown mottles

Underlying material:
51 to 62 inches—reddish yellow sandy loam saprolite that has yellow and very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate

Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Severe
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- The moderately well drained Helena soils at the heads of drainageways and along drainageways
- Random areas of Rion soils that have less clay in the subsoil
- Random areas of Louisburg soils that have less clay in the subsoil

Similar:
- Random areas of Wedowee soils that have stones and boulders in the subsoil
- Random areas of Pacolet and Cecil soils that have a red subsoil
- Random areas of Appling soils that have a thicker subsoil

Land Use

Dominant uses: Woodland, pasture and hayland, and urban development

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Equipment use and erodibility
Management measures and considerations:
- This map unit is difficult to manage for cropland because of the areas of boulders and large stones.
- Limiting the use of equipment to the larger, open areas away from boulders improves the workability of the soil.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Equipment use and erodibility
Management measures and considerations:
- Limiting the use of equipment to the larger, open areas away from boulders reduces damage to equipment on areas of this map unit.
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Applying lime and fertilizer according to recommendations made on the basis of soil

tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Steepness of slope and boulders or large stones
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Large stones and boulders may be encountered during excavation.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields and installing distribution lines on the contour improve performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Large stones and boulders may be encountered during excavation.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength and steepness of slope
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Steepness of slope and boulders or large stones
Management measures and considerations:
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- The location of boulders and large stones needs to be considered when planning and designing campgrounds on areas of this map unit.
- Removing or relocating large stones improves soil performance.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope and boulders or large stones
Management measures and considerations:
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.
- Removing or relocating large stones improves soil performance.
- The location of boulders and large stones needs to be considered when planning and designing picnic facilities on areas of this map unit.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope and boulders or large stones
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- The location of boulders and large stones needs to be considered when planning and designing playgrounds on areas of this map unit.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Moderately suited
Management concerns: Boulders or large stones
Management measures and considerations:
- The location of boulders and large stones needs to be considered when planning and designing paths and trails on areas of this map unit.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 6s

WdE—Wedowee sandy loam, 15 to 35 percent slopes, bouldery

Setting

Landscape: Piedmont uplands; mainly in the northern part of the county, south of Chapel Hill
Landform: Side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 100 acres

Composition

Wedowee and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown sandy loam

Subsoil:
5 to 28 inches—strong brown clay that has yellowish red mottles
28 to 51 inches—reddish yellow clay loam that has yellow and very pale brown mottles

Underlying material:
51 to 62 inches—reddish yellow sandy loam saprolite that has yellow and very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Rapid
Hazard of water erosion: Very severe
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Rion soils that have less clay in the subsoil
- Random areas of Louisburg soils that have less clay in the subsoil
- The moderately well drained Helena soils at the heads of drainageways and along drainageways

Similar:
- Random areas of Wedowee soils that have stones and boulders in the subsoil
- Random areas of Pacolet soils that have a red subsoil
- Random areas of Appling soils that have a thicker subsoil

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Erodibility and equipment use
Management measures and considerations:
- This map unit is difficult to manage for cultivated crops because the slope limits the use of equipment.
- This map unit is difficult to manage for cropland because of the areas of boulders and large stones.
- Limiting the use of equipment to the larger, open areas away from boulders improves the workability of the soil.
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Moderately suited to pasture; poorly suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Limiting the use of equipment to the larger, open areas away from boulders reduces damage to equipment on areas of this map unit.
- The slope limits the use of equipment in the steeper areas.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Moderately suited
Productivity class: Moderately high for loblolly pine
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.

- Reseeding all disturbed areas using adapted grasses and legumes helps to prevent soil erosion and siltation of streams.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome slope limitations.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Steepness of slope and boulders or large stones
Management measures and considerations:

- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Large stones and boulders may be encountered during excavation.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:

- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.
- Large stones and boulders may be encountered during excavation.

Local roads and streets
Suitability: Poorly suited
Management concerns: Steepness of slope, low strength, and boulders or large stones
Management measures and considerations:

- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Carefully planning sites for roads helps to minimize the need to remove boulders and large stones.
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Steepness of slope and boulders or large stones

Management measures and considerations:
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Removing or relocating large stones improves soil performance.

The location of boulders and large stones needs to be considered when planning and designing campgrounds on areas of this map unit.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Poorly suited
Management concerns: Steepness of slope and boulders or large stones
Management measures and considerations:
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.
- Removing or relocating large stones improves soil performance.
- The location of boulders and large stones needs to be considered when planning and designing picnic facilities on areas of this map unit.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope and boulders or large stones
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Moderately suited
Management concerns: Steepness of slope and boulders or large stones
Management measures and considerations:
- The location of boulders and large stones needs to be considered when planning and designing paths and trails on areas of this map unit.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 7s

WeB—Wedowee sandy loam, 2 to 6 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the northern part of the county, south of Chapel Hill
Landform: Ridges and side slopes

Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Wedowee and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown sandy loam

Subsoil:
5 to 28 inches—strong brown clay that has yellowish red mottles
28 to 51 inches—reddish yellow clay loam that has yellow and very pale brown mottles

Underlying material:
51 to 62 inches—reddish yellow sandy loam saprolite that has yellow and very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of slowly permeable Vance soils
- Moderately well drained Helena soils at the heads of drainageways and along drainageways
- Random areas of Rion soils that have less clay in the subsoil
- Widely scattered surface cobbles, stones, and boulders that are usually designated by special symbols

Similar:
- Random areas of Pacolet soils that have a red subsoil
- Appling soils that have a thicker subsoil and are on the more level parts of the map unit

Land Use

Dominant uses: Woodland, pasture and hayland, and urban development (fig. 14)
Other uses: Cropland

Agricultural Development

Cropland
Suitability: Well suited
Commonly grown crops: Tobacco, corn, soybeans, and small grains
Management concerns: Erodibility

Figure 14.—Hayland and forestland in an area of Wedowee sandy loam, 2 to 6 percent slopes. Wedowee soils are well suited to a wide variety of agricultural and urban uses.

Management measures and considerations:
- Resource management systems that include terraces and diversions, stripcropping, contour tillage, no-till farming, and crop residue management reduce soil erosion and help control surface runoff and maximize rainfall infiltration

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Well suited
Management concerns: No significant limitations

Management measures and considerations:
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

WeC—Wedowee sandy loam, 6 to 10 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the northern part of the county, south of Chapel Hill
Landform: Ridges and side slopes
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Wedowee and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown sandy loam

Subsoil:
5 to 28 inches—strong brown clay that has yellowish red mottles
28 to 51 inches—reddish yellow clay loam that has yellow and very pale brown mottles

Underlying material:
51 to 62 inches—reddish yellow sandy loam saprolite that has yellow and very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Moderate
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of slowly permeable Vance soils
- Moderately well drained Helena soils at the heads of drainageways and along drainageways
- Random areas of Rion soils that have less clay in the subsoil
- Widely scattered surface cobbles, stones, and boulders that are usually designated by special symbols

Similar:
- Random areas of Pacolet soils that have a red subsoil

- Appling soils that have a thicker subsoil and are on the more level parts of the map unit

Land Use

Dominant uses: Woodland, pasture and hayland, and urban development
Other uses: Cropland

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Tobacco, corn, soybeans, and small grains
Management concerns: Erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength and steepness of slope
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Extensive grading, including cutting and filling slopes, may be required.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited

Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

WeD—Wedowee sandy loam, 10 to 15 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the northern part of the county, south of Chapel Hill
Landform: Narrow ridges and side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 100 acres

Composition

Wedowee and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown sandy loam

Subsoil:
5 to 28 inches—strong brown clay that has yellowish red mottles
28 to 51 inches—reddish yellow clay loam that has yellow and very pale brown mottles

Underlying material:
51 to 62 inches—reddish yellow sandy loam saprolite that has yellow and very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Hazard of flooding: None
Surface runoff: Rapid
Hazard of water erosion: Severe
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Rion soils that have less clay in the subsoil
- Random areas of Saw soils that have weathered bedrock at a depth of 20 to 40 inches
- Widely scattered surface cobbles, stones, and boulders that are usually designated by special symbols

Similar:
- Random areas of Pacolet soils that have a red subsoil
- Random areas of Appling soils that have a thicker subsoil

Land Use

Dominant uses: Woodland, pasture and hayland, and urban development
Other uses: Cropland

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Tobacco, corn, soybeans, and small grains
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and steepness of slope
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.
- The slope may limit the use of equipment for harvesting hay crops in the steeper areas.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: No significant limitations
Management measures and considerations:
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.
- Planting the appropriate species, as recommended by a forester, helps to achieve maximum productivity and ensure planting success.

Urban Development

Dwellings
Suitability: Moderately suited

Management concerns: Steepness of slope
Management measures and considerations:
- Designing structures to conform to the natural slope improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Moderately suited
Management concerns: Low strength and steepness of slope
Management measures and considerations:
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

WeE—Wedowee sandy loam, 15 to 25 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the northern part of the county, south of Chapel Hill
Landform: Side slopes
Shape of areas: Long and narrow or irregular
Size of areas: 5 to 100 acres

Composition

Wedowee and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown sandy loam

Subsoil:
5 to 28 inches—strong brown clay that has yellowish red mottles
28 to 51 inches—reddish yellow clay loam that has yellow and very pale brown mottles

Underlying material:
51 to 62 inches—reddish yellow sandy loam saprolite that has yellow and very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low

Hazard of flooding: None
Surface runoff: Rapid
Hazard of water erosion: Very severe
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar:
- Random areas of Rion soils that have less clay in the subsoil
- Random areas of Saw soils that have weathered bedrock at a depth of 20 to 40 inches
- Widely scattered surface cobbles, stones, and boulders that are usually designated by special symbols

Similar:
- Random areas of Pacolet soils that have a red subsoil
- Random areas of Appling soils that have a thicker subsoil

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Urban development

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: Erodibility and equipment use
Management measures and considerations:
- This map unit is difficult to manage for cultivated crops because the slope limits the use of equipment.
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity.

Pasture and hayland
Suitability: Moderately suited to pasture; poorly suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Applying lime and fertilizer according to recommendations made on the basis of soil tests increases the availability of plant nutrients and helps maximize productivity when establishing, maintaining, or renovating hay and pasture.
- The slope limits the use of equipment in the steeper areas.
- The timely removal of livestock from pastures so that forage plants can recover before winter dormancy helps to maintain pasture and increases productivity.

- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Moderately suited
Productivity class: Moderately high for loblolly pine
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding all disturbed areas using adapted grasses and legumes helps to prevent soil erosion and siltation of streams.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome slope limitations.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- Grading or shaping land prior to construction reduces damage from surface water and helps prevent soil erosion.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- The Chatham County Health Department should be contacted for guidance on sanitary facilities.
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.
- Increasing the size of septic tank absorption fields improves soil performance.
- Installing septic system distribution lines only during dry periods helps to prevent smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a level pad that has a gravel surface improves the suitability of this map unit for tents and other facilities.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- Providing a level pad that has a gravel surface for picnic tables and other facilities improves soil performance.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Moderately suited
Management concerns: Steepness of slope
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 4e

WhB—White Store-Polkton complex, 2 to 6 percent slopes

Setting

Landscape: Uplands; mainly in the eastern part of the county, in the Triassic Basin
Landform: Interstream divides, ridges, and side slopes
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

White Store and similar soils: 45 percent
Polkton and similar soils: 40 percent
Dissimilar soils: 15 percent

Typical Profile

White Store

Surface layer:
0 to 8 inches—light yellowish brown loam

Subsoil:
8 to 23 inches—variegated strong brown and yellowish brown clay that has yellowish red and pale brown mottles
23 to 33 inches—yellowish brown clay that has light gray mottles
33 to 37 inches—variegated light yellowish brown, light gray, pale brown, yellowish brown, and dark reddish brown clay loam

Underlying material:
37 to 42 inches—variegated dark reddish brown, reddish brown, white, and light gray sandy loam saprolite

Bedrock:
42 to 60 inches—weathered, slightly fractured Triassic sandstone

Polkton

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

Subsurface layer:
4 to 8 inches—light yellowish brown silt loam

Subsoil:
8 to 15 inches—brownish yellow sandy clay loam
15 to 22 inches—yellowish red clay
22 to 27 inches—yellowish red clay that has pinkish gray mottles
27 to 30 inches—brown silty clay loam that has pinkish gray and red mottles

Underlying material:
30 to 33 inches—pinkish gray silt loam saprolite that has reddish yellow and reddish brown mottles

Bedrock:
33 to 60 inches—weathered Triassic siltstone

Soil Properties and Qualities

Depth class: White Store—deep; Polkton—moderately deep
Drainage class: Moderately well drained
Permeability: Very slow
Available water capacity: White Store—moderate; Polkton—low
Seasonal high water table: White Store—perched, at a depth of 1.0 to 1.5 feet from December through March; Polkton—perched, at a depth of 1.5 to 2.5 feet from December through March
Shrink-swell potential: Very high
Hazard of flooding: None
Surface runoff: Moderate
Hazard of water erosion: Severe
Parent material: Residuum weathered from Triassic sandstone, mudstone, shale, siltstone, and conglomerate

Depth to bedrock: White Store—40 to 60 inches to soft bedrock and more than 72 inches to hard bedrock; Polkton—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of very deep Creedmoor soils that have a high shrink-swell potential and have bedrock at a depth of more than 60 inches
- Random areas of Carbonton and Brickhaven that have a higher silt content and have a moderate shrink-swell potential
- Random areas of very deep Pinoka soils that have a loamy subsoil
- Random areas of moderately eroded White Store and Polkton soils that have a higher clay content in the surface layer

Similar:
- Random areas of White Store soils that have a sandy loam, fine sandy loam, very fine sandy loam, or silt loam surface layer
- Random areas of Polkton soils that have a loam or very fine sandy loam surface layer
- Soils that have a gravelly or cobbly surface layer and are usually designated by special symbols
- Random areas of Green Level soils that have bedrock at a depth of more than 60 inches

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: White Store—erodibility, wetness, and soil fertility; Polkton—erodibility, wetness, soil fertility, and rooting depth
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize crop productivity.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of these soils.

Pasture and hayland
Suitability: Moderately suited to pasture; poorly suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover

Management concerns: Erodibility, wetness, and soil fertility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Some areas may need artificial drainage to help achieve maximum productivity.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize the production of forage and hay crops.

Woodland
Suitability: Well suited
Productivity class: Moderately high for loblolly pine
Management concerns: White Store—equipment use; Polkton—equipment use and windthrow hazard
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction that occurs when the soil is saturated.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Polkton soils.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: White Store—wetness and shrink-swell potential; Polkton—wetness, shrink-swell potential, and depth to bedrock
Management measures and considerations:
- Artificial drainage systems or diversions help to remove excess surface water.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- The soft bedrock underlying the soils in this map unit does not require special equipment for excavation but is difficult to revegetate or pack if used in fill slopes.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness, restricted permeability, and depth to bedrock
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- A site should be selected on better suited soils.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength and a very high shrink-swell potential
Management measures and considerations:
- This map unit has severe limitations affecting roads and streets. A site should be selected on better suited soils.
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.

Picnic areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope, wetness, and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Artificial drainage systems or diversions help to remove excess surface water and minimize the wetness limitation.
- Restricting use after heavy rains, when the soil is saturated, may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Poorly suited
Management concerns: Wetness and erodibility
Management measures and considerations:
- Locating paths and trails on raised pads of gravel fill material helps to minimize the wetness problem.

- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Interpretive Group

Land capability classification: 2e

WhC—White Store-Polkton complex, 6 to 10 percent slopes

Setting

Landscape: Uplands; mainly in the eastern part of the county, in the Triassic Basin
Landform: Interstream divides, ridges, and side slopes
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

White Store and similar soils: 40 percent
Polkton and similar soils: 35 percent
Dissimilar soils: 25 percent

Typical Profile

White Store
Surface layer:
0 to 8 inches—light yellowish brown loam

Subsoil:
8 to 23 inches—variegated strong brown and yellowish brown clay that has yellowish red and pale brown mottles
23 to 33 inches—yellowish brown clay that has light gray mottles
33 to 37 inches—variegated light yellowish brown, light gray, pale brown, yellowish brown, and dark reddish brown clay loam

Underlying material:
37 to 42 inches—variegated dark reddish brown, reddish brown, white, and light gray sandy loam saprolite

Bedrock:
42 to 60 inches—weathered, slightly fractured Triassic sandstone

Polkton
Surface layer:
0 to 4 inches—pale brown silt loam

Subsurface layer:
4 to 8 inches—light yellowish brown silt loam

Subsoil:
8 to 15 inches—brownish yellow sandy clay loam
15 to 22 inches—yellowish red clay
22 to 27 inches—yellowish red clay that has pinkish gray mottles
27 to 30 inches—brown silty clay loam that has pinkish gray and red mottles

Underlying material:
30 to 33 inches—pinkish gray silt loam saprolite that has reddish yellow and reddish brown mottles

Bedrock:
33 to 60 inches—weathered Triassic siltstone

Soil Properties and Qualities

Depth class: White Store—deep; Polkton—moderately deep
Drainage class: Moderately well drained
Permeability: Very slow
Available water capacity: White Store—moderate; Polkton—low
Seasonal high water table: White Store—perched, at a depth of 1.0 to 1.5 feet from December through March; Polkton—perched, at a depth of 1.5 to 2.5 feet from December through March
Shrink-swell potential: Very high
Hazard of flooding: None
Surface runoff: Rapid
Hazard of water erosion: Severe
Parent material: Residuum weathered from Triassic sandstone, mudstone, shale, siltstone, and conglomerate
Depth to bedrock: White Store—40 to 60 inches to soft bedrock and more than 72 inches to hard bedrock; Polkton—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of very deep Creedmoor soils that have a high shrink-swell potential and have bedrock at a depth of more than 60 inches
- Random areas of Carbonton and Brickhaven soils that have a higher silt content and have a moderate shrink-swell potential
- Random areas of Pinoka soils that have a loamy subsoil
- Random areas of severely eroded White Store and Polkton soils that have a higher clay content in the surface layer

Similar:
- Random areas of White Store soils that have a sandy loam, fine sandy loam, very fine sandy loam, or silt loam surface layer
- Random areas of Polkton soils that have a loam or very fine sandy loam surface layer
- Random areas of Green Level soils that have bedrock at a depth of more than 60 inches
- Soils that have a gravelly or cobbly surface layer and are usually designated by special symbols

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.

Management concerns: White Store—erodibility, wetness, and soil fertility; Polkton—erodibility, wetness, soil fertility, and rooting depth

Management measures and considerations:

- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Installing and maintaining an artificial drainage system reduce wetness limitations and improve soil productivity.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize crop productivity.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of the Polkton soils.

Pasture and hayland

Suitability: Moderately suited to pasture; poorly suited to hayland

Commonly grown crops: Tall fescue, orchardgrass, and clover

Management concerns: Erodibility, wetness, and soil fertility

Management measures and considerations:

- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Some areas may need artificial drainage to help achieve maximum productivity.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize the production of forage and hay crops.

Woodland

Suitability: Well suited

Productivity class: Moderately high for loblolly pine

Management concerns: White Store—equipment use; Polkton—equipment use and windthrow hazard

Management measures and considerations:

- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction that occurs when the soil is saturated.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Polkton soils.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings

Suitability: Poorly suited

Management concerns: White Store—wetness and shrink-swell potential; Polkton—wetness, shrink-swell potential, and depth to bedrock
Management measures and considerations:
- Artificial drainage systems or diversions help to remove excess surface water.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Artificial drainage systems or diversions help to remove excess surface water.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- The soft bedrock underlying the soils in this map unit does not require special equipment for excavation but is difficult to revegetate or pack if used in fill slopes.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness, restricted permeability, and depth to bedrock
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- A site should be selected on better suited soils.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength and a very high shrink-swell potential
Management measures and considerations:
- This map unit has severe limitations affecting roads and streets. A site should be selected on better suited soils.
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.

Picnic areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.

Playgrounds
Suitability: Poorly suited
Management concerns: Steepness of slope, wetness, and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Artificial drainage systems or diversions help to remove excess surface water and minimize the wetness limitation.
- Restricting use after heavy rains, when the soil is saturated, may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Poorly suited
Management concerns: Erodibility and wetness
Management measures and considerations:
- Locating paths and trails on raised pads of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Interpretive Group

Land capability classification: 3e

WhD—White Store-Polkton complex, 10 to 15 percent slopes

Setting

Landscape: Uplands; mainly in the eastern part of the county, in the Triassic Basin
Landform: Interstream divides, ridges, and side slopes
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

White Store and similar soils: 48 percent
Polkton and similar soils: 30 percent
Dissimilar soils: 22 percent

Typical Profile

White Store
Surface layer:
0 to 8 inches—light yellowish brown loam

Subsoil:
8 to 23 inches—variegated strong brown and yellowish brown clay that has yellowish red and pale brown mottles
23 to 33 inches—yellowish brown clay that has light gray mottles

33 to 37 inches—variegated light yellowish brown, light gray, pale brown, yellowish brown and dark reddish brown clay loam

Underlying material:
37 to 42 inches—variegated dark reddish brown, reddish brown, white, and light gray sandy loam saprolite

Bedrock:
42 to 60 inches—weathered, slightly fractured Triassic sandstone

Polkton
Surface layer:
0 to 4 inches—pale brown silt loam

Subsurface layer:
4 to 8 inches—light yellowish brown silt loam

Subsoil:
8 to 15 inches—brownish yellow sandy clay loam
15 to 22 inches—yellowish red clay
22 to 27 inches—yellowish red clay that has pinkish gray mottles
27 to 30 inches—brown silty clay loam that has pinkish gray and red mottles

Underlying material:
30 to 33 inches—pinkish gray silt loam saprolite that has reddish yellow and reddish brown mottles

Bedrock:
33 to 60 inches—weathered Triassic siltstone

Soil Properties and Qualities

Depth class: White Store—deep; Polkton—moderately deep
Drainage class: Moderately well drained
Permeability: Very slow
Available water capacity: White Store—moderate; Polkton—low
Seasonal high water table: White Store—perched, at a depth of 1.0 to 1.5 feet from December through March; Polkton—perched, at a depth of 1.5 to 2.5 feet from December through March
Shrink-swell potential: Very high
Hazard of flooding: None
Surface runoff: Very rapid
Hazard of water erosion: Very severe
Parent material: Residuum weathered from Triassic sandstone, mudstone, shale, siltstone, and conglomerate
Depth to bedrock: White Store—40 to more than 60 inches to soft bedrock and more than 72 inches to hard bedrock; Polkton—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock

Minor Components

Dissimilar:
- Random areas of very deep Creedmoor soils that have a high shrink-swell potential and have bedrock at a depth of more than 60 inches
- Random areas of Carbonton and Brickhaven that have a higher silt content and have a moderate shrink-swell potential
- Random areas of Pinoka soils that have a loamy subsoil
- Random areas of severely eroded White Store and Polkton soils that have a higher clay content in the surface layer

Similar:
- Random areas of White Store soils that have a sandy loam, fine sandy loam, very fine sandy loam, or silt loam surface layer
- Random areas of Polkton soils that have a loam or very fine sandy loam surface layer
- Random areas of Green Level soils that have bedrock at a depth of more than 60 inches
- Soils that have a gravelly or cobbly surface layer and are usually designated by special symbols

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Few, if any, commodity crops are currently grown on areas of this map unit.
Management concerns: White Store—erodibility, equipment use, wetness, and soil fertility; Polkton—erodibility, equipment use, wetness, soil fertility, and rooting depth
Management measures and considerations:
- This map unit has severe limitations affecting crop production. A site should be selected on better suited soils.
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Delaying planting in spring helps to minimize clodding and rutting resulting from wetness caused by the high water table.
- Applying lime according to recommendations made on the basis of soil tests reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize crop productivity.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of the Polkton soils.

Pasture and hayland
Suitability: Moderately suited to pasture; poorly suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility, wetness, and soil fertility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Planting adapted species helps to ensure the production of high-quality forage and minimize soil erosion.
- Rotational grazing and a well-planned clipping and harvesting schedule help to maintain pasture and increase productivity.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Some areas may need artificial drainage to help achieve maximum productivity.
- Applying lime according to recommendations made on the basis of soil tests

reduces the effects of high aluminum levels, increases the availability of plant nutrients, and helps maximize the production of forage and hay crops.

Woodland
Suitability: Moderately suited
Productivity class: Moderately high for loblolly pine
Management concerns: White Store—erodibility and equipment use; Polkton—erodibility, equipment use, and windthrow hazard
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding all disturbed areas using adapted grasses and legumes helps to prevent soil erosion and siltation of streams.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to minimize rutting and soil compaction that occurs when the soil is saturated.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Polkton soils.
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: White Store—wetness and shrink-swell potential; Polkton—wetness, shrink-swell potential, and depth to bedrock
Management measures and considerations:
- Artificial drainage systems or diversions help to remove excess surface water.
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- The soft bedrock underlying the soils in this map unit does not require special equipment for excavation but is difficult to revegetate or pack if used in fill slopes.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: White Store—wetness, restricted permeability, and steepness of slope; Polkton—wetness, restricted permeability, steepness of slope, and depth to bedrock
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- A site should be selected on better suited soils.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength and very high shrink-swell potential

Management measures and considerations:
- This map unit has severe limitations affecting roads and streets. A site should be selected on better suited soils.
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating campsites on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating campsites in the higher areas allows better surface water runoff and helps to keep campsites drier during wet periods.

Picnic areas
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Locating picnic facilities on raised pads of gravel fill material helps to minimize the problems of wetness and restricted permeability.
- Locating picnic facilities in the higher areas allows better surface water runoff and helps to keep sites drier during wet periods.

Playgrounds
Suitability: Unsuited
Management concerns: Steepness of slope, wetness, and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Poorly suited
Management concerns: Erodibility and wetness
Management measures and considerations:
- Locating paths and trails on raised pads of gravel fill material helps to minimize the wetness problem.
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Interpretive Group

Land capability classification: 3e

WtB—Wynott-Enon complex, 2 to 8 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border
Landform: Ridges
Shape of areas: Elongated or irregular
Size of areas: 5 to 50 acres

Composition

Wynott and similar soils: 60 percent
Enon and similar soils: 30 percent
Dissimilar soils: 10 percent

Typical Profile

Wynott
Surface layer:
0 to 4 inches—brown sandy loam

Subsurface layer:
4 to 7 inches—light olive brown sandy loam
7 to 14 inches—light olive brown loam that has light yellowish brown mottles

Subsoil:
14 to 24 inches—yellowish brown clay that has yellow and black mottles
24 to 28 inches—dark yellowish brown sandy clay loam that has seams of clay

Bedrock:
28 to 60 inches—weathered, moderately fractured diabase

Enon
Surface layer:
0 to 8 inches—light olive brown loam

Subsoil:
8 to 23 inches—olive yellow clay that has red and brown mottles
23 to 35 inches—variegated red, brown, and yellow clay

Underlying material:
35 to 60 inches—variegated red, brown, and yellow sandy loam saprolite that has seams of clay

Soil Properties and Qualities

Depth class: Wynott—moderately deep; Enon—very deep
Drainage class: Well drained
Permeability: Slow
Available water capacity: Wynott—low; Enon—high
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: High
Hazard of flooding: None
Surface runoff: Medium
Hazard of water erosion: Severe
Parent material: Residuum weathered from mafic high-grade metamorphic or igneous rock
Depth to bedrock: Wynott—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Enon—more than 60 inches

Minor Components

Dissimilar:
- Somewhat poorly drained soils in depressions and around the heads of drainageways
- Shallow Wilkes soils that have soft bedrock at a depth of less than 20 inches and are on shoulders
- Random areas of soils that have a loamy subsoil
- Random areas of Zion soils that have hard bedrock at a depth of 40 to 60 inches
- Random areas of moderately well drained Pittsboro soils
- Moderately eroded Wynott and Enon soils that have a clay loam surface layer

Similar:
- Wynott and Enon soils that have a loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Cropland and urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Wynott—erodibility and rooting depth; Enon—erodibility
Management measurements and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of the Wynott soils.
- Restricting tillage to dry periods helps to minimize clodding and crusting and maximize the infiltration of water.
- Returning crop residue to the soil or leaving residue on the soil surface helps to minimize clodding and crusting and maximize the infiltration of water.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Special care is needed to prevent further soil erosion when renovating pastures and establishing seedbeds.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Wynott soils are difficult to manage for the production of pasture and hay crops because of the moderately deep rooting depth.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Moderately suited
Productivity class: Moderately high for loblolly pine

Management concerns: Wynott—erodibility, equipment use, seedling survival, and windthrow hazard; Enon—erodibility, equipment use, and seedling survival

Management measures and considerations:

- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Restricting logging operations to dry periods helps to prevent rutting and possible root damage from compaction.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Wynott soils.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings

Suitability: Poorly suited

Management concerns: Shrink-swell potential

Management measures and considerations:

- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields

Suitability: Poorly suited

Management concerns: Wynott—depth to bedrock and restricted permeability; Enon—restricted permeability

Management measures and considerations:

- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets

Suitability: Poorly suited

Management concerns: Shrink-swell potential and low strength

Management measures and considerations:

- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- These soils are subject to uneven settling and may be unstable if not properly compacted.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas:

Suitability: Moderately suited

Management concerns: Restricted permeability

Management measures and considerations:

- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.

- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- Providing a gravel pad for picnic tables and other facilities helps to overcome the restricted permeability.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Wynott—steepness of slope and depth to bedrock; Enon—steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Determining the depth to bedrock prior to grading for the construction of playgrounds may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

WtC—Wynott-Enon complex, 8 to 15 percent slopes

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border
Landform: Narrow ridges and side slopes
Shape of areas: Elongated or irregular
Size of areas: 5 to 50 acres

Composition

Wynott and similar soils: 55 percent
Enon and similar soils: 35 percent
Dissimilar soils: 10 percent

Typical Profile

Wynott
Surface layer:
0 to 4 inches—brown sandy loam

Subsurface layer:
4 to 7 inches—light olive brown sandy loam
7 to 14 inches—light olive brown loam that has light yellowish brown mottles

Subsoil:
14 to 24 inches—yellowish brown clay that has yellow and black mottles
24 to 28 inches—dark yellowish brown sandy clay loam that has seams of clay

Bedrock:
28 to 60 inches—weathered, moderately fractured diabase

Enon
Surface layer:
0 to 8 inches—light olive brown loam

Subsoil:
8 to 23 inches—olive yellow clay that has red and brown mottles
23 to 35 inches—variegated red, brown, and yellow clay

Underlying material:
35 to 60 inches—variegated red, brown, and yellow sandy loam saprolite that has seams of clay

Soil Properties and Qualities

Depth class: Wynott—moderately deep; Enon—very deep
Drainage class: Well drained
Permeability: Slow
Available water capacity: Wynott—low; Enon—high
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: High
Hazard of flooding: None
Surface runoff: Very rapid
Hazard of water erosion: Very severe
Parent material: Residuum weathered from mafic high-grade metamorphic or igneous rock
Depth to bedrock: Wynott—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Enon—more than 60 inches

Minor Components

Dissimilar:
- Poorly drained and somewhat poorly drained soils in low lying depression and around the heads of drainageways
- Shallow Wilkes soils that have soft bedrock at a depth of less than 20 inches and are on shoulders
- Random areas of soils that have a loamy subsoil
- Random areas of Zion soils that have hard bedrock at a depth of 40 to 60 inches
- Random areas of moderately well drained Pittsboro soils

Similar:
- Random areas of soils that are similar to the Wynott or Enon soils and have a red subsoil
- Random areas of Wynott soils that have a fine sandy loam or loam surface layer
- Random areas of Enon soils that have a fine sandy loam or sandy loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland

Other uses: Cropland and urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Wynott—erodibility and rooting depth; Enon—erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of the Wynott soils.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- This map unit is difficult to manage for the production of pasture and hay crops because of the moderately deep rooting depth of the Wynott soils.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland
Suitability: Moderately suited
Productivity class: Moderately high for loblolly pine
Management concerns: Wynott—erodibility, equipment use, and windthrow hazard; Enon—erodibility and equipment use
Management measures and considerations:
- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Restricting logging operations to dry periods helps to prevent rutting and possible root damage from compaction.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Wynott soils.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings
Suitability: Poorly suited
Management concerns: Shrink-swell potential and steepness of slope
Management measures and considerations:
- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.

- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wynott—steepness of slope, depth to bedrock, and restricted permeability; Enon—steepness of slope and restricted permeability
Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- Accessing outlets of public sewage systems will eliminate the need to use these severely limited soils for septic tank systems.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell potential, low strength, and steepness of slope
Management measures and considerations:
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- These soils are subject to uneven settling and may be unstable if not properly compacted.
- The soft bedrock underlying the soils in this map unit does not require special equipment for excavation but is difficult to revegetate or pack if used in fill slopes.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas:
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- Providing a gravel pad for picnic tables and other facilities helps to overcome the restricted permeability.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds

Suitability: Poorly suited

Management concerns: Wynott—steepness of slope and depth to bedrock; Enon—steepness of slope

Management measures and considerations:

- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.
- Determining the depth to bedrock prior to grading for the construction of playgrounds may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails

Suitability: Well suited

Management concerns: No significant limitations

Management measures and considerations:

- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3e

WyB2—Wynott-Enon complex, 2 to 8 percent slopes, moderately eroded

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border

Landform: Broad ridges

Shape of areas: Elongated or irregular

Size of areas: 5 to 25 acres

Composition

Wynott and similar soils: 45 percent

Enon and similar soils: 40 percent

Dissimilar soils: 15 percent

Typical Profile

Wynott

Surface layer:

0 to 8 inches—dark yellowish brown sandy clay loam

Subsoil:

8 to 14 inches—strong brown clay

14 to 22 inches—strong brown clay that has red mottles

22 to 35 inches—variegated red, brown, yellow, and black clay loam

Bedrock:

35 to 60 inches—variegated yellow, black, brown, and white weathered diabase

Enon
Surface layer:
0 to 8 inches—dark yellowish brown sandy clay loam

Subsoil:
8 to 17 inches—strong brown clay
17 to 35 inches—strong brown clay loam

Underlying material:
35 to 45 inches—strong brown sandy loam saprolite
46 to 60 inches—variegated strong brown, brownish yellow, black, and dark greenish gray sandy loam saprolite

Soil Properties and Qualities

Depth class: Wynott—moderately deep; Enon—very deep
Drainage class: Well drained
Permeability: Slow
Available water capacity: Wynott—low; Enon—high
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: High
Hazard of flooding: None
Surface runoff: Rapid
Hazard of water erosion: Severe
Parent material: Residuum weathered from mafic high-grade metamorphic or igneous rock
Depth to bedrock: Wynott—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Enon—more than 60 inches

Minor Components

Dissimilar:
- Somewhat poorly drained soils in depressions and around the heads of drainageways
- Shallow Wilkes soils that have soft bedrock at a depth of less than 20 inches and are on shoulders
- Random areas of soils that have a loamy subsoil
- Random areas of Zion soils that have hard bedrock at a depth of 40 to 60 inches
- Uneroded areas of Wynott and Enon soils that have a loam surface layer
- Random areas of moderately well drained Pittsboro soils

Similar:
- Wynott and Enon soils that have a clay loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Cropland and urban development

Agricultural Development

Cropland
Suitability: Moderately suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Wynott—erodibility and rooting depth; Enon—erodibility
Management concerns:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.

- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of the Wynott soils.
- Restricting tillage to dry periods helps to minimize clodding and crusting and maximize the infiltration of water.
- Returning crop residue to the soil or leaving residue on the soil surface helps to minimize clodding and crusting and maximize the infiltration of water.

Pasture and hayland

Suitability: Well suited to pasture; moderately suited to hayland
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:

- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Special care is needed to prevent further soil erosion when renovating pastures and establishing seedbeds.
- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- Wynott soils are difficult to manage for the production of pasture and hay crops because of the moderately deep rooting depth.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland

Suitability: Moderately suited
Productivity class: Moderately high for loblolly pine
Management concerns: Wynott—erodibility, equipment use, seedling survival, and windthrow hazard; Enon—erodibility, equipment use, and seedling survival
Management measures and considerations:

- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Restricting logging operations to dry periods helps to prevent rutting and possible root damage from compaction.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Wynott soils.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings

Suitability: Poorly suited
Management concerns: Shrink-swell potential
Management measures and considerations:

- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Wynott—depth to bedrock and restricted permeability; Enon—restricted permeability

Management measures and considerations:
- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.
- Accessing outlets of public sewage systems will eliminate the need to use these severely limited soils for septic tank systems.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell potential and low strength
Management measures and considerations:
- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the soil material and compacting roadbeds improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- These soils are subject to uneven settling and may be unstable if not properly compacted.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas:
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Restricted permeability
Management measures and considerations:
- Providing a gravel pad for picnic tables and other facilities helps to overcome the restricted permeability.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Moderately suited
Management concerns: Wynott—steepness of slope and depth to bedrock; Enon—steepness of slope
Management measures and considerations:
- Cutting, filling, or grading only those areas requiring excavation improves soil stability and reduces equipment limitations caused by the slope.
- Determining the depth to bedrock prior to grading for the construction of playgrounds may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited

Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 2e

WyC2—Wynott-Enon complex, 8 to 15 percent slopes, moderately eroded

Setting

Landscape: Piedmont uplands; mainly in the western part of the county near the Randolph County border
Landform: Narrow ridges and side slopes
Shape of areas: Long and narrow
Size of areas: 5 to 30 acres

Composition

Wynott and similar soils: 45 percent
Enon and similar soils: 35 percent
Dissimilar soils: 20 percent

Typical Profile

Wynott
Surface layer:
0 to 8 inches—dark yellowish brown sandy clay loam

Subsoil:
8 to 14 inches—strong brown clay
14 to 22 inches—strong brown clay that has red mottles
22 to 35 inches—variegated red, brown, yellow, and black clay loam

Bedrock:
35 to 60 inches—variegated yellow, black, brown, and white weathered diabase

Enon
Surface layer:
0 to 8 inches—dark yellowish brown sandy clay loam

Subsoil:
8 to 17 inches—strong brown clay
17 to 35 inches—strong brown clay loam

Underlying material:
35 to 45 inches—strong brown sandy loam saprolite
46 to 60 inches—variegated strong brown, brownish yellow, black, and dark greenish gray sandy loam saprolite

Soil Properties and Qualities

Depth class: Wynott—moderately deep; Enon—very deep
Drainage class: Well drained
Permeability: Slow
Available water capacity: Wynott—low; Enon—high
Depth to seasonal high water table: More than 6.0 feet

Shrink-swell potential: High
Hazard of flooding: None
Surface runoff: Very rapid
Hazard of water erosion: Very severe
Parent material: Residuum weathered from mafic high-grade metamorphic or igneous rock
Depth to bedrock: Wynott—20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock; Enon—more than 60 inches

Minor Components

Dissimilar:
- Somewhat poorly drained soils in depressions and around the heads of drainageways
- Shallow Wilkes soils that have soft bedrock at a depth of less than 20 inches and are on shoulders
- Random areas of soils that have a loamy subsoil
- Random areas of Zion soils that have hard bedrock at a depth of 40 to 60 inches
- Uneroded areas of Wynott and Enon soils that have a loam surface layer
- Random areas of moderately well drained Pittsboro soils

Similar:
- Wynott and Enon soils that have a clay loam surface layer

Land Use

Dominant uses: Woodland and pasture and hayland
Other uses: Cropland and urban development

Agricultural Development

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn, soybeans, small grains, and tobacco
Management concerns: Wynott—erodibility and rooting depth; Enon—erodibility
Management measures and considerations:
- Resource management systems that include terraces and diversions, contour farming, conservation tillage, no-till farming, crop residue management, stripcropping, and sod-based rotations reduce soil erosion and help control surface runoff and maximize the infiltration of water.
- Returning plant residue to the soil improves the water-holding capacity.
- Planting shallow-rooted crops helps to overcome the moderately deep rooting depth of the Wynott soils.
- Restricting tillage to dry periods helps to minimize clodding and crusting and maximize the infiltration of water.
- Returning crop residue to the soil or leaving residue on the soil surface helps to minimize clodding and crusting and maximize the infiltration of water.

Pasture and hayland
Suitability: Moderately suited
Commonly grown crops: Tall fescue, orchardgrass, and clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope helps to control soil erosion and increases germination.
- Special care is needed to prevent further soil erosion when renovating pastures and establishing seedbeds.

- Preventing overgrazing or preventing grazing when the soil is wet helps to prevent soil compaction, a decrease in productivity, and a rough surface layer.
- This map unit is difficult to manage for the production of pasture and hay crops because of the moderately deep rooting depth of the Wynott soils.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Woodland

Suitability: Moderately suited
Productivity class: Moderately high for loblolly pine
Management concerns: Wynott—erodibility, equipment use, seedling survival, and windthrow hazard; Enon—erodibility, equipment use, and seedling survival
Management measures and considerations:

- Maintaining roads and fire lanes requires extra care because of the hazard of windthrow.
- Water should not be diverted directly across fill slopes because the concentrated flow of water can undercut roads and landings.
- Restricting logging operations to dry periods helps to prevent rutting and possible root damage from compaction.
- Productivity may be increased by periodically harvesting windthrown trees that fell as a result of high winds and the limited rooting depth of the Wynott soils.
- Leaving a buffer zone of trees and shrubs adjacent to streams reduces siltation and improves the aquatic habitat by providing shade for the water surface.

Urban Development

Dwellings

Suitability: Poorly suited
Management concerns: Shrink-swell potential and steepness of slope
Management measures and considerations:

- Designing structures on the contour to conform to the natural slope or building in the less sloping areas improves soil performance.
- Reinforcing foundations and footings or backfilling using coarse-textured material helps to strengthen buildings and prevent damage caused by shrinking and swelling.
- Vegetating disturbed areas and providing erosion-control structures, such as sediment fences and catch basins, help to keep eroding soil on site.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Wynott—steepness of slope, depth to bedrock, and restricted permeability; Enon—steepness of slope and restricted permeability
Management measures and considerations:

- This map unit has severe limitations affecting septic tank absorption fields. The Chatham County Health Department should be contacted for additional guidance.

Local roads and streets

Suitability: Poorly suited
Management concerns: Shrink-swell potential, low strength, and steepness of slope
Management measures and considerations:

- Removing as much of the clay material as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the soil material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.
- Using a geotextile fabric filter cloth between the roadbed and the soil surface helps to minimize the loss of stone into the soil.
- These soils are subject to uneven settling and may be unstable if not properly compacted.

- The soft bedrock underlying the soils in this map unit does not require special equipment for excavation but is difficult to revegetate or pack if used in fill slopes.
- Constructing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut and fill slopes as soon as possible after construction helps to stabilize the soil and prevent excessive soil erosion.

Recreational Development

Camp areas:
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- Designing roads and trails on the contour and locating camping facilities in the less sloping areas help to overcome the slope limitation.
- Providing a gravel pad for tents and other facilities helps to overcome the restricted water movement in the soil.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Picnic areas
Suitability: Moderately suited
Management concerns: Restricted permeability and steepness of slope
Management measures and considerations:
- Providing a gravel pad for picnic tables and other facilities helps to overcome the restricted permeability.
- Designing roads and trails on the contour and Locating picnic facilities in the less sloping areas help to overcome the slope limitation.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.

Playgrounds
Suitability: Unsuited
Management concerns: Wynott—steepness of slope and depth to bedrock; Enon—steepness of slope
Management measures and considerations:
- This map unit has severe limitations affecting playgrounds. A site should be selected on better suited soils.
- Extensive grading, including cutting and filling slopes, may be required.
- Determining the depth to bedrock prior to grading for the construction of playgrounds may be necessary.
- Vegetating cleared and graded areas as soon as possible helps to maintain soil stability and prevent erosion.
- Leaving a buffer zone of grass, trees, and shrubs adjacent to streams and drainageways reduces siltation and provides shade.

Paths and trails
Suitability: Well suited
Management concerns: No significant limitations
Management measures and considerations:
- Designing paths and trails on the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of trails.

Interpretive Group

Land capability classification: 3 e

Use and Management of the Soils

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

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

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

Mike Sturdivant, district conservationist, Natural Resources Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils are identified, the system of land capability classification used by the Natural Resources Conservation Service is explained, the estimated yields of the main crops and hay and pasture plants are listed for each soil, 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" and in the tables. Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Federal and State regulations require that any areas designated as wetlands cannot be altered without prior approval. Contact the local office of the Natural Resources Conservation Service for identification of hydric soils and potential wetlands.

In 2002, more than 24,500 acres in Chatham County were used for crops (Agriculture Statistics Division, 2005). Nearly 94,000 acres were used as permanent pasture. Because of soil suitability and a favorable climate, many field crops that are not commonly grown in Chatham County can also be produced.

Corn, tobacco, and soybeans are the dominant row crops. Grain sorghum, cotton, and similar crops can also be grown profitably if economic conditions are favorable.

Wheat is the most common close-growing crop. Rye, barley, and oats are also suitable. Grass seed can be produced from fescue and orchardgrass.

Specialty crops include vegetables, small fruits, tree fruits, flowers, and many nursery plants. Some areas are used for melons, strawberries, sweet corn, tomatoes, peppers, pumpkins, or other vegetables or small fruits. Apples and peaches are the most common tree fruits.

Very deep and deep soils that are characterized by good natural drainage are especially well suited to many vegetables and small fruits. These soils include the Georgeville and Nanford soils that have slopes of less than 8 percent. They make up about 50,000 acres in the survey area.

Most of the well drained soils in the survey area are suitable for orchard crops and nursery plants. Soils in low areas where frost is frequent generally are poorly suited to early vegetables, small fruits, and orchard crops.

The latest information about specialty crops can be obtained at the local office of the Cooperative Extension Service or the Natural Resources Conservation Service.

The nearly level to gently sloping soils in the survey area generally are well suited to row crops. Most of the row crops are grown on uplands because the acreage of bottom land and stream terraces is limited. The broad ridges and the more nearly level areas are suitable for grain crops. Very deep and deep, well drained soils, such as the Georgeville and Nanford soils, are suited to corn and soybeans. The more sloping areas of Nanford and Badin soils are commonly used for hay and pasture.

Very deep, well drained to moderately well drained soils on high river terraces, such as the Mattaponi and Peawick soils, are suited to tobacco. During years of normal rainfall, Mattaponi and Peawick soils produce high yields of tobacco.

Some areas that are idle, wooded, or pastured have good potential for use as cropland. Food production could be increased considerably by applying the latest technology to all of the cropland in the survey area. The information in this soil survey can facilitate the application of such technology.

Cropland

Management considerations on cropland in the county include controlling erosion, installing a drainage system, improving soil fertility, applying a system of chemical weed control, and improving tilth.

Erosion control.—Water erosion is a major concern on most of the soils used for cropland in Chatham County. It is a hazard on soils that have a slope of more than 2 percent. Georgeville and Nanford are examples. As the slope increases, the hazard of erosion and the difficulty in controlling erosion also increase.

Loss of the surface layer through erosion is damaging. Soil productivity is reduced as the surface layer 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 clayey subsoil, such as Creedmoor and Green Level soils, on soils that have a high content of silt in the surface layer, such as Georgeville and Nanford soils, and on soils that have a layer in or below the subsoil that limits the depth of the root zone, such as Goldston and Cid soils. Erosion on farmland results in the sedimentation of streams. Controlling erosion minimizes the pollution of water by runoff carrying plant nutrients, soil particles, and plant residue. It improves the quality of water for municipal use, for recreation, and for fish and wildlife.

In many sloping areas of clayey soils, preparing a good seedbed is difficult because much or all of the original friable surface layer has been lost through erosion. This degree of erosion is common in areas of Georgeville soils.

Erosion-control practices provide a protective surface cover, reduce runoff, and increase the rate of water infiltration. A cropping system that keeps a vegetative cover on the soil for extended periods helps to minimize soil loss and maintain the productive capacity of the soil. In sloping areas, including forage crops of grasses and legumes in the cropping system helps to control erosion. The forage crops also add nitrogen to the soil and improve tilth.

Minimizing tillage and leaving crop residue on the surface increase the rate of water infiltration, reduce runoff, and help to control erosion. These practices can be effective on most of the soils in the survey area. In the more sloping areas that are used for corn or are double cropped with soybeans, no-till farming is effective in controlling erosion. No-till farming is effective on most of the soils in the survey area but is less successful on soils that have a high amount of clay in the surface layer, such as the moderately eroded Georgeville soils.

Terraces and diversions shorten the length of slopes and thus minimize erosion caused by runoff. They are most effective on very deep, well drained soils that have regular slopes. Georgeville and Wedowee soils are examples. These measures are less effective on soils that have irregular slopes, have bedrock within a depth of 40 inches, are excessively wet in terrace channels, or have a clayey subsoil that would be exposed in the terrace channels.

Contour farming and contour stripcropping help to control erosion on many of the soils in the survey area. They are best suited to soils that have smooth, uniform slopes, including most areas of Georgeville and Herndon soils.

Information about erosion-control measures for each kind of soil is available at the local office of the Natural Resources Conservation Service.

Drainage.—Excessive wetness is a management concern on some of the cropland in Chatham County. Some soils are so wet that production of the crops commonly grown in the survey area is difficult unless a drainage system is installed. Merry Oaks and Moncure soils and other somewhat poorly drained or poorly drained soils are so wet that crops are damaged during most years unless a drainage system is installed.

Small areas of wetter soils along drainageways are commonly included in mapping with the moderately well drained Helena and Peawick soils. A drainage system generally is not installed in these included soils. Ditches are used to improve drainage in some areas of these soils.

Managing drainage in conformance with regulations concerning wetlands may require special permits and extra planning. The local office of the Natural Resources Conservation Service should be contacted for identification of hydric soils and potential wetlands.

Soils along the river bottoms in Chatham County are occasionally flooded for brief periods, generally between December and June. Flash flooding as a result of intensive rainfall can occur on the upper reaches of stream bottoms at any time of the year.

Soil fertility.—The soils in Chatham County generally are low in natural fertility and are naturally acid. Additions of lime and fertilizer are needed for the production of most kinds of crops.

Liming requirements are a major concern on cropland. The acidity level in the soil affects the availability of many nutrients to plants and the activity of beneficial bacteria. Lime neutralizes exchangeable aluminum in the soil and thus counteracts the adverse effects of high levels of aluminum on many crops. This is especially important with the Brickhaven, Carbonton, Green Level, Creedmoor, Polkton, and White Store soils that contain high amounts of aluminum, which can cause aluminum toxicity in plants. Liming adds calcium (from calcitic lime) or calcium and magnesium (from dolomitic lime) to the soil.

A soil test is a guide to what amount and kind of lime should be used. The desired pH levels may differ, depending on the soil properties and the crop to be grown.

Nitrogen fertilizer is required for most crops. It is generally not required, however, for peanuts and clover, in some rotations of soybeans, and for alfalfa that is established. A reliable soil test is not available for predicting nitrogen requirements. Appropriate rates of nitrogen application are described in the section “Yields per Acre.”

Soil tests can indicate the need for phosphorus and potassium fertilizer. Most soils in Chatham County have very low levels of available phosphorus unless they have been fertilized. Phosphorus and potassium tend to build up in the soil if fertilizer is applied at a rate greater than it can be utilized by plants.

Chemical weed control.—The use of herbicides for weed control is a common practice on the cropland in Chatham County. It decreases the need for tillage and is an integral part of modern farming. Selected soil properties, such as organic matter content and texture of the surface layer, affect the rate of herbicide application. Estimates of both of these properties were determined for the soils in this survey area. The table “Physical Soil Properties” shows a general range of organic matter content in the surface layer of the soils. The texture of the surface layer is shown in the USDA texture column in the “Engineering Properties” table.

In some areas the organic matter content projected for the different soils is outside the range shown in the table. The content can be higher in soils that have received large amounts of animal or manmade waste. Soils that have recently been brought into cultivation may have a higher content of organic matter in the surface layer than similar soils that have been cultivated for a long time. Conservation tillage can increase the content of organic matter in the surface layer. A lower content of organic matter is common where the surface layer has been partly or completely removed by erosion or land smoothing. Current soil tests should be used for specific organic matter determinations.

Tilth.—Soil tilth is an important factor in the germination of seeds and the infiltration of water into the soil. Soils that have good tilth are granular and porous.

Some of the soils in the survey area that are used for crops have a light-colored surface layer of silt loam and a low content of organic matter. Generally, the structure of these soils is weak. Periods of heavy rainfall result in the formation of a crust on the surface. The crust is hard when dry and nearly impervious to water. It reduces the rate of water infiltration and increases the runoff rate. Regular additions of crop residue, manure, and other organic material can improve soil structure and prevent the formation of a crust.

Because of crusting during winter and spring, fall plowing is generally not recommended for soils that have a light-colored surface layer of silt loam. Many of the soils that are plowed in fall are almost as dense and hard at planting time as they were before they were plowed. More than 50 percent of the cropland in the survey area consists of sloping soils that are subject to erosion if they are plowed in fall.

Some soils in the survey area, such as Mayodan, Cecil, Pacolet, Badin, Pittsboro, and Goldston, have poor tilth because of gravel and other rock fragments in the surface layer. The content and size of the fragments affect the use of tillage implements.

Stones and boulders are common in some soils in the survey area, such as Wedowee and Pittsboro. In some places the rock fragments prevent tillage. In other places they can be removed.

Pasture and Hayland

In 2005, Chatham County had more than 33,000 cattle, including 16,700 beef cattle and 1,400 dairy cattle (Agriculture Statistics Division, 2005). Most of the pasture and hayland supports a mixture of grasses and legumes. Most of the hay is grown in rotation with pasture. The harvested hay commonly is rolled into large, round bales or is used as grass silage.

Selection of forage species.—About 93 percent of the total farm income in the survey area is derived from the sale of livestock. A successful livestock enterprise depends on a forage program that provides large quantities of good-quality feed. In most areas of hayland and pasture in Chatham County, renovation, brush control, and measures that prevent overgrazing are needed.

The soils in the survey area vary widely in their ability to produce grasses and legumes because of differences in such properties as depth to bedrock, internal drainage, and available water capacity. The forage species selected for planting should be appropriate for the soil.

The nearly level and gently sloping, deep and very deep, well drained soils should be planted to the highest producing crops, such as corn silage, alfalfa, or a mixture of alfalfa and orchardgrass or alfalfa and timothy. Sod-forming grasses, such as tall fescue and orchardgrass, minimize erosion in the steeper areas. Alfalfa should be seeded with cool-season grasses in areas where the soil is at least 2 feet deep and is well drained. The more poorly drained soils and the soils that are less than 2 feet deep are suited to clover-grass mixtures or to pure stands of clover or grasses. Soils that have high levels of aluminum, such as the Brickhaven, Carbonton, Creedmoor, Green Level, Polkton, and White Store series, are poorly suited to alfalfa. Legumes can be established through renovation in areas that support sod-forming grasses.

The intended use should be considered when forage species are selected. Selected species should provide maximum quality and versatility in the forage program. Legumes generally produce higher quality feed than grasses. They should be grown to the maximum extent possible. The taller legumes, such as alfalfa and red clover, are more versatile than legumes that are used primarily for grazing, such as white clover. Orchardgrass, timothy, and tall fescue are best suited to use as hay and silage.

Tall fescue is an important cool-season grass. It is suited to a wide range of soil conditions and is grown for both pasture and hay. The growth that occurs from August through November commonly accumulates in the field and is used for grazing in late fall and in winter. For maximum production, nitrogen fertilizer should be applied during the period when the grass is accumulating. The rate of application should be based on the desired level of production.

Warm-season grasses that are planted during the period from early April through late May help to supplement cool-season grasses, such as tall fescue. They grow well during warm periods, especially from mid-June through September, when the growth of cool-season grasses is slow. Examples of warm-season grasses are switchgrass, big bluestem, indiangrass, and Caucasian bluestem.

Maintenance of pasture and hayland.—Renovation can increase forage yields in areas that have a good stand of grass. It includes partially destroying the sod, applying lime and fertilizer, and seeding desirable forage species. Adding legumes to the stand of grass provides high-quality feed. Legumes increase summer production and transfer nitrogen from the air into the soil. Under growing conditions, alfalfa can fix 200 to 300 pounds of nitrogen per acre per year, red clover can fix 100 to 200 pounds, and ladino clover can fix 100 to 150 pounds. An acre of annual forage legumes, such as vetch, can fix 75 to 100 pounds of nitrogen per year.

Additional information about managing pasture and hayland can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Soil Fertility

The soils in Chatham County generally are low in natural fertility. They are naturally acid. Additions of lime and fertilizer are needed for the production of most kinds of crops.

Liming requirements are a major concern on cropland. The acidity level in the soil affects the availability of many nutrients to plants and the activity of beneficial bacteria. Lime also neutralizes exchangeable aluminum in the soil and thus counteracts the adverse effects of high levels of aluminum on many crops. Liming adds calcium (from calcitic lime) or calcium and magnesium (from dolomitic lime) to the soil.

A soil test is a guide to what amount and kind of lime should be used. The desired pH levels may differ, depending on the soil properties and the crop to be grown.

Nitrogen fertilizer is required for most crops. It is generally not required, however, for clover, in some rotations of soybeans, or for alfalfa that is established. A reliable soil test is not available for predicting nitrogen requirements. Appropriate rates of nitrogen application are described in the section “Yields per Acre.”

Soil tests can indicate the need for phosphorus and potassium fertilizer. They are needed because phosphorus and potassium tend to build up in the soil.

Yields per Acre

The table “Nonirrigated Yields by Map Unit Component” is described in this section. The average yields per acre shown in the yields table in this survey are those that can be expected of the principal crops under a high level of management. In any given year, yields may be higher or lower than those indicated in the tables 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.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

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 yields 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 forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and.

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

Class 1 soils have slight limitations that restrict their use.

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

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

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

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

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

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

The capability classification of the soils in this survey area is given in the section "Detailed Soil Map Units" and in the yields table.

Prime Farmland and Other Important Farmlands

The table "Prime Farmland and Other Important Farmlands" lists the map units in the survey area that are considered prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, 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. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

For some soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

In some areas that are not identified as having national or statewide importance, land is considered to be *farmland of local importance* for the production of food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.

Agricultural Waste Management

The titles of the tables described in this section are:

- "Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge"
- "Agricultural Disposal of Wastewater by Irrigation and Overland Flow"
- "Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment"

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

The tables described in this section show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock, depth to a water table, and ponding. The properties that affect performance include depth to bedrock, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, permeability, depth to a water table, ponding, flooding, depth to bedrock, stones, and cobbles affect design and construction.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Permeability and reaction affect performance.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, depth to bedrock, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste.

Forestland Productivity and Management

Albert Coffey, forester, Natural Resources Conservation Service, helped prepare this section.

Owners of forestland in Chatham County have many objectives. These objectives include producing timber; conserving wildlife, soil, and water; preserving aesthetic values; and providing opportunities for recreational activities, such as commercial hunting. Public demand for clean water and recreational areas creates pressures and opportunities for owners of forestland.

The landowner interested in timber production is faced with the challenge of producing greater yields from smaller areas. Meeting this challenge requires intensive management and silvicultural practices. Many modern silvicultural techniques resemble those long practiced in agriculture. They include establishing, weeding, and thinning a desirable young stand; propagating the more productive species and genetic varieties; providing short rotations and complete fiber utilization; controlling insects, diseases, and weeds; and improving tree growth by applications of fertilizer and the installation of a drainage system. Even though timber crops require decades to grow, the goal of intensive management is similar to the goal of intensive agriculture. This goal is to produce the greatest yield of the most valuable crop as quickly as possible.

Total forestland in 2002 covered about 284,500 acres, or about 65 percent of the land area, of Chatham County (Brown, 2002). Commercial forest is land that is producing or is capable of producing crops of industrial wood and that has not been withdrawn from timber production. Loblolly pine is the most important timber species in the county because it grows fast, is adapted to the soil and climate, brings the highest average sale value per acre, and is easy to establish and manage.

For purposes of forest inventory, the predominant forest types identified in Chatham County are as described in the following paragraphs (Brown, 2002).

Loblolly-shortleaf. This forest type covers 91,000 acres. It is predominantly loblolly pine, shortleaf pine, or other southern yellow pines (excluding longleaf pine and slash pine), or a combination of these species. Commonly included trees are oak, hickory, and gum.

Oak-pine. This forest type covers 77,900 acres. It is predominantly hardwoods, usually upland oaks. Pine species make up 25 to 50 percent of the stand. Commonly included trees are gum, hickory, and yellow-poplar.

Oak-hickory. This forest type covers 111,100 acres. It is predominantly upland oaks or hickory, or both. Commonly included trees are yellow-poplar, elm, maple, and black walnut.

Oak-gum-cypress. This forest type covers 4,500 acres. It is bottom-land forest consisting predominantly of tupelo, blackgum, sweetgum, oaks, southern cypress, or a combination of these species. Commonly included trees are cottonwood, willow, ash, elm, hackberry, and maple.

One of the first steps in planning intensive forestland management is to determine the potential productivity of the soil for several alternative tree species. The most productive and valued trees are then selected for each soil type. Site and yield information enables a forest manager to estimate future wood supplies. These estimates are the basis of realistic decisions concerning expenses and profits associated with intensive forestland management, land acquisition, or industrial investments.

The potential productivity of forestland depends on physiography, soil properties, climate, and the effects of past management. Specific soil properties and site characteristics, including soil depth, texture, structure, and depth to the water table, affect forest productivity primarily by influencing available water capacity, aeration, and root development. The net effects of the interaction of these soil properties and site characteristics determine the potential site productivity.

Examples of past management decisions that limit productivity are overgrazing and timber high-grading. These factors can affect forest health, vitality, species composition, and, ultimately, the quantity, quality, and value of the timber produced. The potential volume of wood produced by a stand of timber is not always the best indicator of the value of a site. Species composition and quality are as important as volume.

Naturally occurring site factors are also important to consider. The steepness and length of slopes and landform position affect water movement and availability.

A knowledge of soils helps to provide a basic understanding of the distribution and growth of tree species on the landscape. For example, yellow-poplar grows well on deep or very deep, moist soils, and post oak or pine is common in areas where the rooting depth is restricted or the moisture supply is limited.

Availability of water and nutrients and landscape position largely determine which tree species grow on a particular soil. For example, sugar maple and basswood grow on soils that have the highest fertility levels and a high moisture content. Beech grows on soils that have a high moisture content and intermediate fertility levels. Chestnut oak and red maple grow on soils that have low fertility levels and a low moisture content. Scarlet oak and pine grow on soils that have very low fertility levels and a very low moisture content.

Soil serves as a reservoir for moisture, provides an anchor for roots, and supplies most of the available nutrients. These three qualities are directly or indirectly affected by organic matter content, reaction, fertility, drainage, texture, structure, depth, and landscape position.

The ability of a soil to serve as a reservoir for moisture, as measured by the available water capacity, is primarily influenced by texture, organic matter content, rooting depth, and content of rock fragments.

In the survey area, all of the soils, except for the shallowest, provide an adequate anchor for tree roots. The susceptibility to windthrow, or the uprooting of trees by the wind, is a management concern on Badin and Goldston soils.

The available supply of nutrients for tree growth is affected by several soil properties. Mineral horizons in the soil are important. Mineralization of humus releases nitrogen and other nutrients to plants. Calcium, magnesium, and potassium are held within the humus. Very small amounts of these nutrients are made available by the weathering of clay and silt particles. Most of the upland soils have been leached and contain only small amounts of nutrients below the surface layer. Soils that have a thin surface layer must be carefully managed during site preparation so that the surface layer is not removed or degraded.

The living plant community is part of the nutrient reservoir. The decomposition of leaves, stems, and other organic material recycles the nutrients that have accumulated in the forest ecosystem. Fire, excessive trampling by livestock, and erosion can result in the loss of these nutrients. Forestland management should include prevention of wildfires and protection from overgrazing.

This soil survey can be used in planning ways to increase the productivity of forestland. Some soils respond better to applications of fertilizer than others, and some are more susceptible to erosion after roads are built and timber is harvested. Some soils require special reforestation efforts. In the section "Detailed Soil Map Units," the description of each map unit in the survey area suitable for timber includes information about productivity, limitations in harvesting timber, and management concerns in producing timber.

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

Forestland Productivity

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

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

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

Forestland Management

The titles of the tables described in this section are:

- "Haul Roads, Log Landings, and Soil Rutting on Forestland"
- "Hazard of Erosion and Suitability for Roads on Forestland"
- "Forestland Planting and Harvesting"
- "Forestland Site Preparation"
- "Damage by Fire and Seedling Mortality on Forestland"

In these tables, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

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

Rating class terms for fire damage and seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Recreational Development

The titles of the tables described in this section are:

- “Camp Areas, Picnic Areas, and Playgrounds”
- “Paths, Trails, and Golf Fairways”

In the tables described in this section, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality (fig. 15), vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in these tables can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the

Figure 15.—An area of Everett Jordan Lake. Jordan Lake provides recreational opportunities for the surrounding region.

growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction, depth to a water table, ponding, depth to bedrock, and the available water capacity in the upper 40 inches. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

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

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

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

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

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 autumn olive and crabapple.

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

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

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

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

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

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

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

Hydric Soils

This section lists the map units that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 2006) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
   B. are poorly drained or very poorly drained and have either:
      1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
      2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
      3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.

3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

The following map units meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

ChA Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded (Wehadkee part)
MrA Merry Oaks-Moncure complex, 0 to 2 percent slopes, occasionally flooded (Moncure part)

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units, in general, do not meet the definitions of hydric soils because they do not have any of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

CaB Callison-Lignum complex, 2 to 6 percent slopes
CmB Cid-Lignum complex, 2 to 6 percent slopes

Engineering

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

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

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

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

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

This information can be used to evaluate the potential of areas for residential, commercial, 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, reclamation material, roadfill, and topsoil; plan structures for water management; 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

The titles of the tables described in this section are:

- "Dwellings and Small Commercial Buildings"
- "Roads and Streets, Shallow Excavations, and Lawns and Landscaping"

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. The tables described in this section show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock, hardness of bedrock, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock, hardness of bedrock, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock, hardness of bedrock, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock, hardness of bedrock, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction, depth to a water table, ponding, depth to bedrock, and the available water capacity in the upper 40 inches. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

The titles of the tables described in this section are:

- "Sewage Disposal"
- "Landfills"

These tables show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock, and flooding affect absorption of the effluent. Stones and boulders and bedrock interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope and bedrock can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock, depth to a water table, ponding, slope, flooding, texture, and stones and boulders. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock, and reaction.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not be too acid.

Construction Materials

The titles of the tables described in this section are:

- "Source of Gravel and Sand"
- "Source of Reclamation Material, Roadfill, and Topsoil"

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

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

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In the table “Source of Reclamation Material, Roadfill, and Topsoil,” the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include reaction, available water capacity, erodibility, texture, content of rock fragments, and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

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

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

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

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

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

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

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

Soil Properties

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

Soil properties are determined 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 Soil Properties

The table described in this section gives the engineering classifications and the range of engineering 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, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

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

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

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

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.

Physical Soil Properties

The table described in this section shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

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

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (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 linear extensibility, 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 (K_{sat}) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity. The estimates in the table indicate the rate of water movement, in micrometers per second, 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 the table, 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 the table 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.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture also influence wind erosion.

Chemical Soil Properties

The table described in this section shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

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

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

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

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

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

Soil Features

The table described in this section 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. An examples is bedrock. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

The table described in this section gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

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 gleyed colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

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

Flooding is the temporary inundation of an area caused by overflowing streams or by runoff from adjacent slopes. 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.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2006). 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. 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 Ultisol.

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 Udult (*Ud*, meaning humid, plus *ult*, from Ultisol).

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 Hapludults (*Hapl*, meaning minimal horizonation, plus *udult*, the suborder of the Ultisols 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 Hapludults.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, semiactive, thermic Typic Hapludults.

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.

The table "Taxonomic Classification of the Soils" indicates the order, suborder, great group, subgroup, and family of the soil series in the survey area.

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) and in the “Field Book for Describing and Sampling Soils” (Schoeneberger and others, 2002). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2006). 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.

Badin Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock
Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Ridges and side slopes
Slope: 2 to 35 percent
Commonly associated soils: Goldston, Nanford, Tarrus, Lignum, Cid, and Georgeville soils
Taxonomic class: Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Badin silt loam in an area of Nanford-Badin complex, 6 to 10 percent slopes; in Chatham County, about 400 feet south on Secondary Road 1545 beginning at “Chicken Bridge” over the Haw River, about 100 feet west of Secondary Road 1545, in woods; Bynum USGS topographic quadrangle; lat. 35 degrees 49 minutes 54 seconds N. and long. 79 degrees 13 minutes 11 seconds W.

Ap—0 to 6 inches; brown (7.5YR 5/4) silt loam; moderate medium granular structure; friable; many fine roots; strongly acid; clear smooth boundary.
Bt1—6 to 16 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm; slightly sticky and slightly plastic; few fine roots; common distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.
Bt2—16 to 24 inches; strong brown (7.5YR 5/8) silty clay loam; moderate medium subangular blocky structure; firm; slightly sticky and slightly plastic; few fine roots; common faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
BCt—24 to 32 inches; strong brown (7.5YR 5/6) clay loam; common medium faint reddish yellow (7.5YR 7/6) mottles; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
Cr—32 to 60 inches; weathered, moderately fractured fine-grained metavolcanic rock.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock
Content and size of rock fragments: 5 to 35 percent, by volume, in the A and Bt horizons and 20 to 60 percent, by volume, in the BC horizon; channers
Reaction: Strongly acid to extremely acid, except where lime has been applied

A or Ap horizon:
Color—hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 2 to 8
Texture (fine-earth fraction)—silt loam; eroded areas are silty clay loam

E horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 2 to 4
Texture (fine-earth fraction)—silt loam, loam, or very fine sandy loam

BE horizon (where present):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—silt loam, loam, or silty clay loam

Bt horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—silty clay loam, silty clay, clay loam, or clay

BC or BCt horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—silty clay loam, clay loam, or silt loam
Mottles—shades of red, yellow, and brown

C horizon (where present):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—silt loam or silty clay loam saprolite

Cr layer:
Type of bedrock—weathered, slightly fractured to highly fractured fine-grained metavolcanic rock

Brickhaven Series

Depth class: Deep
Drainage class: Moderately well drained
Permeability: Slow
Parent material: Residuum weathered from Triassic siltstone, mudstone, shale, or conglomerate
Landscape: Uplands in the Triassic Basin
Landform: Interstream divides, heads of drainageways, ridges, and side slopes
Slope: 2 to 30 percent
Commonly associated soils: Carbonton, Mayodan, Green Level, Creedmoor, White Store, and Polkton
Taxonomic class: Fine, mixed, semiactive, thermic Oxyaquic Hapludalfs

Typical Pedon

Brickhaven silt loam in an area of Carbonton-Brickhaven complex, 2 to 6 percent slopes; in Chatham County, about 2.8 miles east and southeast of Goldston on Secondary Road 2135, about 120 feet east of Secondary Road 2135, in woods; Goldston USGS topographic quadrangle; lat. 35 degrees 34 minutes 30 seconds N. and long. 79 degrees 17 minutes 14 seconds W.

A—0 to 4 inches; brown (10YR 5/3) silt loam; weak fine granular structure; friable; many very fine and fine and common medium roots; 3 percent, by volume, fine and medium siltstone pebbles; extremely acid; abrupt smooth boundary.
E—4 to 7 inches; light yellowish brown (10YR 6/4) silt loam; weak fine granular structure; friable; slightly sticky and moderately plastic; common fine and medium roots; extremely acid; clear smooth boundary.
Bt1—7 to 12 inches; yellowish red (5YR 5/6) silty clay loam; weak fine subangular blocky structure; friable; slightly sticky and slightly plastic; common fine roots; common prominent clay films on faces of peds; extremely acid; clear smooth boundary.

Bt2—12 to 37 inches; reddish brown (5YR 4/4) silty clay; moderate fine subangular blocky structure; firm, slightly sticky and slightly plastic; common fine roots; common prominent clay films on faces of peds; very strongly acid; gradual wavy boundary.
BCt—37 to 51 inches; reddish brown (2.5YR 4/4) silty clay loam; weak medium subangular blocky structure; friable; slightly sticky and slightly plastic; few fine roots; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
Cr—51 to 62 inches; weathered, moderately fractured Triassic siltstone.

Range in Characteristics

Solum thickness: 25 to 55 inches
Depth to bedrock: 40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock
Content and size of rock fragments: 0 to 15 percent, by volume, in A or Ap, E, Bt, and BCt horizons and less than 35 percent in the C horizon; pebbles
Reaction: Extremely acid to strongly acid, except where lime has been applied; exchangeable aluminum is high (greater than 10 meq/100 g)

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 6
Texture—silt loam

E horizon:
Color—hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 3 to 6
Texture—silt loam, loam, fine sandy loam, or very fine sandy loam

Bt horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 7, and chroma of 4 to 8
Texture—silty clay loam, silty clay, clay, or clay loam; the upper Bt horizon may be loam or silt loam
Redoximorphic features (where present)—iron depletions in shades of gray, yellow, and brown and masses of oxidized iron in shades of red, yellow, and brown

BCt horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 4 or 6
Texture—silty clay loam, clay loam, loam, or silt loam
Redoximorphic features (where present)—iron depletions in shades of gray, yellow, and brown and masses of oxidized iron in shades of red, yellow, and brown

C horizon (where present):
Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—silt loam, loam, silty clay loam, or clay loam saprolite
Mottles (where present)—shades of yellow and brown

Cr layer:
Type of bedrock—weathered, slightly fractured to highly fractured Triassic siltstone, mudstone, shale, or conglomerate

Callison Series

Depth class: Moderately deep
Drainage class: Somewhat poorly drained or moderately well drained
Permeability: Moderately slow
Parent material: Residuum weathered from fine-grained metavolcanic rock

Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Broad interstream divides, ridges, drainageways and heads of drainageways
Slope: 2 to 10 percent
Commonly associated soils: Cid, Lignum, Misenheimer, Nanford, and Badin
Taxonomic class: Fine-silty, siliceous, semiactive, thermic Aquic Hapludults

Typical Pedon

Callison silt loam in an area of Callison-Lignum complex, 2 to 6 percent slopes; in Chatham County, from Harpers Crossroads, about 1.8 miles north on Secondary Road 1006 to old railroad grade, about 1000 feet east on private gravel road, in woods; Bear Creek USGS topographic quadrangle; lat. 35 degrees 35 minutes 39 seconds N. and long. 79 degrees 28 minutes 06 seconds W.

A—0 to 3 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine and medium roots; very strongly acid; abrupt smooth boundary.
E—3 to 7 inches; light olive brown (2.5Y 5/4) silt loam; weak fine granular structure; friable; common fine and medium roots; very strongly acid; abrupt smooth boundary.
BE—7 to 15 inches; olive yellow (2.5Y 6/6) silt loam; weak fine subangular blocky structure; friable; common fine roots; very strongly acid; clear smooth boundary.
Bt1—15 to 21 inches; light olive brown (2.5Y 5/6) silty clay loam; weak medium subangular blocky structure; firm; slightly sticky and slightly plastic; few fine roots; many medium distinct pale yellow (2.5Y 7/3) iron depletions; very strongly acid; gradual wavy boundary.
Bt2—21 to 30 inches; light olive brown (2.5Y 5/6) silty clay loam; weak medium subangular blocky structure; firm; slightly sticky and slightly plastic; many medium distinct light gray (2.5Y 7/1) iron depletions and common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; gradual wavy boundary.
C—30 to 32 inches; light olive brown (2.5Y 5/6) silt loam saprolite; many medium distinct white (2.5Y 8/1) and light yellowish brown (2.5Y 6/3) mottles; massive; friable; very strongly acid; clear smooth boundary.
Cr—32 to 42 inches; weathered, moderately fractured argillite.
R—42 inches; unweathered, slightly fractured argillite.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 20 to 40 inches to soft bedrock and 40 to 60 inches to hard bedrock
Reaction: Extremely acid to moderately acid, except where lime has been applied
Content and size of rock fragments: 0 to 10 percent, by volume, in the A and B horizons; mostly gravel

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 2 to 4
Texture—silt loam

E horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 4 to 8
Texture—silt loam or loam
Mottles (where present)—in shades of gray, white, brown, yellow, and red

BE horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 2 to 8
Texture—silt loam or loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—silt loam, silty clay loam, silty clay, or clay
Redoximorphic features—iron depletions in shades of gray, white, and yellow and masses of oxidized iron in shades of brown, yellow, and red

Btg horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2
Texture—silty clay or clay
Redoximorphic features—masses of oxidized iron in shades of brown, yellow, and red

BC horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—silt loam, loam, or silty clay loam
Redoximorphic features—iron depletions in shades of gray and white and masses of oxidized iron in shades of brown, yellow, and red

BCg horizon (where present):
Color—neutral in hue or hue of 10YR or 2.5Y; value of 5 to 8, and chroma of 0 to 2
Texture—silt loam or loam
Redoximorphic features—masses of oxidized iron in shades of brown, yellow, and red

C horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 2 to 8
Texture—silt loam or loam saprolite
Mottles—in shades of gray, white, brown, yellow, and red

Cg horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2
Texture—silt loam or loam saprolite
Redoximorphic features—masses of oxidized iron in shades of brown, yellow, and red

Cr layer:
Type of bedrock—weathered, moderately fractured to highly fractured fine-grained metavolcanic rock

R layer:
Type of bedrock—unweathered, very slightly fractured to slightly fractured fine-grained metavolcanic rock

Carbonton Series

Depth class: Moderately deep
Drainage class: Somewhat poorly drained
Permeability: Slow
Parent material: Residuum weathered from Triassic siltstone, mudstone, shale, or conglomerate
Landscape: Uplands in the Triassic Basin
Landform: Interstream divides, heads of drainageways, ridges, and side slopes
Slope: 2 to 15 percent
Commonly associated soils: Brickhaven, Mayodan, Creedmoor, Green Level, White Store, and Polkton
Taxonomic class: Fine, mixed, semiactive, thermic Oxyaquic Hapludalfs (fig. 16)

Typical Pedon

Carbonton silt loam in an area of Carbonton-Brickhaven complex, 2 to 6 percent slopes; in Chatham County, about 2.8 miles east and southeast of Goldston on Secondary Road 2135, about 50 feet east of Secondary Road 2135, in woods; Goldston USGS topographic quadrangle; lat. 35 degrees 34 minutes 30 seconds N. and long. 79 degrees 17 minutes 16 seconds W.

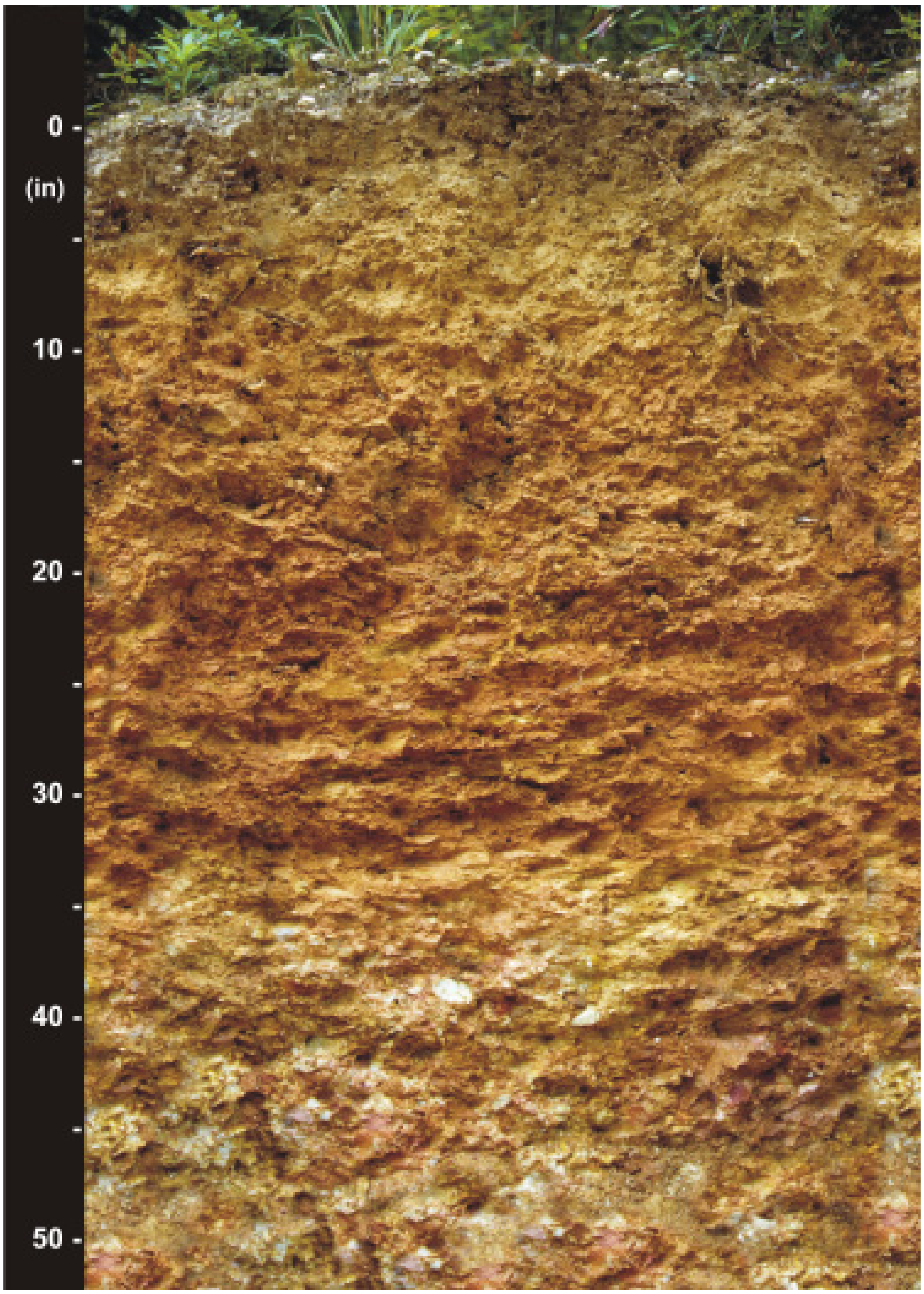

Figure 16.—Profile of a soil in the Carbonton series.

A—0 to 8 inches; brown (7.5YR 5/4) silt loam; moderate medium granular structure; friable; many very fine and fine roots; 5 percent, by volume, fine and medium siltstone pebbles; very strongly acid; abrupt smooth boundary.

BE—8 to 12 inches; strong brown (7.5YR 5/6) silt loam; moderate medium granular structure; friable; slightly sticky and non-plastic; common fine roots; extremely acid; clear smooth boundary.

Bt—12 to 28 inches; reddish brown (5YR 4/4) silty clay; moderate medium subangular blocky structure; firm; moderately sticky and slightly plastic; common fine roots; common prominent clay films on faces of peds; extremely acid; gradual smooth boundary.

BCt—28 to 34 inches; reddish brown (2.5YR 4/4) silty clay loam; weak medium subangular blocky structure; friable; slightly sticky and slightly plastic; few fine roots; 10 percent, by volume, medium and coarse siltstone pebbles; few faint clay films on faces of peds; extremely acid; clear wavy boundary.

Cr—34 to 62 inches; weathered, moderately fractured Triassic siltstone.

Range in Characteristics

Solum thickness: 20 to 40 inches

Depth to bedrock: 20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock

Content and size of rock fragments: 0 to 15 percent, by volume, in the A, E, Bt, and BC horizons and less than 35 percent, by volume, in the C horizon; mostly pebbles

Reaction: Extremely acid to strongly acid, except where lime has been applied; exchangeable aluminum is high (greater than 10 meq/100g)

A or Ap horizon:

Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 6

Texture—silt loam

E horizon (where present):

Color—hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 3 to 6

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

BE horizon:

Color—hue of 7.5YR or 10YR, value of 4 to 7, and chroma of 3 to 8

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

Bt horizon:

Color—hue of 2.5YR to 10YR, value of 4 to 7, and chroma of 4 to 8, some subhorizons may have a value of 3

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

Redoximorphic features (where present)—iron depletions in shades of gray, yellow, and brown and masses of oxidized iron in shades of red, yellow, and brown

BCt horizon:

Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 3 to 8

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

Redoximorphic features (where present)—iron depletions in shades of gray, yellow, and brown and masses of oxidized iron in shades of red, yellow, and brown

C horizon (where present):

Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 3 to 8

Texture (fine-earth fraction)—silt loam, loam, silty clay loam, or clay loam saprolite

Mottles (where present)—shades of yellow and brown

Cr layer:
Type of bedrock—weathered, highly fractured Triassic siltstone, mudstone, shale, or conglomerate

R layer (where present):
Type of bedrock—unweathered, slightly fractured Triassic siltstone, mudstone, shale, or conglomerate

Cecil Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum weathered from felsic high-grade metamorphic or igneous rock
Landscape: Piedmont uplands
Landform: Interstream divides, ridges, and side slopes
Slope: 2 to 15 percent
Commonly associated soils: Pacolet, Wedowee, and Louisa
Taxonomic class: Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Cecil gravelly sandy loam, 10 to 15 percent slopes; in Chatham county, from Pittsboro, south on U.S. Highway 15-501, south on Secondary Road 1012, north on U.S. Highway 1, south on Secondary Road 1973, east on Secondary Road 1011, south on Secondary Road 1916, east on NC 42 into Harnett County, north on Secondary Road 1401 (Rollins Mill Road), about 1.1 miles west on Secondary Road 1402 (Auger Hole Road), about 0.2 mile north on woods road, about 250 feet northeast, in woods; Cokesbury USGS topographic quadrangle; lat. 35 degrees 34 minutes 41 seconds N. and long. 78 degrees 55 minutes 56 seconds W.

A—0 to 7 inches; dark yellowish brown (10YR 4/4) gravelly sandy loam; weak fine granular structure; friable; many fine and medium roots; 32 percent, by volume, quartz pebbles; very strongly acid; abrupt smooth boundary.
E—7 to 14 inches; yellowish brown (10YR 5/6) gravelly sandy loam; weak fine granular structure; friable; many fine and medium roots; 25 percent, by volume, quartz pebbles; strongly acid; clear smooth boundary
Bt—14 to 35 inches; red (2.5YR 5/8) clay; weak medium subangular blocky structure; firm; slightly sticky and slightly plastic; common fine and medium roots; common faint clay films on faces of peds; strongly acid; gradual smooth boundary.
BC—35 to 44 inches; red (2.5YR 5/8) clay loam; common medium prominent reddish yellow (7.5YR 7/6) mottles; weak medium subangular blocky structure; firm; slightly sticky and slightly plastic; strongly acid; gradual smooth boundary.
C—44 to 60 inches; mottled red (2.5YR 5/8), reddish yellow (7.5YR 7/6), and pinkish white (7.5YR 8/2) loam saprolite; massive; strongly acid.

Range in Characteristics

Solum thickness: More than 40 inches
Depth to bedrock: More than 60 inches
Content and size of rock fragments: 15 to 35 percent, by volume, in the A and E horizons and 0 to 10 percent, by volume, in the B and C horizons; mostly pebbles
Reaction: Very strongly acid to moderately acid in the A and E horizons, except where lime has been applied, and very strongly acid or strongly acid in the B and C horizons

A or Ap horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 5, and chroma of 2 to 8; A horizons that have value of 3 are less than 6 inches thick
Texture (fine-earth fraction)—sandy loam

E horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BA or BE horizon (where present):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture—clay loam, sandy clay loam, or loam

Bt horizon:
Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 or 8
Texture—clay, clay loam, or sandy clay

BC horizon:
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8
Texture—clay loam, sandy clay loam, or loam
Mottles—shades of yellow and brown

C horizon:
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8; or multicolored in shades of red, yellow, and brown
Texture—loamy saprolite

Chewacla Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Parent material: Alluvium
Landscape: Piedmont river and stream valleys
Landform: Flood plains
Slope: 0 to 2 percent
Commonly associated soils: Wehadkee, Riverview, Moncure, and Merry Oaks
Taxonomic class: Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts

Typical Pedon

Chewacla silt loam in an area of Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded; in Chatham County, from Pittsboro, east on U.S. Highway 64, about 8.1 miles north on Secondary Road 1008, north on Secondary Road 1726 into Durham County, south on Secondary Road 1728 into Chatham County, on western edge of borrow area; Farrington USGS topographic quadrangle; lat. 35 degrees 51 minutes 45 seconds N. and long. 79 degrees 00 minutes 24 seconds W.

A1—0 to 7 inches; yellowish brown (10YR 5/4) silt loam; moderate medium granular structure; very friable; many fine roots; few fine flakes of mica; strongly acid; clear smooth boundary.
A2—7 to 12 inches; yellowish brown (10YR 5/4) silt loam; moderate medium granular structure; common fine roots; few fine flakes of mica; strongly acid; clear smooth boundary.
Bw—12 to 18 inches; brownish yellow (10YR 6/6) loam; weak medium subangular blocky structure; friable; common coarse distinct pale brown (10YR 6/3) iron depletions; many fine flakes of mica; strongly acid; gradual smooth boundary.

Bg1—18 to 30 inches; light brownish gray (10YR 6/2) loam; moderate medium subangular blocky structure; friable; many coarse distinct brownish yellow (10YR 6/6) and few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; many fine flakes of mica; strongly acid; gradual smooth boundary.

Bg2—30 to 40 inches; light gray (10YR 7/2) loam; moderate medium subangular blocky structure; friable; common coarse distinct dark yellowish brown (10YR 4/4) masses of oxidized iron; many fine flakes of mica; strongly acid; gradual smooth boundary.

BCg—40 to 47 inches; light gray (10YR 7/2) loam; weak medium subangular blocky structure; friable; common medium distinct yellowish brown (10YR 5/6) and common fine prominent brown (7.5YR 4/4) masses of oxidized iron; many fine flakes of mica; moderately acid; gradual smooth boundary.

Cg—47 to 60 inches; light gray (10YR 7/2) sandy loam; massive; very friable; many coarse distinct yellowish brown (10YR 5/6) and common medium prominent dark brown (10YR 3/3) masses of oxidized iron; many fine flakes of mica; moderately acid.

Range in Characteristics

Solum thickness: 15 to 70 inches

Depth to bedrock: More than 60 inches

Content and size of rock fragments: 0 to 5 percent, by volume, in the A and upper B horizons and 0 to 15 percent, by volume, in the lower B and C horizons; mostly pebbles

Reaction: Very strongly acid to slightly acid to a depth of 40 inches, except where lime has been applied, and very strongly acid to mildly alkaline below 40 inches

A or Ap horizon:

Color—hue of 5YR to 2.5Y, value of 3 to 5, and chroma of 1 to 6

Texture—silt loam

Ab horizon (where present):

Color—hue of 10YR or 2.5Y, value of 2 to 5, and chroma of 1 or 2

Texture—fine sandy loam, sandy loam, silt loam, loam, clay loam, sandy clay loam, loamy fine sand, or loamy sand

AB or BA horizon (where present):

Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8

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

Bw horizon:

Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8

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

Redoximorphic features—iron depletions in shades of brown, yellow, olive, and gray and masses of oxidized iron in shades of red, brown, and yellow

Bg horizon:

Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 0 to 2; or neutral in hue and value of 4 to 8

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

Redoximorphic features—masses of oxidized iron in shades of red, brown, and yellow

BC horizon (where present):

Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8

Texture—loam, sandy clay loam, sandy loam, fine sandy loam, clay loam, silt loam, or silty clay loam
Redoximorphic features—iron depletions in shades of gray, brown, and yellow and masses of oxidized iron in shades of red, brown, and yellow

BCg horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 7, and chroma of 0 to 2
Texture—loam, sandy clay loam, sandy loam, fine sandy loam, clay loam, silt loam, or silty clay loam
Redoximorphic features—masses of oxidized iron in shades of red, brown, and yellow

C horizon (where present):
Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—loamy to a depth of 40 inches; variable below 40 inches, ranging from gravelly sand to clay
Redoximorphic features—iron depletions in shades of gray, brown, and yellow and masses of oxidized iron in shades of red, brown, and yellow

Cg horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 7, and chroma of 1 or 2
Texture—loamy to a depth of 40 inches; variable below 40 inches, ranging from gravelly sand to clay
Redoximorphic features—masses of oxidized iron in shades of red, brown, and yellow

Cid Series

Depth class: Moderately deep
Drainage class: Somewhat poorly drained or moderately well drained
Permeability: Slow
Parent material: Residuum weathered from argillite and other fine-grained metavolcanic rock of the Carolina Slate Belt
Landscape: Piedmont uplands
Landform: Interstream divides, broad ridges, drainageways, and heads of drainageways
Slope: 2 to 10 percent
Commonly associated soils: Callison, Lignum, Misenheimer, Pittsboro, Nanford, and Badin
Taxonomic class: Fine, mixed, semiactive, thermic Aquic Hapludults (fig. 17)

Typical Pedon

Cid silt loam, in an area of Cid-Lignum complex, 2 to 6 percent slopes; in Chatham County, from Pittsboro, about 3.4 miles north on North Carolina Highway 87, about 1 mile west on Secondary Road 1346, about 600 feet south on farm road, about 50 feet west, in woods; Silk Hope USGS topographic quadrangle; lat. 35 degrees 45 minutes 47 seconds N. and long. 79 degrees 15 minutes 04 seconds W.

A—0 to 2 inches; brown (10YR 4/3) silt loam; moderate fine granular structure; very friable; many fine and medium roots; 3 percent, by volume, gravel; very strongly acid; abrupt smooth boundary.
E—2 to 5 inches; very pale brown (10YR 7/4) silt loam; moderate fine granular structure; very friable; many fine and medium roots; 3 percent, by volume, gravel; very strongly acid; clear smooth boundary.
Bt1—5 to 14 inches; yellow (10YR 7/8) silty clay loam; weak medium subangular blocky structure; friable; slightly sticky and non-plastic; few fine roots; common fine

distinct strong brown (7.5YR 5/8) masses of oxidized iron; few faint clay films on faces of peds; 2 percent, by volume, gravel; very strongly acid; gradual wavy boundary.

Bt2—14 to 24 inches; yellow (10YR 7/8) silty clay; moderate medium subangular blocky structure; firm; moderately sticky and slightly plastic; few fine roots; common coarse prominent light gray (10YR 7/1) iron depletions and common coarse distinct strong brown (7.5YR 5/8) masses of oxidized iron; common distinct

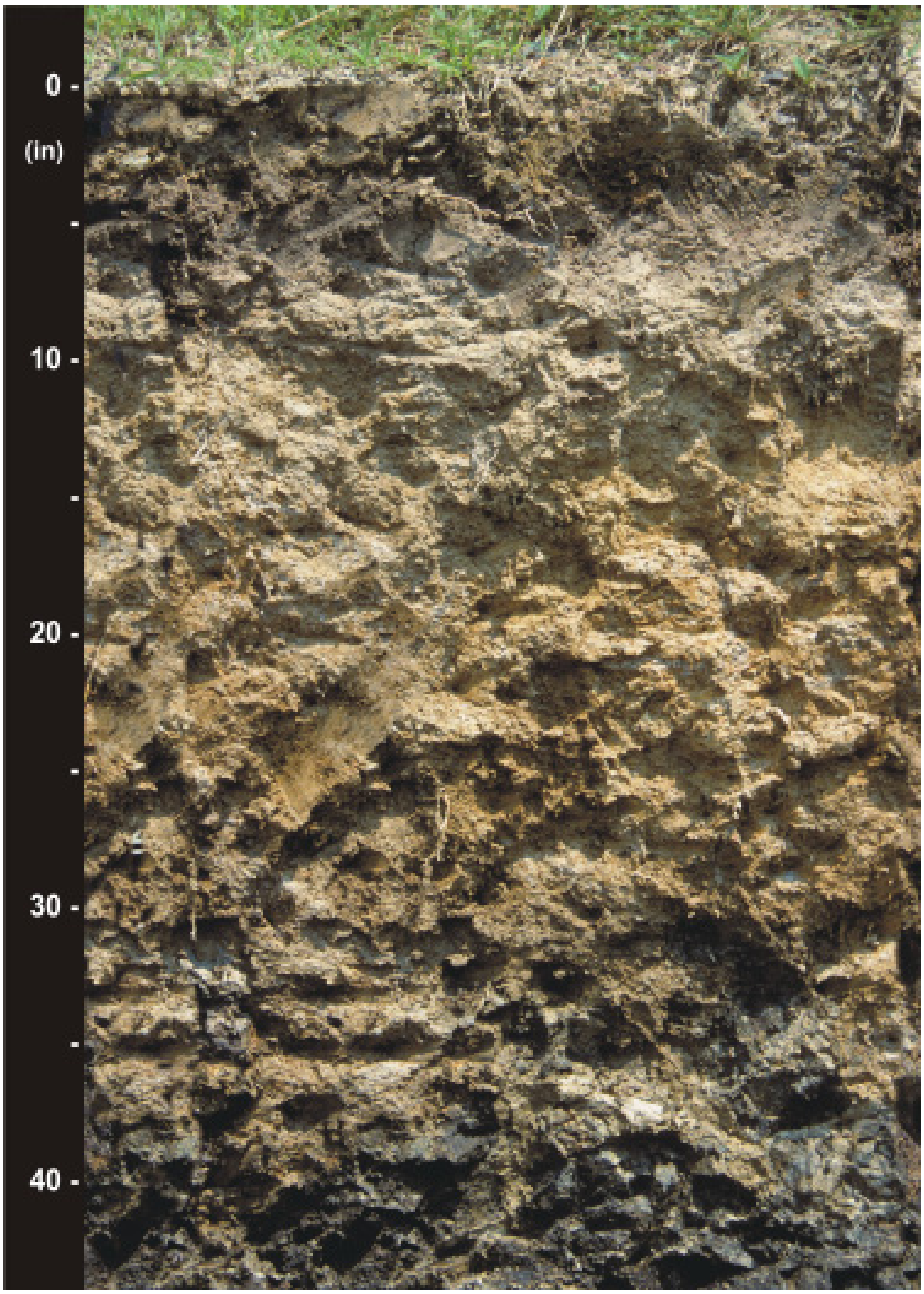

Figure 17.—Profile of a soil in the Cid series.

clay films on faces of peds; 2 percent, by volume, gravel; very strongly acid; gradual wavy boundary.

BCg—24 to 28 inches; gray (10YR 6/1) silty clay loam that has pockets of silty clay; weak medium subangular blocky structure; slightly sticky and slightly plastic; many medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; 5 percent, by volume, gravel; very strongly acid; abrupt wavy boundary.

Cr—28 to 35 inches; weathered, highly fractured argillite.

R—35 inches; unweathered, slightly fractured argillite.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 20 to 40 inches to hard bedrock
Reaction: Extremely acid to strongly acid, except where lime has been applied
Content and size of rock fragments: 0 to 35 percent, by volume, in the A and E horizons; 0 to 15 percent, by volume, in the BA, BE, and Bt horizons; and 5 to 35 percent, by volume, in BC and BCg horizons; mostly channers

A or Ap horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 to 4
Texture (fine earth fraction)—silt loam

E horizon:
Color—hue of 10YR to 5Y, value of 6 or 7, and chroma of 2 to 4
Texture (fine earth fraction)—silt loam, loam, or very fine sandy loam

BA or BE horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—silt loam, loam, or silty clay loam

Bt horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 8; or mottled in shades of these colors
Texture (fine earth fraction)—clay loam, silty clay loam, silty clay, or clay
Redoximorphic features—iron depletions that have chroma of two or less within 24 inches of the upper boundary of this horizon and masses of oxidized iron in shades of brown, yellow, and red

BC horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—silty clay, silty clay loam, or clay
Redoximorphic features (where present)—iron depletions in shades of gray, brown, and yellow and masses of oxidized iron in shades of brown, yellow, and red

BCg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture (fine-earth fraction)—silty clay, silty clay loam, or clay
Redoximorphic features—masses of oxidized iron in shades of brown, yellow, and red

C horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—silt loam, silty clay loam, or loam saprolite
Redoximorphic features (where present)—iron depletions in shades of gray, brown, and yellow and masses of oxidized iron in shades of brown, yellow, and red

Cr layer:
Type of bedrock—weathered, slightly fractured to highly fractured fine-grained metavolcanic rock

R layer:
Type of bedrock—unweathered, slightly fractured fine grained metavolcanic rock

Creedmoor Series

Depth class: Very deep
Drainage class: Somewhat poorly drained or moderately well drained
Permeability: Very slow
Parent material: Residuum weathered from Triassic sandstone, mudstone, siltstone, shale, or conglomerate
Landscape: Piedmont uplands in the Triassic Basin
Landform: Interstream divides, ridges and side slopes
Slope: 2 to 15 percent
Commonly associated soils: White Store, Green Level, Mayodan, Polkton, Carbonton, and Brickhaven
Taxonomic class: Fine, mixed, semiactive, thermic Aquic Hapludults (fig. 18)

Typical Pedon

Creedmoor sandy loam in an area of Creedmoor-Green Level complex, 2 to 6 percent slopes; in Chatham County, about 1.6 miles east of Wilsonville on U.S. Highway 64, about 0.6 mile northeast on a farm road, about 20 feet north, in woods by old homestead; New Hill USGS topographic quadrangle; lat. 35 degrees 44 minutes 27 seconds N. and long. 78 degrees 58 minutes 19 seconds W.

A—0 to 5 inches; brown (10YR 5/3) sandy loam; weak medium granular structure; very friable; common fine roots; moderately acid; abrupt smooth boundary.
E—5 to 10 inches; very pale brown (10YR 7/4) sandy loam; weak medium granular structure; very friable; common fine roots; moderately acid; clear smooth boundary.
Bt1—10 to 15 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky and slightly plastic; few fine roots; few faint clay films on faces of peds; few fine flakes of mica; very strongly acid; gradual wavy boundary.
Bt2—15 to 25 inches; yellowish brown (10YR 5/8) clay; strong medium subangular blocky structure; firm; moderately sticky and moderately plastic; few fine prominent red (2.5YR 5/8) and common medium distinct strong brown (7.5YR 5/8) masses of oxidized iron; common distinct clay films on faces of peds; common flakes of mica; very strongly acid; gradual wavy boundary.
Bt3—25 to 45 inches; yellowish brown (10YR 5/8) clay; moderate medium subangular blocky structure; very firm; moderately sticky and moderately plastic; common coarse prominent light brownish gray (10YR 6/2) and pale brown (10YR 6/3) iron depletions and common coarse distinct strong brown (7.5YR 5/8) masses of oxidized iron; common distinct clay films on faces of peds; common flakes of mica; very strongly acid; diffuse wavy boundary.
C—45 to 62 inches; multicolored in shades of yellow, brown, red, gray and white sandy clay loam saprolite; massive; friable; pockets of clayey material; common flakes of mica; very strongly acid.

Range in Characteristics

Solum thickness: 25 to 60 inches
Depth to bedrock: More than 60 inches

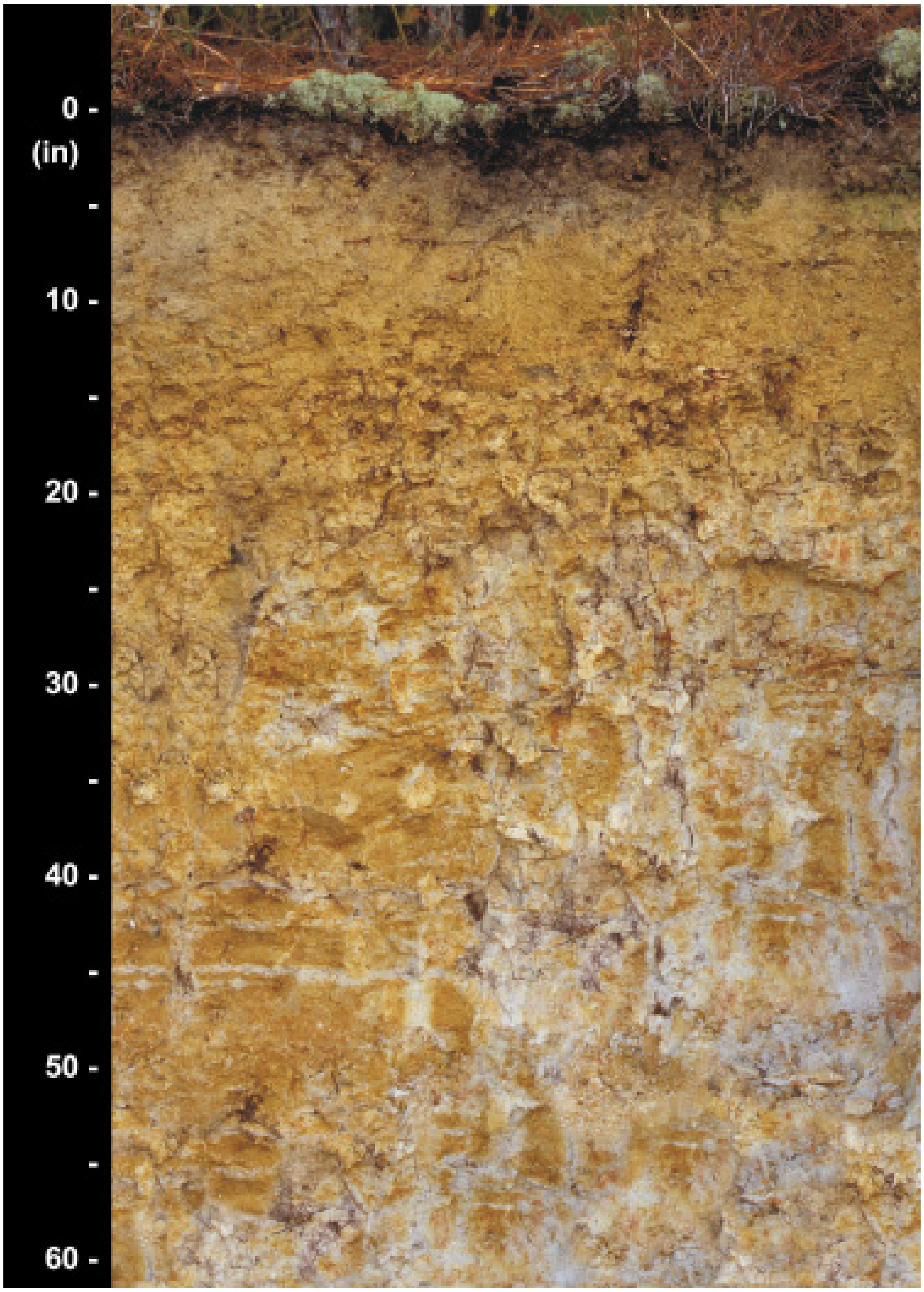

Figure 18.—Profile of a soil in the Creedmoor series.

Content and size of rock fragments: 0 to 5 percent, by volume, in the A and B horizons; mostly gravel

Reaction: Strongly acid to extremely acid, except where lime has been applied

A or Ap horizon:

Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 1 to 6

Texture—sandy loam

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 2 to 4
Texture—sandy loam, loamy sand, coarse sandy loam, fine sandy loam, loam, or silt loam

BE horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 4 or 6
Texture—sandy loam, sandy clay loam, loam, silt loam, or silty clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—clay, clay loam, sandy clay, silty clay, sandy clay loam, or silty clay loam
Redoximorphic features—iron depletions in shades of gray and brown and masses of oxidized iron in shades of red, yellow, and brown

Btg horizon (where present):
Color—neutral in hue or hue of 7.5YR to 2.5Y; value of 5 to 7, and chroma of 0 to 2
Texture—clay, clay loam, sandy clay, silty clay, sandy clay loam, or silty clay loam
Redoximorphic features—masses of oxidized iron in shades of red, yellow, and brown

BC horizon (where present):
Color—hue of 2.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8; or multicolored in shades of red, yellow, brown, and gray
Texture—silty clay loam, sandy clay loam, sandy clay, clay loam, or silty clay
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red, yellow, and brown

BCg horizon (where present):
Color—neutral in hue or hue of 2.5YR to 2.5Y; value of 4 to 8, and chroma of 0 to 2; or mottled in shades of red, yellow, brown, and gray
Texture—silty clay loam, sandy clay loam, sandy clay, clay loam, or silty clay
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red, yellow, and brown

C horizon:
Color—hue of 10R to 2.5Y, value of 3 to 8, and chroma of 3 to 8; or multicolored in shades of red, yellow, brown, gray, and white
Texture—silt loam, loam, sandy loam, fine sandy loam, silty clay loam, sandy clay loam, sandy clay, clay loam, or silty clay saprolite

Cg horizon (where present):
Color—neutral in hue or hue of 10R to 2.5Y; value of 3 to 8, and chroma of 0 to 2; or multicolored in shades of red, yellow, brown, white, and gray
Texture—silt loam, loam, sandy loam, fine sandy loam, silty clay loam, sandy clay loam, sandy clay, clay loam, or silty clay saprolite

Enon Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Landscape: Piedmont uplands
Landform: Ridges and side slopes
Parent material: Residuum weathered from mafic or intermediate igneous and high-grade metamorphic rock

Slope: 2 to 15 percent
Commonly associated soils: Georgeville, Nanford, Badin, Tarrus, Callison, Lignum, and Wynott
Taxonomic class: Fine, mixed, active, thermic Ultic Hapludalfs

Typical Pedon

Enon sandy clay loam in an area of Wynott-Enon complex, 2 to 8 percent slopes, moderately eroded; in Randolph County, about 0.6 mile south of intersection of Secondary Road 1006 and Secondary Road 2502, about 300 feet east of intersection of Secondary Road 2502 and farm road, about 100 feet south of farm road, in field; Climax USGS topographic quadrangle; lat. 35 degrees 53 minutes 18 seconds N. and long. 79 degrees 38 minutes 55 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) sandy clay loam; weak medium granular structure; friable; common fine and medium roots; few fine black concretions and rock fragments; strongly acid; clear smooth boundary.
Bt—8 to 17 inches; strong brown (7.5YR 5/8) clay; strong medium subangular blocky structure; very firm; very sticky and very plastic; few fine roots between peds; many distinct clay films on faces of peds; common fine and medium black concretions; moderately acid; gradual wavy boundary.
BC—17 to 35 inches; strong brown (7.5YR 5/8) clay loam; weak medium subangular blocky structure; friable; slightly sticky and slightly plastic; many medium black concretions; slightly acid; gradual wavy boundary.
C1—35 to 46 inches; strong brown (7.5YR 5/8) sandy loam saprolite; massive; many medium black concretions; neutral; gradual wavy boundary.
C2—46 to 62 inches; mottled strong brown (7.5YR 5/8), brownish yellow (10YR 6/8), black (10YR 2/1), and dark greenish gray (5GY 4/1) sandy loam saprolite; massive; friable; neutral.

Range in Characteristics

Solum thickness: 20 to 50 inches
Depth to bedrock: More than 60 inches
Reaction: Strongly acid to slightly acid in the upper horizons, except where lime has been applied, and strongly acid to mildly alkaline in the lower horizons
Content and size of rock fragments: 0 to 15 percent throughout; mostly gravel

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 2 to 4
Texture—sandy clay loam; uneroded areas are loam

E horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 4
Texture—sandy loam, fine sandy loam, or loam

BA or BE horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture—loam, clay loam, or sandy clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—clay or clay loam
Mottles—shades of yellow, red, brown, and black

BC or CB horizon:
Color—hue of 7.5YR to 5Y, value of 4 to 6, and chroma of 3 to 8; or mottled in shades of brown and yellow

Texture—sandy clay loam, clay loam, or loam
Mottles (where present)—shades of brown and yellow

C horizon:
Color—mottled or multicolored in shades of brown, yellow, gray, and black
Texture—variable but is typically loamy saprolite

Georgeville Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Ridges and side slopes
Parent material: Residuum weathered from fine-grained metavolcanic rock
Slope: 2 to 30 percent
Commonly associated soils: Badin, Nanford, Tarrus, Cid, Callison, Lignum, and Herndon soils
Taxonomic class: Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Georgeville silty clay loam, 2 to 6 percent slopes, moderately eroded; in Chatham County, about 2.0 miles southwest of Silk Hope on Secondary Road 1003, about 400 feet north, in field, next to log cabin; Crutchfield Crossroads USGS topographic quadrangle; lat. 35 degrees 45 minutes 47 seconds N. and long. 79 degrees 23 minutes 58 seconds W.

Ap—0 to 7 inches; red (2.5YR 4/6) silty clay loam; weak fine subangular blocky structure; friable; slightly sticky and non-plastic; few fine roots; 5 percent, by volume, quartz gravel; slightly acid; clear smooth boundary.
Bt1—7 to 44 inches; red (2.5YR 4/8) clay; moderate medium subangular blocky structure; firm; slightly sticky and slightly plastic; few fine roots; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt2—44 to 52 inches; red (2.5YR 4/8) silty clay loam; common medium prominent strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable; slightly sticky and slightly plastic; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.
C—52 to 62 inches; reddish yellow (7.5YR 6/8) silt loam saprolite; common medium prominent red (2.5YR 4/8) mottles; massive; friable; very strongly acid.

Range in Characteristics

Solum thickness: 30 to more than 60 inches
Depth to bedrock: More than 60 inches
Content and size of rock fragments: 0 to 20 percent, by volume, in the A and E horizons, and 0 to 10 percent, by volume, in the Bt, BC, and C horizons; mostly quartz gravel
Reaction: Very strongly acid or strongly acid, except where lime has been applied

A or Ap horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 4 to 8 in eroded areas; hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 0 to 8 in uneroded areas
Texture (fine-earth fraction)—silty clay loam in eroded areas; silt loam in uneroded areas

E horizon (where present):
Color—hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 3 to 8
Texture (fine-earth fraction)—silt loam, loam, sandy loam, fine sandy loam, or very fine sandy loam

Bt horizon (upper part):
Color—hue of 2.5YR to 5YR, value of 4 or 5, and chroma of 6 or 8
Texture—silty clay loam, silty clay, clay loam, or clay

Bt horizon (middle part, where present):
Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 or 8
Texture—silty clay loam, silty clay, clay loam, or clay

Bt horizon (lower part):
Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 or 8
Texture—silty clay loam, silty clay, clay loam, or clay
Mottles—shades of red, yellow, and brown

BC horizon (where present):
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 6 or 8
Texture—silty clay loam, clay loam, loam, or silt loam
Mottles—shades of red, yellow, and brown

C horizon:
Color—hue of 10R to 10YR, value of 4 to 6, and chroma of 3 to 8; or mottled or multicolored in shades of brown, yellow, gray, white, and red
Texture—silt loam, loam, very fine sandy loam, fine sandy loam, or silty clay loam saprolite

Goldston Series

Depth class: Shallow
Drainage class: Well drained to excessively drained
Permeability: Moderately rapid
Parent material: Residuum weathered from fine-grained metavolcanic rock
Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Ridges and side slopes
Slope: 2 to 35 percent
Commonly associated soils: Badin, Cid, Callison, and Nanford
Taxonomic class: Loamy-skeletal, siliceous, semiactive, thermic shallow Typic Dystrudepts

Typical Pedon

Goldston very channery silt loam, in an area of Goldston-Badin complex, 2 to 15 percent slopes; in Chatham County, from Pittsboro, about 15.4 miles southwest on NC Highway 902, about 0.5 mile southeast on Secondary Road 2300, about 2.8 miles south on Secondary Road 1009, about 200 feet northwest, in cultivated field; Bear Creek USGS topographic quadrangle; lat. 35 degrees 32 minutes 34 seconds N. and long. 79 degrees 23 minutes 17 seconds W.

A—0 to 7 inches; yellowish brown (10YR 5/4) very channery silt loam; moderate fine granular structure; very friable; common fine and medium roots; 35 percent, by volume, channers that range from 0.25 inch to 3 inches in size; moderately acid; clear smooth boundary.

Bw—7 to 11 inches; very pale brown (10YR 7/4) very channery silt loam; weak fine subangular blocky structure; friable; common fine and medium roots; 35 percent, by volume, channers that range from 0.25 inch to 3 inches; strongly acid; gradual wavy boundary.

Cr—11 to 23 inches; weathered, highly fractured argillite; few seams of silt loam saprolite in cracks.
R—23 inches; unweathered, moderately fractured argillite.

Range in Characteristics

Solum thickness: 10 to 20 inches
Depth to bedrock: 10 to 20 inches to soft bedrock and 20 to more than 40 inches to hard bedrock.
Content and size of rock fragments: 15 to 60 percent, by volume, average of more than 35 percent; mostly channers.
Reaction: Extremely acid to moderately acid, except where lime has been applied.

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 to 4
Texture (fine-earth fraction)—silt loam

E horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 2 to 6
Texture (fine-earth fraction)—silt loam or very fine sandy loam

Bw horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—silt loam or very fine sandy loam
Mottles—shades of brown, yellow, and red

Cr layer:
Type of bedrock—weathered, slightly fractured to highly fractured fine-grained metavolcanic rock

R layer:
Type of bedrock—unweathered, slightly fractured to highly fractured fine-grained metavolcanic rock

Green Level Series

Depth class: Very deep
Drainage class: Somewhat poorly drained or moderately well drained
Permeability: Very slow
Parent material: Residuum weathered from Triassic sandstone, mudstone, siltstone, shale, and conglomerate
Landscape: Piedmont uplands in the Triassic Basin
Landform: Interstream divides, ridges and side slopes
Commonly associated soils: Creedmoor, Polkton, White Store, Carbonton, Brickhaven and Mayodan
Slope: 2 to 15 percent
Taxonomic class: Fine, mixed, active, thermic Vertic Hapludults

Typical Pedon

Green Level sandy loam in an area of Creedmoor-Green Level complex, 2 to 6 percent slopes; in Wake County, from Raleigh, south on US 1, about 5 miles west on US 64 for 5 miles, about 2.7 miles north on Green Level Ch Rd (State Road 1700), left onto Green Level W Rd (State Road 1605) for about 1 mile, right onto White Oak Ch Road (State Road 1606) for about 0.7 mile, about 800 feet north following old railroad grade, 55 feet west, in woods; Green Level USGS topographic quadrangle; lat. 35 degrees 47 minutes 11 seconds N. and long. 78 degrees 55 minutes 21 seconds W.

A—0 to 7 inches; yellowish brown (10YR 5/4) sandy loam; weak medium granular structure; friable; slightly sticky and slightly plastic; many fine and medium roots; extremely acid; abrupt smooth boundary.

E—7 to 10 inches; pale brown (10YR 6/3) sandy loam; weak medium granular structure; friable; slightly sticky and slightly plastic; common fine and medium roots; very strongly acid; abrupt smooth boundary.

BE—10 to 13 inches; brownish yellow (10YR 6/6) sandy loam; weak fine subangular blocky structure; friable; moderately sticky and moderately plastic; few fine roots; common fine distinct light brownish gray (10YR 6/2) iron depletions; extremely acid; clear smooth boundary.

Bt—13 to 26 inches; brownish yellow (10YR 6/8) clay; common medium distinct strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; very firm; very sticky and very plastic; few fine roots; common fine prominent light brownish gray (10YR 6/2) iron depletions; few faint clay films on faces of peds; extremely acid; gradual smooth boundary.

Btss—26 to 33 inches; yellowish red (5YR 5/6) clay; moderate medium wedge structure; extremely firm; very sticky and very plastic; few fine roots in cracks; common fine prominent light brownish gray (10YR 6/2) iron depletions and common medium prominent red (10R 4/8) masses of oxidized iron; many distinct clay films on faces of peds; common prominent slickensides; extremely acid; gradual smooth boundary.

Btssg—33 to 41 inches; light gray (2.5Y 7/1) clay; moderate medium wedge structure; extremely firm; very sticky and very plastic; few fine roots in cracks; common medium prominent red (2.5YR 4/8) and strong brown (7.5YR 5/8) masses of oxidized iron; many distinct clay films on faces of peds; common nonintersecting slickensides; extremely acid; gradual wavy boundary.

Btg—41 to 51 inches; light brownish gray (2.5Y 6/2) clay; weak medium subangular blocky structure; very firm; very sticky and very plastic; few fine roots; common medium prominent yellowish red (5YR 5/8) masses of oxidized iron; common distinct clay films on faces of peds; extremely acid; gradual wavy boundary.

BCg—51 to 65 inches; light brownish gray (2.5Y 6/2) clay loam; weak coarse subangular blocky structure; firm; moderately sticky and moderately plastic; extremely acid; gradual wavy boundary.

CB—65 to 73 inches; pale yellow (2.5Y 7/3) sandy loam saprolite; few medium prominent reddish yellow (7.5YR 6/8) lithochromic mottles; friable; moderately sticky and moderately plastic; 10 percent, by volume, subrounded sandstone parachanners; extremely acid; gradual wavy boundary.

C1—73 to 89 inches; pink (7.5YR 7/3) sandy loam saprolite; few medium distinct reddish yellow (7.5YR 6/8) lithochromic mottles; massive; friable; slightly sticky and slightly plastic; extremely acid; gradual wavy boundary.

C2—89 to 97 inches; pink (7.5YR 7/4) sandy loam saprolite; few medium distinct reddish yellow (7.5YR 6/8) lithochromic mottles; massive; friable; slightly sticky and slightly plastic; extremely acid.

Range in Characteristics

Solum thickness: 30 to more than 60 inches

Depth to bedrock: More than 60 inches

Content and size of rock fragments: 0 to 15 percent, by volume, throughout; mostly gravel

Reaction: Extremely acid to strongly acid throughout, except where lime has been applied; exchangeable aluminum is high (10 to 35 meq/100g) in the Bt, Btss, and Btssg horizons

A horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 4

Texture—sandy loam

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture—sandy loam, loam, fine sandy loam, or silt loam

BE horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 3 to 8
Texture—sandy loam, loam, fine sandy loam, or silt loam
Redoximorphic features—iron depletions in shades of gray and yellow

Bt horizon:
Color—hue of 2.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture—clay, sandy clay, or silty clay
Redoximorphic features—iron depletions in shades of gray and yellow and masses of oxidized iron in shades of red, yellow, and brown

Btss horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 7, and chroma of 3 to 8
Texture—clay, silty clay, or sandy clay
Redoximorphic features—iron depletions in shades of brown, yellow, and gray and masses of oxidized iron in shades of red, yellow, and brown

Btssg horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 7, and chroma of 0 to 2
Texture—clay, silty clay, or sandy clay
Redoximorphic features—masses of oxidized iron in shades of red, yellow, and brown.

Btg horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 7, and chroma of 0 to 2
Texture—clay, silty clay or sandy clay
Redoximorphic features—masses of oxidized iron in shades of red, yellow, and brown

BCg horizon:
Color—neutral in hue or hue of 2.5YR to 2.5Y; value of 3 to 7, and chroma of 0 to 2
Texture—sandy clay loam, silt loam, silty clay loam, clay loam, loam, or sandy loam
Redoximorphic features—masses of oxidized iron in shades of red, yellow, and brown

CB horizon:
Color—hue of 2.5YR to 2.5Y, value of 3 to 7, and chroma of 3 to 8
Texture—sandy clay loam, silt loam, silty clay loam, clay loam, loam, or sandy loam saprolite
Mottles—lithochromic mottles in shades of red, yellow, brown, and gray

C horizon:
Color—hue of 2.5YR to 2.5Y, value of 3 to 6, and chroma of 3 to 8
Texture—variable, commonly sandy loam saprolite
Mottles—lithochromic mottles in shades of red, yellow, brown, and gray

Helena Series

Depth class: Very deep
Drainage class: Moderately well drained

Permeability: Slow
Landscape: Piedmont uplands
Landform: Broad interstream divides, ridges, drainageways, and heads of drainageways
Parent material: Residuum weathered from felsic to mafic high-grade metamorphic or igneous rock
Slope: 2 to 10 percent
Commonly associated soils: Vance and Wedowee
Taxonomic class: Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Helena sandy loam, 2 to 6 percent slopes; in Chatham County, from Pittsboro, about 10 miles north on U.S. Highway 15-501, about 1.0 mile west on Secondary Road 1532, about 800 feet north of Manns Chapel cemetery; Farrington USGS topographic quadrangle; lat. 35 degrees 50 minutes 55 seconds N. and long. 79 degrees 06 minutes 47 seconds W.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable; common fine roots; moderately acid; abrupt smooth boundary.
E—6 to 9 inches; light yellowish brown (10YR 6/4) sandy loam; weak fine granular structure; very friable; few fine roots; strongly acid; clear smooth boundary.
BE—9 to 13 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; very strongly acid; clear smooth boundary.
Bt1—13 to 22 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; very firm; moderately sticky and moderately plastic; few fine distinct strong brown (7.5YR 5/6) masses of oxidized iron; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt2—22 to 30 inches; brownish yellow (10YR 6/6) clay; weak medium subangular blocky structure; very firm; moderately sticky and moderately plastic; common medium distinct light yellowish brown (10YR 6/4) and light brownish gray (10YR 6/2) iron depletions; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.
BC—30 to 44 inches; reddish yellow (7.5YR 6/6) clay loam; weak medium subangular blocky structure; firm; common medium distinct light brownish gray (10YR 6/2) and yellowish brown (10YR 5/8) iron depletions; pockets of saprolite material; diffuse wavy boundary; very strongly acid.
C—44 to 64 inches; mottled in shades of brown, red, yellow, and gray sandy clay loam saprolite; massive; friable; very strongly acid.

Range in Characteristics

Solum thickness: 40 to more than 60 inches
Depth to bedrock: More than 60 inches
Content and size of rock fragments: 0 to 35 percent, by volume, throughout; mostly gravel
Reaction: Strongly acid to extremely acid, except where lime has been applied

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 to 4
Texture (fine-earth fraction)—sandy loam

E horizon:
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 2 to 4
Texture (fine-earth fraction)—loamy sand, loamy coarse sand, coarse sandy loam, fine sandy loam, sandy loam, or loam

BE or BA horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—clay loam or sandy clay loam

Bt horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8; mottled in shades of yellow, brown, gray, and red or hue of 5YR in the lower Bt horizon in some pedons
Texture (fine-earth fraction)—clay loam, sandy clay, or clay; thin subhorizons of sandy clay loam in some pedons
Redoximorphic features—iron depletions in shades of yellow, brown, and gray and masses of oxidized iron in shades of red and brown; iron depletions within 24 inches of the upper boundary of the Bt horizon may have chroma of 2 or less

Btg horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture (fine-earth fraction)—clay loam, sandy clay, or clay; some pedons have thin subhorizons of sandy clay loam
Redoximorphic features—soft masses of oxidized iron in shades of yellow, brown, and red

BC horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, sandy clay loam, clay loam, or loam
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red and brown

BCg horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture (fine-earth fraction)—sandy loam, fine sandy loam, sandy clay loam, clay loam, or loam
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, and red

C horizon:
Color—hue of 5YR to 5Y, value of 5 to 8, and chroma of 3 to 8; or mottled or multicolored in shades of gray, yellow, brown, red, and white
Texture (fine-earth fraction)—sandy loam, fine sandy loam, sandy clay loam, or loam saprolite
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red and brown

Cg horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture (fine-earth fraction)—sandy loam, fine sandy loam, sandy clay loam, or loam saprolite
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, and red

Herndon Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate

Parent material: Residuum weathered from fine-grained metavolcanic rock
Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Ridges and side slopes
Slope: 2 to 10 percent
Commonly associated soils: Lignum, Cid, Callison, Badin, Nanford, Tarrus, and Georgeville
Taxonomic class: Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Herndon silt loam, 2 to 6 percent slopes; in Chatham County, about 1.4 miles south of Alamance County on Snow Camp Road, right on Secondary Road 1307 for about 900 feet, about 1,100 feet south, in woods; Liberty USGS topographic quadrangle; lat. 35 degrees 48 minutes 39 seconds N. and long. 79 degrees 31 minutes 17 seconds W.

A—0 to 3 inches; light yellowish brown (10YR 6/4) silt loam; weak fine and medium granular structure; very friable; common fine roots; very strongly acid; clear smooth boundary.
E—3 to 9 inches; brownish yellow (10YR 6/6) silt loam; weak fine subangular blocky structure; very friable; common fine roots; very strongly acid; clear smooth boundary.
Bt1—9 to 14 inches; reddish yellow (7.5YR 6/8) silty clay loam; weak medium subangular blocky structure; friable; slightly sticky and non-plastic; few fine roots; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.
Bt2—14 to 34 inches; yellowish red (5YR 5/8) silty clay; few fine prominent yellow (10YR 7/8) and few medium distinct reddish yellow (7.5YR 6/8) mottles; moderate medium subangular blocky structure; firm; slightly sticky and slightly plastic; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.
BC—34 to 48 inches; yellowish red (5YR 5/8) silty clay loam; many medium prominent yellow (10YR 7/8), common medium prominent very pale brown (10YR 8/3), and many medium distinct reddish yellow (7.5YR 6/8) mottles; weak medium subangular blocky structure; friable; very strongly acid; gradual wavy boundary.
C—48 to 60 inches; red (2.5YR 4/6) silt loam saprolite; common medium prominent yellow (10YR 8/6) and few fine prominent reddish yellow (7.5YR 6/8) mottles; massive; friable; very strongly acid.

Range in Characteristics

Solum thickness: 30 to more than 60 inches
Depth to bedrock: More than 60 inches
Content and size of rock fragments: 0 to 35 percent, by volume, in the A and E horizons and 0 to 10 percent in the Bt, BC, and C horizons; mostly quartz gravel
Reaction: Very strongly acid to slightly acid in the A and E horizons, except where lime has been applied, and extremely acid to strongly acid in the B and C horizons

A or Ap horizon:
Color—hue of 7.5YR to 5Y, value of 3 or 6, and chroma of 2 to 8
Texture (fine-earth fraction)—silt loam

E horizon (where present):
Color—hue of 7.5YR to 5Y, value of 4 to 6, and chroma of 3 to 6
Texture (fine-earth fraction)—silt loam, loam, or very fine sandy loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 7, and chroma of 4 to 8

Texture—silty clay loam, silty clay, clay loam, or clay; silt loam and loam can occur in the lower part
Mottles—shades of brown, yellow, and red

BC horizon:
Color—hue of 5YR to 10YR, value of 4 to 7, and chroma of 4 to 8
Texture—silty clay loam, clay loam, loam, or silt loam
Mottles—shades of brown, yellow, and red

C horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 7, and chroma of 3 to 8; or mottled in shades of brown, yellow, white, and red
Texture—silt loam, loam, very fine sandy loam, or fine sandy loam saprolite

Iredell Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slow
Parent material: Residuum weathered from mafic high-grade metamorphic or igneous rock
Landscape: Piedmont uplands
Landform: Interstream divides and broad upland flats
Slope: 2 to 6 percent
Commonly associated soils: Pittsboro and Enon
Taxonomic class: Fine, mixed, active, thermic Oxyaquic Vertic Hapludalfs

Typical Pedon

Iredell fine sandy loam, 2 to 6 percent slopes; in Chatham County, about 5 miles east of Pittsboro on U.S. Highway 64, about 2 miles north on Secondary Road 1700, about 1750 feet east of road, along woods road; Farrington USGS topographic quadrangle; lat. 35 degrees 45 minutes 57 seconds N. and long. 79 degrees 05 minutes 07 seconds W.

A—0 to 5 inches; dark grayish brown (10YR 4/2) fine sandy loam; moderate medium granular structure; many fine roots; common fine black manganese concretions; strongly acid; clear smooth boundary.
E—5 to 8 inches; light brownish gray (2.5Y 6/2) sandy loam; weak fine granular structure; very friable; common fine roots; common fine black manganese concretions; moderately acid, clear smooth boundary.
Btss1—8 to 18 inches; yellowish brown (10YR 5/6) clay; moderate medium angular blocky structure; very firm; very sticky and very plastic; common coarse distinct brown (10YR 5/3) iron depletions and few fine prominent strong brown (7.5YR 4/6) masses of oxidized iron; few fine black concretions; common distinct clay films on faces of peds; common nonintersecting slickensides; slightly alkaline; clear smooth boundary.
Btss2—18 to 27 inches; light olive brown (2.5Y 5/4) clay; moderate coarse angular blocky structure; very firm; very sticky and very plastic; many medium distinct grayish brown (2.5Y 5/2) iron depletions; common distinct clay films on faces of peds; common intersecting slickensides; slightly alkaline; clear smooth boundary.
BCt—27 to 35 inches; yellowish brown (10YR 5/4) sandy clay loam; weak medium subangular blocky structure; friable; slightly sticky and slightly plastic; common distinct clay films on faces of peds; common black and white mineral grains; slightly alkaline; gradual wavy boundary.

C—35 to 60 inches; yellowish brown (10YR 5/6) sandy loam saprolite; massive; very friable; many black and white mineral grains; moderately alkaline.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 40 to more than 60 inches
Content and size of rock fragments: 0 to 30 percent in the A and E horizons, 0 to 10 percent in the Btss and C horizon; mostly gravel and stones
Reaction: Strongly acid to neutral in the A and E horizons, moderately acid to moderately alkaline in the B horizons, and neutral to moderately alkaline in the C horizon

A or Ap horizon:
Color—hue of 10YR to 5Y, value of 4 or 5, and chroma of 2 to 4
Texture (fine-earth fraction)—fine sandy loam

E horizon:
Color—hue of 10YR or 2.5Y, value of 6 or 7, and chroma of 1 to 3
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, silt loam, or clay loam

Btss horizon (upper part):
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 to 6
Texture—clay or silty clay
Redoximorphic features—iron depletions in shades of brown and masses of oxidized iron in shades of brown and red

Btss horizon (middle part, where present):
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 6
Texture—clay or silty clay
Redoximorphic features—iron depletions in shades of gray and brown and masses of oxidized iron in shades of brown and red

Btss horizon (lower part):
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 6
Texture—clay or silty clay
Redoximorphic features—iron depletions in shades of gray and brown and masses of oxidized iron in shades of brown and red

BC or BCt horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 6
Texture—clay loam, loam, or sandy clay loam
Mottles (where present)—shades of red, brown, and yellow
Redoximorphic features (where present)—iron depletions in shades of gray and brown and masses of oxidized iron in shades of brown and red

C horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 6; or mottled in shades of white, gray, brown, yellow, and black
Texture—sandy loam, sandy clay loam, loam, or silt loam saprolite
Mottles (where present)—shades of red, brown, and yellow
Redoximorphic features—iron depletions in shades of gray and brown and masses of oxidized iron in shades of brown and red

Cr layer (where present):
Type of bedrock—slightly fractured to highly fractured mafic high-grade metamorphic or igneous rock

Lignum Series

Depth class: Deep
Drainage class: Somewhat poorly drained or moderately well drained
Permeability: Very slow
Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Interstream divides, broad ridges, drainageways, and heads of drainageways
Parent material: Residuum weathered from fine-grained metavolcanic rock
Slope: 2 to 6 percent
Commonly associated soils: Cid, Callison, Misenheimer, Nanford, and Badin
Taxonomic class: Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Lignum silt loam in an area of Callison-Lignum complex, 2 to 6 percent slopes; in Randolph County, about 0.9 mile southeast of intersection of Secondary Road 2891 and Secondary Road 1002, about 50 feet south of Secondary Road 2891, in woods; Erect USGS topographic quadrangle; lat. 35 degrees 35 minutes 45 seconds N. and long. 79 degrees 38 minutes 00 seconds W.

A—0 to 6 inches; pale yellow (2.5Y 7/4) silt loam; weak fine granular structure; very friable; few fine roots; very strongly acid; clear smooth boundary.
E—6 to 11 inches; very pale brown (10YR 7/4) silt loam; weak fine granular structure; very friable; very strongly acid; gradual wavy boundary.
Bt1—11 to 15 inches; brownish yellow (10YR 6/6) silty clay loam; moderate medium subangular blocky structure; firm; slightly sticky and slightly plastic; few fine distinct light gray (10YR 7/2) irregularly shaped iron depletions; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt2—15 to 22 inches; brownish yellow (10YR 6/8) silty clay loam; moderate medium subangular blocky structure; firm; moderately sticky and moderately plastic; common medium distinct light gray (10YR 7/2) iron depletions and common medium prominent reddish yellow (5YR 6/8) masses of oxidized iron; common faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt3—22 to 29 inches; yellow (10YR 7/8), strong brown (7.5YR 5/6), red (2.5YR 4/8), and light gray (10YR 7/2) silty clay; strong medium angular blocky structure; very firm; very sticky and very plastic; iron depletions in shades of gray and masses of oxidized iron in shades of brown and red; common distinct clay films on faces of peds; strongly acid; gradual wavy boundary.
BC—29 to 47 inches; reddish yellow (7.5YR 6/6) silt loam; common medium distinct white (2.5Y 8/1) mottles; weak fine granular structure; strongly acid; gradual wavy boundary.
Cr—47 to 60 inches; weathered, moderately fractured argillite.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Rock fragment content: 0 to 10 percent in the A and E horizons; mostly gravel

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 to 4
Texture—silt loam

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 1 to 6
Texture—silt loam, loam, or very fine sandy loam

BA or BE horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—loam, silt loam, clay loam, or silty clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8; or multicolored in shades of red, yellow, brown, and gray
Texture—silty clay loam, silty clay, clay loam, or clay
Redoximorphic features—iron depletions that have chroma of 2 or less occur within 24 inches of the upper boundary of the Bt horizon and masses of oxidized iron may occur throughout the horizon in shades of red, brown, and yellow

Btg horizon (where present):
Color—neutral in hue or hue of 7.5 YR to 2.5Y; value of 5 to 7, and chroma of 0 to 2
Texture—silty clay loam, silty clay, clay loam, or clay
Redoximorphic features—masses of oxidized iron in shades of yellow, brown, and red

BC or CB horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 3 to 8
Texture—loam, silt loam, clay loam, or silty clay loam
Mottles—shades of white, gray, yellow, brown, and red
Redoximorphic features (where present)—iron depletions in shades of gray, yellow, and white and masses of oxidized iron in shades of red and brown

BCg horizon (where present):
Color—neutral in hue or hue of 7.5YR to 5Y; value of 5 to 7, and chroma of 0 to 2
Texture—loam, silt loam, clay loam, or silty clay loam
Redoximorphic features—soft masses of masses of oxidized iron in shades of yellow, brown, and red

C horizon (where present):
Color—variable
Texture—very fine sandy loam, silty clay loam, or silt loam saprolite
Redoximorphic features (where present)—iron depletions in shades of gray and masses of oxidized iron in shades of red and brown

Cg horizon (where present):
Color—variable
Texture—sandy clay loam, silty clay loam, or silt loam saprolite
Redoximorphic features (where present)—soft masses of masses of oxidized iron in shades of yellow, brown, and red

Cr layer:
Type of bedrock—weathered, moderately fractured to highly fractured fine-grained metavolcanic rock

Louisa Series

Depth class: Shallow
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid

Parent material: Residuum weathered from mica schist or mica gneiss
Landscape: Piedmont uplands
Landform: Side slopes
Slope: 25 to 45 percent
Commonly associated soils: Pacolet, Wedowee and Cecil
Taxonomic class: Loamy, micaceous, thermic, shallow Ruptic-Ultic Dystrudepts

Typical Pedon

Louisa fine sandy loam, 25 to 45 percent slopes; in Harnett County, about 5.9 miles west of Lillington on U.S. Highway 421, about 3.6 miles north on Secondary Road 1314 to Raven Rock State Park, about 50 feet east of the park sign to the site of Northington's Ferry; Mamers USGS topographic quadrangle; lat. 35 degrees 30 minutes 00 seconds N. and long. 78 degrees 52 minutes 30 seconds W.

A—0 to 2 inches; brown (10YR 5/3) fine sandy loam; weak medium granular structure; friable; many medium and coarse roots; common fine flakes of mica; about 5 percent, by volume, mica schist rock fragments; strongly acid; clear smooth boundary.

E—2 to 7 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium granular structure; friable; many medium and coarse roots; common fine flakes of mica; about 5 percent, by volume, mica schist rock fragments; strongly acid; clear smooth boundary.

Bw/ Bt—7 to 15 inches; yellowish brown (10YR 5/4) loam that has a few small pockets of sandy clay loam; weak medium subangular blocky structure; friable; common medium and coarse roots; few faint clay films on faces of peds; many fine flakes of mica; 5 percent, by volume, mica schist rock fragments; strongly acid; gradual wavy boundary.

Cr—15 to 60 inches; weathered, moderately fractured mica schist.

Range in Characteristics

Solum thickness: 10 to 20 inches
Depth to bedrock: 10 to 20 inches to soft bedrock and more than 60 inches to hard bedrock
Content and size of rock fragments: 5 to 15 percent, by volume, in the A and E horizons; 5 to 25 percent, by volume, in the Bw and Bt horizons; and 5 to 60 percent, by volume, in the C horizon; mostly channers of mica schist
Reaction: Very strongly acid to moderately acid; except where lime has been applied

A horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4
Texture—fine sandy loam

E horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 4
Texture—fine sandy loam, loam, or sandy loam

Bw horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—loam, sandy loam, or clay loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

C horizon (where present):
Color—multicolored in shades of brown, yellow, and red
Texture (fine-earth fraction)—loam or sandy loam saprolite

Cr layer:
Type of bedrock—weathered, moderately fractured mica schist or mica gneiss

Mattaponi Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Fluvial sediments
Landscape: Piedmont river and stream valleys
Landform: High stream terraces
Slope: 0 to 15 percent
Commonly associated soils: Peawick, State, Merry Oaks, Moncure, Turbeville, Riverview, Chewacla and Wehadkee
Taxonomic class: Fine, mixed, subactive, thermic Oxyaquic Hapludults

Typical Pedon

Mattaponi fine sandy loam, 2 to 8 percent slopes; in Chatham County, from Pittsboro, about 5.7 miles south on U.S. Highway 15-501, about 1.8 miles west on Secondary Road 2217, about 1.5 miles west on Secondary Road 2145, about 0.4 mile south on Secondary Road 2150, about 0.2 mile east on Secondary Road 2148, about 0.4 mile east on a private farm road through a locked gate, in field, about 30 feet north side of the private farm road; Colon USGS topographic quadrangle; lat. 35 degrees 33 minutes 40 seconds N. and long. 79 degrees 12 minutes 32 seconds W.

Ap—0 to 6 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak fine granular structure; friable; many fine roots; very strongly acid; abrupt smooth boundary.
E—6 to 15 inches; brownish yellow (10YR 6/6) fine sandy loam; weak fine granular structure; friable; common fine roots; very strongly acid; clear wavy boundary.
Bt1—15 to 23 inches; yellowish brown (10YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; slightly sticky and slightly plastic; few fine roots; few medium prominent yellowish red (5YR 5/8) masses of oxidized iron; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.
Bt2—23 to 43 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm; moderately sticky and moderately plastic; few fine roots; common medium distinct brownish yellow (10YR 6/6) iron depletions and common medium distinct yellowish red (5YR 5/8) masses of oxidized iron; common distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.
Bt3—43 to 60 inches; strong brown (7.5YR 5/8) clay; weak thick platy primary structure, parting to moderate medium subangular blocky structure; firm; moderately sticky and moderately plastic; common fine prominent white (10YR 8/1) and very pale brown (10YR 7/4) iron depletions and common medium prominent red (2.5YR 4/8) and common medium faint reddish yellow (7.5YR 6/8) masses of oxidized iron; many prominent clay films on faces of peds; 3 percent, by volume, plinthite; very strongly acid.

Range in Characteristics:

Solum thickness: 30 to more than 60 inches
Depth to bedrock: Greater than 72 inches
Content and size of rock fragments: 0 to 15 percent in the A and B horizons and 0 to 50 percent in the C horizon; rounded quartz gravel
Reaction: Very strongly acid or strongly acid, except where lime has been applied

A or Ap horizon:
Color—hue of 5YR to 2.5Y, value of 2 to 7, and chroma of 2 to 8
Texture—fine sandy loam

E horizon:
Color—hue of 5YR to 2.5Y, value of 2 to 7, and chroma of 2 to 8
Texture—sandy loam, fine sandy loam, or loam

Bt horizon (upper part):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture—clay, clay loam, sandy clay loam, or sandy clay
Redoximorphic features—iron depletions in shades of brown and yellow and masses of oxidized iron in shades of red, yellow, and brown

Bt horizon (lower part):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8 and chroma of 3 to 8
Texture—clay, clay loam, or sandy clay
Redoximorphic features—iron depletions in shades of brown, yellow, gray, and white and masses of oxidized iron in shades of red and yellow

BC horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8; or multicolored in shades of brown and yellow
Texture—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features—iron depletions in shades of brown, yellow, and gray and masses of oxidized iron in shades of red, yellow, and brown

C horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8; or multicolored
Texture (fine-earth fraction)—variable; stratified sediments ranging from sand to clay
Redoximorphic features—iron depletions in shades of brown, yellow, and gray and masses of oxidized iron in shades of red, yellow, and brown

Mayodan Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum weathered from Triassic sandstone, mudstone, shale, siltstone, and conglomerate
Landscape: Uplands in the Triassic Basin
Landform: Interstream divides, ridges and side slopes
Slope: 2 to 30 percent
Commonly associated soils: Brickhaven, Carbonton, and Creedmoor
Taxonomic class: Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Mayodan fine sandy loam, 2 to 6 percent slopes; in Chatham County, from Pittsboro, south on U.S. Highway 15-501, south on Secondary Road 1012, about 0.4 mile east on Secondary Road 1970, West and abandoned rail road grade for 1 mile, 120 feet west in woodland; Merry Oaks USGS topographic quadrangle; lat. 35 degrees 38 minutes 21 seconds N. and long. 79 degrees 06 minutes 01 seconds W.

A—0 to 4 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak medium granular structure; friable; many fine and medium roots; extremely acid; abrupt smooth boundary.

E—4 to 10 inches; pale yellow (2.5Y 7/4) fine sandy loam; moderate medium granular structure; friable; common fine roots; very strongly acid; clear smooth boundary.

BE—10 to 17 inches; brownish yellow (10YR 6/6) loam; weak fine subangular blocky structure; friable; common fine roots; extremely acid; clear smooth boundary.

Bt1—17 to 30 inches; reddish yellow (7.5YR 6/8) clay loam; weak medium subangular blocky structure; firm; slightly sticky and slightly plastic; few faint clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt2—30 to 48 inches; reddish yellow (7.5YR 6/8) clay; many medium prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; firm; slightly sticky and slightly plastic; common faint clay films on faces of peds; very strongly acid; gradual smooth boundary.

BC—48 to 53 inches; reddish yellow (7.5YR 6/8) clay loam; many medium distinct yellow (10YR 7/6) and many medium prominent red (2.5YR 4/8) mottles; friable; very strongly acid; clear smooth boundary.

C—53 to 80 inches; brownish yellow (10YR 6/8) loam saprolite; common medium faint yellow (10YR 7/6), many medium prominent red (2.5YR 4/8), and common medium distinct light gray (10YR 7/2) mottles; massive; friable; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches

Depth to bedrock: More than 60 inches

Content and size of rock fragments: 0 to 35 percent, by volume, in the A, E, and BE horizons and 0 to 5 percent, by volume, in the Bt horizons; mostly gravel

Reaction: Extremely acid to moderately acid in the A and upper B horizons, except where lime has been applied, and very strongly acid or strongly acid in the lower horizons

A or Ap horizon:

Color—hue of 5YR to 2.5Y, value of 2 to 6, and chroma of 2 to 8

Texture (fine-earth fraction)—fine sandy loam or sandy loam

E horizon:

Color—hue of 5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 6

Texture (fine-earth fraction)—fine sandy loam, sandy loam, silt loam, loam, or loamy sand

BE horizon:

Color—hue of 5YR to 10YR, value of 3 to 6, and chroma of 2 to 8

Texture (fine-earth fraction)—fine sandy loam, sandy loam, loam, sandy clay loam, clay loam, or silty clay loam

Bt horizon:

Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 3 to 8

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

Mottles—shades of red, yellow, and brown

BC horizon:

Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 2 to 8; or mottled in shades of these colors

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

Mottles—shades of red, yellow, and brown

C horizon:

Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 2 to 8; or multicolored in shades of brown, red, yellow, gray, and white

Texture—variable; commonly loamy saprolite

Merry Oaks Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Slow
Parent material: Alluvium
Landscape: Piedmont river and stream valleys
Landform: Stream terraces
Slope: 0 to 2 percent
Commonly associated soils: Moncure, Peawick, Mattaponi, Riverview, Chewacla, and Wehadkee
Taxonomic class: Fine-silty, mixed, semiactive, thermic Aeric Epiaquults

Typical Pedon

Merry Oaks silt loam in an area of Merry Oaks-Moncure complex, 0 to 2 percent slopes, occasionally flooded; in Chatham County, from Moncure, about 2.2 miles east on State Road 1011, south onto Woodland Road, cross railroad tracks, right onto dirt road, follow until it ends, about 150 feet south southeast, in woods; Moncure USGS topographic quadrangle; lat. 35 degrees 36 minutes 47 seconds N. and long. 79 degrees 02 minutes 21 seconds W.

A—0 to 5 inches; very dark gray (10YR 3/1) silt loam; weak medium granular structure; friable; many fine roots; very strongly acid; abrupt smooth boundary.

E—5 to 10 inches; very pale brown (10YR 7/3) silt loam; weak fine subangular blocky structure; friable; common fine roots; common medium distinct grayish brown (10YR 5/2) iron depletions; very strongly acid; clear smooth boundary.

Bt1—10 to 22 inches; brownish yellow (10YR 6/8) silt loam; moderate medium platy primary structure, parting to weak fine subangular blocky secondary structure; friable; common fine roots; common medium prominent light gray (10YR 7/2) and common fine prominent light yellowish brown (10YR 6/4) iron depletions; few faint clay films on faces of peds; strongly acid; gradual smooth boundary.

Bt2—22 to 31 inches; brownish yellow (10YR 6/8) silty clay loam; weak medium subangular blocky structure; firm; slightly sticky and slightly plastic; common fine roots; common medium prominent very pale brown (10YR 7/3) and common fine prominent very pale brown (10YR 8/2) iron depletions; few faint clay films on faces of peds; very strongly acid; clear smooth boundary.

Btg—31 to 43 inches; light gray (10YR 7/2) silty clay loam; weak medium subangular blocky structure; friable; slightly sticky and slightly plastic; common fine roots; common medium prominent yellow (10YR 7/6) and common fine prominent brownish yellow (10YR 6/8) masses of oxidized iron; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

BCg—43 to 51 inches; light gray (2.5Y 7/2) silt loam; weak medium subangular blocky structure; friable; few fine roots; many medium prominent brownish yellow (10YR 6/8) and common fine distinct yellow (10YR 7/6) masses of oxidized iron; very strongly acid; gradual wavy boundary.

BC—51 to 60 inches; strong brown (7.5YR 5/6) loam; weak thick platy structure; firm, very weakly cemented; few fine roots; many medium prominent very pale brown (10YR 8/2) and common fine distinct very pale brown (10YR 7/3) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: 40 to more than 60 inches
Depth to bedrock: More than 60 inches
Content and size of rock fragments: 0 to 10 percent by volume; mostly quartz gravel
Reaction: Extremely acid to strongly acid except where lime has been applied

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 to 4; horizons that have a value of 3 are restricted to less than 6 inches
Texture—silt loam

E horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 to 4
Texture—silt loam, loam, or very fine sandy loam
Redoximorphic features—iron depletions in shades of white, gray, and brown and masses of oxidized iron in shades of red, brown, and yellow

BA or BE horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture—silt loam, clay loam or silty clay loam
Redoximorphic features—iron depletions in shades of white, gray, and brown and masses of oxidized iron in shades of red, brown, and yellow

Bt horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture—silt loam, silty clay loam, or clay loam; clay content of the upper 20 inches of the Bt horizon ranges from 18 to 35 percent and the content of silt plus clay exceeds 50 percent
Redoximorphic features—iron depletions in shades of white, gray, and brown and masses of oxidized iron in shades of red, brown, and yellow

Btg horizon (below 20 inches):
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 6, and chroma of 0 to 2; or multicolored in shades of these colors
Texture—silt loam, silty clay loam, or clay loam (clay content of the upper 20 inches of the Bt horizon ranges from 18 to 35 percent and silt plus clay exceeds 50 percent)
Redoximorphic features—masses of oxidized iron in shades of red, brown, and yellow

BCg horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 7, and chroma of 0 to 2; or multicolored in shades of these colors
Texture—silt loam, silty clay loam, loam, or clay loam
Redoximorphic features—masses of oxidized iron in shades of red, brown and yellow

BC horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—silt loam, loam, silty clay loam, or clay loam
Redoximorphic features—iron depletions in shades of white, gray, and brown and masses of oxidized iron in shades of red, brown, and yellow

C horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—variable; mainly silt loam, loam, or very fine sandy loam
Redoximorphic features—iron or clay depletions in shades of white, gray, and brown and masses of oxidized iron in shades of red, brown, and yellow

Misenheimer Series

Depth class: Shallow
Drainage class: Moderately well drained or somewhat poorly drained

Permeability: Moderate to moderately rapid
Parent material: Residuum weathered from fine-grained metavolcanic rock
Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Narrow ridges, side slopes, drainageways, and heads of drainageways
Slope: 6 to 10 percent
Commonly associated soils: Callison, Cid, Lignum, Badin, Nanford, and Goldston
Taxonomic class: Loamy, siliceous, semiactive, thermic, shallow Aquic Dystrudepts

Typical Pedon

Misenheimer channery silt loam in an area of Callison-Misenheimer complex, 6 to 10 percent slopes; in Randolph County, about 600 feet west of intersection of Secondary Road 1003 and Secondary Road 2870, about 400 feet north of Secondary Road 2870, in woods; Erect USGS topographic quadrangle; lat. 35 degrees 32 minutes 40 seconds N. and long. 79 degrees 39 minutes 37 seconds W.

A—0 to 8 inches; light yellowish brown (10YR 6/4) channery silt loam; weak medium granular structure; very friable; many fine and medium roots; 18 percent, by volume, channers that range from 0.25 inch to 2 inches in size; very strongly acid; clear smooth boundary.

Bw—8 to 16 inches; brownish yellow (10YR 6/8) channery silty clay loam; weak medium subangular blocky structure; friable; common fine roots; few medium distinct light gray (10YR 7/2) iron depletions; 20 percent, by volume, channers that range from 0.25 inch to 2 inches in size; very strongly acid; gradual irregular boundary.

Cr—16 to 22 inches; weathered, moderately fractured fine-grained metavolcanic rock; few seams of light brownish gray (2.5Y 6/2) silt loam in cracks.

R—22 inches; unweathered slightly fractured fine-grained metavolcanic rock.

Range in Characteristics

Solum thickness: Less than 20 inches
Depth to bedrock: 10 to 20 inches to soft bedrock and 20 to more than 40 inches to hard bedrock
Content and size of rock fragments: 15 to 35 percent throughout; mostly channers
Reaction: Extremely acid to strongly acid, except where lime has been applied

A or Ap horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 to 4
Texture (fine earth fraction)—silt loam

E horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 2 to 4
Texture (fine earth fraction)—silt loam or loam

Bw horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 6
Texture (fine earth fraction)—loam, slit loam, or silty clay loam
Redoximorphic features—iron depletions in shades of gray

C horizon (where present):
Color—multicolored in hues of 10YR to 5Y
Texture (fine earth fraction)—silt loam saprolite
Redoximorphic features—iron depletions in shades of gray

Cr layer:
Type of bedrock—weathered, slightly fractured to highly fractured fine grained metavolcanic rock

R layer:
Type of bedrock—unweathered, very slightly fractured to highly fractured fine-grained metavolcanic rock

Moncure Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Parent material: Alluvium
Landscape: Piedmont river and stream valleys
Landform: Stream terraces
Slope: 0 to 2 percent
Commonly associated soils: Merry Oaks, Peawick, Mattaponi, Riverview, Chewacla, and Wehadkee
Taxonomic class: Fine-silty, mixed, semiactive, thermic Typic Endoaquults

Typical Pedon

Moncure silt loam in an area of Merry Oaks-Moncure complex, 0 to 2 percent slopes, occasionally flooded; in Chatham County, from Moncure, about 2.2 miles east on State Road 1011, south onto Woodland Road, cross railroad tracks, right onto dirt road, follow until it ends, about 150 feet south southeast, in woods; Moncure USGS topographic quadrangle; lat. 35 degrees 36 minutes 43 seconds N. and 79 degrees 00 minutes 45 seconds W.

Oi—0 to 2 inches; slightly decomposed leaves and twigs.
A—2 to 4 inches; very dark grayish brown (10YR 3/2) silt loam; weak fine granular structure; friable; many fine roots; very strongly acid; abrupt smooth boundary.
Eg—4 to 12 inches; light gray (10YR 7/2) silt loam; moderate medium granular structure; friable; common fine roots; common medium distinct yellow (10YR 7/6) and common fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; gradual smooth boundary.
Btg1—12 to 20 inches; light brownish gray (10YR 6/2) silt loam; weak fine subangular blocky structure; friable; slightly sticky and slightly plastic; common fine roots; common fine distinct yellow (10YR 7/6) and common fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; extremely acid; gradual smooth boundary.
Btg2—20 to 26 inches; light brownish gray (10YR 6/2) silty clay loam; weak medium subangular blocky structure; friable; slightly sticky and slightly plastic; common fine roots; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; few faint clay films on faces of peds; extremely acid; gradual smooth boundary.
Btg3—26 to 41 inches; light brownish gray (10YR 6/2) silty clay loam; weak medium subangular blocky structure; firm; slightly sticky and slightly plastic; common fine roots; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; few faint clay films on faces of peds; very strongly acid; gradual smooth boundary.
BCg—41 to 52 inches; light gray (10YR 7/2) silt loam; weak coarse subangular blocky structure; friable; slightly sticky and non-plastic; common fine roots; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; gradual smooth boundary.
Cg—52 to 60 inches; light gray (10YR 7/2) silt loam; massive; friable; non-sticky and non-plastic; slightly brittle; few fine roots; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to bedrock: More than 72 inches
Content and size of rock fragments: 0 to 10 percent, by volume, throughout; mostly quartz pebbles
Reaction: Extremely acid to strongly acid, except where lime has been applied

O horizon:
Color—hue of 10YR to 5Y, value of 2 to 4, and chroma of 1 to 3
Texture—slightly or moderately decomposed plant material

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 2 to 7, and chroma of 0 to 2
Texture—silt loam

Eg horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 2 to 7, and chroma of 0 to 2
Texture—silt loam, loam, or fine sandy loam
Redoximorphic features—masses of oxidized iron in shades of red, brown, yellow, and black

BAg or BEg horizon (where present):
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 7, and chroma of 0 to 2
Texture—silt loam, loam, silty clay loam, or clay loam
Redoximorphic features—masses of oxidized iron in shades of red, brown, and yellow

Btg horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 7, and chroma of 0 to 2
Texture—silt loam, loam, silty clay loam, or clay loam
Redoximorphic features—masses of oxidized iron in shades of red, brown, and yellow

BCg horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 7, and chroma of 0 to 2
Texture—silt loam, loam, silty clay loam, or clay loam
Redoximorphic features—masses of oxidized iron in shades of red, brown, and yellow

Cg horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 4 to 8, and chroma of 0 to 2
Texture—commonly stratified and ranges from sand to clay
Redoximorphic features—masses of oxidized iron in shades of red, brown, and yellow and manganese accumulations in shades of black

Nanford Series

Depth class: Deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum weathered from fine-grained metavolcanic rock
Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Ridges and side slopes
Slope: 2 to 30 percent
Commonly associated soils: Badin, Herndon, Lignum, Cid, Tarrus, Georgeville, and Goldston
Taxonomic class: Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Nanford silt loam in an area of Nanford-Badin complex, 6 to 10 percent slopes; in Chatham County, from the Randolph County line at Staley, about 1.8 miles east on Secondary Road 1308, about 50 feet south of road, in woods; Liberty USGS topographic quadrangle; lat. 35 degrees 47 minutes 36 seconds N. and long. 79 degrees 30 minutes 47 seconds W.

A—0 to 3 inches; brown (7.5YR 4/2) silt loam; moderate medium granular structure; very friable; many fine and medium roots; very strongly acid; gradual smooth boundary.

E—3 to 7 inches; light brown (7.5YR 6/4) silt loam; moderate medium granular structure; friable; common fine and medium roots; very strongly acid; clear smooth boundary.

Bt1—7 to 12 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; slightly sticky and slightly plastic; common fine roots; common discontinuous clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt2—12 to 27 inches; strong brown (7.5YR 5/6) silty clay; common medium faint brown (7.5YR 5/4) mottles; weak medium subangular blocky structure; firm; slightly sticky and slightly plastic; few fine roots; common distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.

BC—27 to 38 inches; strong brown (7.5YR 5/8) silty clay loam; common medium distinct brown (7.5YR 5/4) mottles; weak medium subangular blocky structure; friable; very strongly acid; gradual wavy boundary.

C—38 to 57 inches; reddish yellow (7.5YR 6/6) loam saprolite; massive; friable; strongly acid; abrupt wavy boundary.

Cr—57 to 61 inches; weathered, moderately fractured fine-grained metavolcanic rock.

Range in Characteristics

Solum thickness: 25 to 50 inches

Depth to bedrock: 40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock

Content and size of rock fragments: 0 to 35 percent, by volume, throughout; mostly gravel or channers

Reaction: Very strongly acid or strongly acid, except where lime has been applied

A or Ap horizon:

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 6

Texture (fine-earth fraction)—silt loam

E horizon:

Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 6

Texture (fine-earth fraction)—loam, silt loam, or fine sandy loam

Bt horizon:

Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8

Texture (fine-earth fraction)—clay loam, silty clay loam, silty clay, or clay

Mottles—shades of red, brown, and yellow

BC horizon:

Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8; or mottled in shades of these colors

Texture (fine-earth fraction)—loam, silt loam, silty clay loam, or clay loam

C horizon:

Color—multicolored in shades of red, brown, yellow, and gray

Texture (fine-earth fraction)—silt loam , loam, or silty clay loam saprolite

Cr layer:
Type of bedrock—weathered, slightly fractured to highly fractured fine-grained metavolcanic rock

Pacolet Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum weathered from felsic igneous and metamorphic rock
Landscape: Piedmont uplands
Landform: Interstream divides, ridges, and side slopes
Slope: 15 to 25 percent
Commonly associated soils: Cecil and Wedowee
Taxonomic class: Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Pacolet gravelly sandy loam, 15 to 25 percent slopes; in Chatham County, from Corinth, about 2.8 miles east on North Carolina Highway 42, about 220 feet north on private woods road; Cokesbury USGS topographic quadrangle; lat. 35 degrees 34 minutes 03 seconds N. and long. 78 degrees 56 minutes 53 seconds W.

A—0 to 7 inches; brown (7.5YR 4/4) gravelly sandy loam; weak fine granular structure; friable; many fine roots; 20 percent, by volume, quartz pebbles; strongly acid; abrupt smooth boundary.
BE—7 to 10 inches; reddish yellow (5YR 6/6) clay loam; moderate medium subangular blocky structure; friable; common fine roots; very strongly acid; clear wavy boundary.
Bt—10 to 23 inches; red (2.5YR 4/8) clay; moderate medium subangular blocky structure; firm; common fine roots; very strongly acid; clear wavy boundary.
BC—23 to 30 inches; red (2.5YR 4/8) clay loam; weak coarse subangular blocky structure; friable; few fine roots; very strongly acid; clear wavy boundary.
C—30 to 60 inches; yellowish red (5YR 5/6) loam saprolite; many medium prominent reddish yellow (5YR 6/8) and common medium prominent red (2.5YR 5/8) mottles; massive; friable; very strongly acid.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: More than 60 inches
Content and size of rock fragments: 15 to 35 percent in the A and E horizons and less than 15 percent in the B and C horizons; mostly pebbles
Reaction: Very strongly acid to slightly acid in the A horizon, except where lime has been applied, and very strongly acid to moderately acid in the E, B, and C horizons

A horizon:
Color—hue of 5YR to 10YR, value of 3 to 5, and chroma of 1 to 6
Texture (fine earth fraction)—sandy loam

E horizon (where present):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture (fine earth fraction)—sandy loam, loamy coarse sand, loamy sand, fine sandy loam, and loam

BA or BE horizon:
Color—hue of 2.5YR to 10YR, value of 4 or 5, and chroma of 3 to 8
Texture—clay loam, sandy clay loam, or loam

Bt horizon:
Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 or 8
Texture—clay, sandy clay, or clay loam
Mottles (where present)—shades of red, yellow, and brown

BC horizon:
Color—hue of 10R to 5YR, value of 4 or 5, and chroma of 6 or 8
Texture—clay loam, sandy clay loam, loam, or sandy loam
Mottles (where present)—shades of red, yellow, and brown

C horizon:
Color—hue of 10R to 5YR, value of 4 or 5, and chroma of 6 or 8
Texture—loam, fine sandy loam, and sandy loam saprolite
Mottles (where present)—shades of red, yellow, and brown

Peawick Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slow
Parent material: Alluvium
Landscape: Piedmont river and stream valleys
Landform: Stream terraces
Slope: 0 to 15 percent
Commonly associated soils: Mattaponi, Merry Oaks, Moncure, Riverview, Chewacla, and Wehadkee
Taxonomic class: Fine, mixed, active, thermic Aquic Hapludults

Typical Pedon

Peawick loam, 2 to 8 percent slopes; in Chatham County, from Pittsboro, about 1.1 miles south on U.S. Highway 15-501, about 7.8 miles southeast on State Road 1012, about 2 miles northeast on U.S. Highway 1; about 1,200 feet south of U.S. Highway 1, about 1,100 feet west of State Road 1972, in a cultivated field; Moncure USGS topographic quadrangle; lat. 35 degrees 37 minutes 25 seconds N. and long. 79 degrees 03 minutes 10 seconds W.

Ap—0 to 6 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium granular structure; very friable; many fine roots; slightly acid; abrupt smooth boundary.

BE—6 to 10 inches; yellowish brown (10YR 5/8) loam; weak medium subangular blocky structure; friable; common fine roots; moderately acid; gradual smooth boundary.

Bt1—10 to 25 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm; slightly plastic and slightly sticky; few fine roots; common medium faint light yellowish brown (10YR 6/4) iron depletions; few faint clay films on faces of peds; moderately acid; gradual smooth boundary.

Bt2—25 to 42 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; very firm; moderately sticky and moderately plastic; common medium faint brownish yellow (10YR 6/6) and common medium prominent light gray (10YR 7/1) iron depletions and common medium prominent red (2.5YR 4/8) masses of oxidized iron; few faint clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt3—42 to 64 inches; brownish yellow (10YR 6/8) clay; moderate fine subangular blocky structure; firm; many medium prominent light gray (10YR 7/1) iron depletions and common medium prominent red (2.5YR 4/8) masses of oxidized iron; few faint clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt4—64 to 80 inches; yellowish brown (10YR 5/8) clay loam; weak coarse subangular blocky structure; friable; many medium prominent light gray (N 7/0) iron depletions; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Depth to bedrock: More than 72 inches
Content and size of rock fragments: Less than 15 percent throughout, mostly pebbles
Reaction: Extremely acid to strongly acid throughout, except where lime has been applied; exchangeable aluminum is moderate to high (8 to 15 meq/100 g).

Ap or A horizon:
Color—hue of 10YR to 5Y, value of 2 to 6, and chroma of 1 to 4; where value is 2 or 3 the horizon is less than 6 inches thick
Texture—fine sandy loam

E horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 2 to 4
Texture—loam, fine sandy loam, or silt loam

BE horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—loam, silt loam, clay loam, or silty clay loam

Bt horizon (upper part):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6 and chroma of 4 to 8
Texture—clay, silty clay, silty clay loam or clay loam
Redoximorphic features—iron depletions in shades of brown and yellow

Bt horizon (lower part):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 8; or multicolored
Texture—clay, silty clay, silty clay loam, or clay loam
Mottles—shades of yellow, red, and brown
Redoximorphic features—iron depletions in shades of gray, brown, and yellow and masses of oxidized iron in shades of red, yellow, and brown

Btg horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y; value of 5 to 7, and chroma of 0 to 2
Texture—clay, silty clay, silty clay loam, or clay loam
Redoximorphic features—masses of oxidized iron in shades of red, yellow, and brown

BC horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 8
Texture—loam, silt loam, sandy clay loam, clay loam, silty clay loam, silty clay, or clay
Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red, yellow, and brown

BCg horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y; value of 5 to 7, and chroma of 0 to 2
Texture—loam, silt loam, sandy clay loam, clay loam, silty clay loam, silty clay, or clay

Redoximorphic features—masses of oxidized iron in shades of red, yellow, and brown

Cg horizon (where present):
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7, and chroma of 0 to 2
Texture—variable; ranging from fine sandy loam to clay
Redoximorphic features—masses of oxidized iron in shades of red, yellow, and brown

Pittsboro Series

Depth class: Moderately deep
Drainage class: Moderately well drained
Permeability: Very slow
Parent material: Residuum weathered from basalt, greenstone, gabbro, diabase, diorite, or other mafic rock
Landscape: Piedmont uplands
Landform: Ridges and side slopes
Slope: 2 to 8 percent
Commonly associated soils: Iredell, Lignum, Cid, Callison, Nanford, and Badin
Taxonomic class: Fine, mixed, active, thermic Oxyaquic Hapludalfs

Typical Pedon

Pittsboro gravelly sandy loam in an area of Pittsboro-Iredell complex, 2 to 8 percent slopes, stony; in Chatham County, from Pittsboro, about 6.9 miles north on Secondary Road 1516, left onto gravel road for 450 feet, about 20 feet north of the road in a small patch of red cedar trees remaining in clear cut area; Bynum USGS topographic quadrangle; lat. 35 degrees 48 minutes 32 seconds N. and long. 79 degrees 00 minutes 45 seconds W.

A1—0 to 5 inches; brown (10YR 4/3) gravelly sandy loam; moderate fine granular structure; friable; slightly sticky and non-plastic; many fine roots; 27 percent, by volume, gravel; slightly acid; abrupt smooth boundary.
A2—5 to 9 inches; dark yellowish brown (10YR 4/4) gravelly loam; weak course granular structure; friable; slightly sticky and non-plastic; common fine roots; 31 percent, by volume, gravel; slightly acid; clear smooth boundary.
BE—9 to 16 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable; moderately sticky and moderately plastic; common fine roots; 10 percent, by volume, gravel; slightly acid; gradual wavy boundary.
Btss1—16 to 24 inches; yellowish brown (10YR 5/6) clay; moderate medium angular blocky structure; firm; very sticky and very plastic; common fine roots; common distinct clay films on faces of peds; common distinct nonintersecting slickensides; slightly acid; clear wavy boundary.
Btss2—24 to 33 inches; yellowish brown (10YR 5/6) clay; moderate medium angular blocky structure; very firm; very sticky and very plastic; common fine roots; common fine prominent black (10YR 2/1) soft masses of manganese accumulation; common distinct clay films on faces of peds; common distinct nonintersecting slickensides; neutral; clear wavy boundary.
BCt—33 to 36 inches; yellowish brown (10YR 5/6) clay loam; weak coarse subangular blocky structure; very firm; very sticky and very plastic; few fine roots; common medium prominent light gray (10YR 7/1) iron depletions in the matrix and common medium distinct grayish brown (10YR 5/2) iron depletions lining old root channels; few faint clay films on faces of peds; neutral; clear wavy boundary.
C—36 to 38 inches; yellowish brown (10YR 5/6) clay loam saprolite; massive; firm; very sticky and moderately plastic; few fine roots; neutral; abrupt wavy boundary.

Cr—38 to 43 inches; weathered, moderately fractured meta-basalt
R—43 inches; unweathered, slightly fractured meta-basalt

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock
Content and size of rock fragments: 0 to 60 percent, by volume, in the A, Ap, E, EB, and BE horizons and 0 to 35 percent, by volume, in the Bt, Btss, BC and C horizons; ranging from gravel to cobbles
Reaction: Very strongly acid to slightly alkaline in the A, Ap, E, and EB horizons and strongly acid to moderately alkaline in the Bt, Btss, BC, and C horizons

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—sandy loam or loam

E horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 6
Texture (fine-earth fraction)—loam, sandy loam, silt loam, or fine sandy loam

BE or EB horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 6
Texture (fine-earth fraction)—loam, silt loam, sandy loam, sandy clay loam, clay loam, or silty clay loam

Bt horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—clay, clay loam, sandy clay, or silty clay
Mottles (where present)—shades of brown and yellow
Redoximorphic features (where present)—iron depletions that have chroma of 2 or less in the upper 10 inches of the Bt horizon, masses of oxidized iron in shades of red and brown, and iron-manganese accumulations in shades of black

Btss horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6 and chroma of 4 to 8
Texture (fine-earth fraction)—clay, sandy clay, or silty clay
Mottles (where present)—shades of brown and yellow
Redoximorphic features (where present)—iron depletions in shades of gray below the upper 10 inches of the Bt horizon, masses of oxidized iron in shades of red, yellow, and brown, and iron-manganese accumulations in shades of black and gray

BCt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8; or multicolored in shades of brown, yellow, black, and white
Texture (fine-earth fraction)—clay loam, sandy clay loam, sandy clay, silty clay loam, sandy loam, or loam
Redoximorphic features (where present)—iron depletions in shades of gray and brown, masses of oxidized iron in shades of red, brown, and gray, and iron-manganese accumulations in shades of black

C or CB horizon:
Color—multicolored in shades of brown, yellow, and white
Texture (fine earth fraction)—variable; commonly clay loam, loam, sandy loam, or silt loam saprolite

Cr layer:
Type of bedrock—weathered, moderately fractured to highly fractured mafic rock

R layer:
Type of bedrock—unweathered, slightly fractured mafic rock

Polkton Series

Depth class: Moderately deep
Drainage class: Moderately well drained
Permeability: Very slow
Parent material: Residuum weathered from Triassic sandstone, mudstone, shale, siltstone, or conglomerate
Landscape: Uplands in the Triassic Basin
Landform: Interstream divides, ridges and side slopes
Slope: 2 to 15 percent
Commonly associated soils: White Store, Creedmoor, Green Level, Carbonton, Brickhaven, and Mayodan
Taxonomic class: Fine, mixed, active, thermic Oxyaquic Vertic Hapludalfs

Typical Pedon

Polkton silt loam in an area of White Store-Polkton complex, 2 to 6 percent slopes; in Chatham County, from Pittsboro, about 10.6 miles east on U.S. Highway 64, about 5.1 miles south on State Road 1008 to gated abandoned road on left, about 320 feet west, in woods; New Hill USGS topographic quadrangle; lat. 35 degrees 40 minutes 50 seconds N. and long. 78 degrees 59 minutes 41 seconds W.

A—0 to 4 inches; pale brown (10YR 6/3) silt loam; moderate medium granular structure; friable; many very fine and fine and few medium roots; very strongly acid; clear smooth boundary.
E—4 to 8 inches light yellowish brown (10YR 6/4) silt loam; moderate medium granular structure; friable; common very fine and fine, and few medium roots.
BE—8 to 15 inches; brownish yellow (10YR 6/6) sandy clay loam; moderate fine subangular blocky structure; friable; slightly sticky and slightly plastic; common very fine and few medium roots; few faint clay films on faces of peds; very strongly acid; clear smooth boundary.
Btss1—15 to 22 inches; yellowish red (5YR 5/8) clay; strong medium angular blocky structure; very firm; very sticky and very plastic; few medium roots; common distinct clay films on faces of peds; common nonintersecting slickensides; very strongly acid; gradual wavy boundary.
Btss2—22 to 27 inches; yellowish red (5YR 5/6) clay; strong, medium angular blocky structure; very firm; very sticky and very plastic; few fine distinct pinkish gray (5YR 7/2) iron depletions; common distinct clay films on faces of peds; common nonintersecting slickensides; very strongly acid; clear wavy boundary.
BC—27 to 30 inches; brown (7.5YR 5/4) silty clay loam; weak medium subangular blocky structure; friable; moderately sticky and moderately plastic; few very fine roots; many medium distinct pinkish gray (5YR 7/2) iron depletions and few fine prominent red (2.5YR 4/8) masses of oxidized iron; few faint clay films on faces of peds; very strongly acid; clear smooth boundary.
C—30 to 33 inches; pinkish gray (5YR 6/2) silt loam saprolite; few medium distinct reddish yellow (5YR 6/8) and few fine distinct reddish brown (5YR 4/3) mottles; massive; friable; slightly sticky and slightly plastic; very strongly acid; abrupt wavy boundary.
Cr—33 to 60 inches; weathered Triassic siltstone.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock
Content and size of rock fragments: less than 10 percent throughout; mostly gravel
Reaction: Very strongly acid to slightly acid in the A, Ap, and E horizons and very strongly acid or strongly acid in the Btss, Bt, BC, and C horizons, except where lime has been applied

A or Ap horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 2 to 4
Texture—silt loam

E horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 6
Texture—silt loam, loam, fine sandy loam, or sandy loam

BE horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—clay loam, sandy clay loam, silty clay, or silty clay loam

Bt horizon (where present):
Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—clay, silty clay, or sandy clay
Redoximorphic features—iron depletions in shades of yellow and brown

Btss horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—clay, silty clay, or sandy clay
Redoximorphic features—iron depletions in shades of yellow and brown; iron depletions that have chroma 2 or less are below the upper 10 inches of the Btss horizon and within a depth of 40 inches

BC horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—silty clay loam, clay loam, loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of brown, yellow, and gray and masses of oxidized iron in shades of red, brown, and yellow

C horizon:
Color—hue of 2.5YR to 2.5Y, value of 3 to 7, and chroma of 1 to 8
Texture—variable; commonly silt loam saprolite
Mottles—shades of red, yellow, and brown

Cr layer:
Type of bedrock—weathered Triassic siltstone, mudstone, shale, sandstone, or conglomerate

R layer (where present):
Type of bedrock—unweathered Triassic siltstone, mudstone, shale, sandstone, or conglomerate

Riverview Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape: Piedmont river and stream valleys

Landform: Flood plains
Parent material: Alluvium
Slope: 0 to 3 percent
Commonly associated soils: Chewacla, Wehadkee, State, Moncure, and Merry Oaks
Taxonomic class: Fine-loamy, mixed, active, thermic Fluventic Dystrudepts

Typical Pedon

Riverview sandy loam, 0 to 3 percent slopes, frequently flooded; in Chatham County, west of Pittsboro about 9.2 miles on U.S. Highway 64, about 4.6 miles south on Secondary Road 2170, about 200 feet southwest of road, in pasture; Siler City N.E. USGS topographic quadrangle; lat. 35 degrees 40 minutes 22 seconds N. and long. 79 degrees 22 minutes 00 seconds W.

Ap—0 to 8 inches; brown (7.5YR 5/4) silt loam; moderate medium granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.

A—8 to 18 inches; brown (7.5YR 4/4) silt loam; moderate medium granular structure; friable; common fine roots; neutral; clear smooth boundary.

Bw1—18 to 26 inches; brown (7.5YR 4/4) loam; moderate fine subangular blocky structure; friable; few fine roots; moderately acid; gradual smooth boundary.

Bw2—26 to 43 inches; strong brown (7.5YR 5/6) loam; moderate fine subangular blocky structure; friable; few fine roots; few fine distinct light brown (7.5YR 6/4) iron depletions and few fine distinct brown (7.5YR 4/4) masses of oxidized iron and manganese accumulations; slightly acid; clear smooth boundary.

Bw3—43 to 46 inches; strong brown (7.5YR 5/6) loam; weak fine subangular blocky structure; friable; few fine prominent pinkish gray (7.5YR 6/2) iron depletions and many medium faint brown (7.5YR 5/4) masses of oxidized iron; moderately acid; clear smooth boundary.

C1—46 to 55 inches; brown (7.5YR 4/4) sandy loam; massive; friable; strongly acid; gradual smooth boundary.

C2—55 to 60 inches; reddish yellow (7.5YR 6/8) clay loam; massive; friable; many medium faint strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 24 to 60 inches
Depth to bedrock: More than 60 inches
Reaction: Very strongly acid to slightly acid in the Ap or A horizons and very strongly acid to moderately acid in the Bw, BC, and C horizons, except where lime has been applied

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 6
Texture—silt loam

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 6 and chroma of 3 to 8; some pedons have a subhorizon that has hue of 5YR, value of 4 or 5, and chroma of 3 or 4
Texture—clay loam, sandy clay loam, loam, fine sandy loam, silt loam, or silty clay loam
Redoximorphic features—iron depletions that have chroma of 2 or less at depths of 24 inches or more, iron depletions in shades of yellow and brown, and masses of oxidized iron in shades of yellow, red, and brown

BC horizon (where present):
Color—hue of 7.5YR or 10YR, value of 3 to 5 and chroma of 2 to 6
Texture—sandy loam, loam, fine sandy loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of gray, masses of oxidized

iron in shades of yellow, brown, and red, and manganese accumulations in shades of black

C horizon:

Color—hue of 7.5YR or 10YR, value of 4 to 8, and chroma of 4 to 8

Texture—loam, fine sandy loam, sandy loam, loamy fine sand, or loamy sand that may have thin strata of silty clay loam or clay loam

Redoximorphic features (where present)—iron depletions in shades of gray, brown, and yellow, masses of oxidized iron in shades of yellow, brown, and red, and manganese accumulations in shades of black

State Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Alluvium
Landscape: Piedmont river and stream valleys
Landform: Stream terraces
Slope: 2 to 6 percent
Commonly associated soils: Mattaponi, Peawick, Riverview, Merry Oaks, and Moncure
Taxonomic class: Fine-loamy, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

State sandy loam, 2 to 6 percent slopes; in Chatham County, south of Pittsboro on U.S. Highway 15-501, left (southeast) on Secondary Road 1012, about 2.1 miles north on U.S. Highway 1, about 0.6 mile on Secondary Road 1972, about 0.4 mile east on a private farm road, about 80 feet north of farm road, in cultivated field; USGS Merry Oaks topographic quadrangle; lat. 35 degrees 37 minutes 33 seconds N. and long. 79 degrees 02 minutes 43 seconds W.

Ap—0 to 12 inches; light yellowish brown (10YR 6/4) sandy loam; weak fine granular structure; very friable; many fine roots; slightly acid; abrupt smooth boundary.

Bt1—12 to 17 inches; yellowish brown (10YR 5/6) sandy loam; weak fine subangular blocky structure; friable; few fine roots; strongly acid; gradual clear smooth boundary.

Bt2—17 to 27 inches; strong brown (7.5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky and non-plastic; few faint clay films on faces of peds; strongly acid; gradual smooth boundary.

Bt3—27 to 45 inches; strong brown (7.5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; firm; common medium distinct brownish yellow (10YR 6/8) iron depletions and common medium distinct yellowish red (5YR 5/8) masses of oxidized iron; very strongly acid; gradual smooth boundary.

Bt4—45 to 58 inches; strong brown (7.5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky and non-plastic; many medium distinct brownish yellow (10YR 6/8) and common medium prominent very pale brown (10YR 8/2) iron depletions and common medium prominent red (2.5YR 4/8) masses of oxidized iron; very strongly acid; gradual smooth boundary.

Bt5—58 to 84 inches; strong brown (7.5YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; many medium brownish yellow (10YR 6/8) and common medium prominent very pale brown (10YR 8/2) iron depletions and common medium prominent red (2.5YR 4/8) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 30 to more than 60 inches
Depth to bedrock: More than 60 inches
Reaction: Extremely acid to strongly acid in the upper part of the solum, except where lime has been applied, and very strongly acid to slightly acid in the lower part of the solum and C horizon
Content and size of rock fragments: 0 to 2 percent, by volume, in the A, E, and B horizons and 0 to 25 percent in the C horizon; gravel

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 6
Texture—sandy loam

E horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—loamy coarse sand, loamy sand, loamy fine sand, sandy loam, very fine sandy loam, fine sandy loam, silt loam, or loam

BA or BE horizons (where present):
Color—hue of 7.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—Sandy loam, fine sandy loam, very fine sandy loam, loam, or sandy clay loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy clay loam, clay loam, sandy loam, or loam
Redoximorphic features—iron depletions in shades of gray, yellow, and brown below 42 inches and masses of oxidized iron in shades of yellow, red, and brown

BC or CB horizons (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of gray, yellow, and brown and masses of oxidized iron in shades of red, yellow, and brown

C or 2C horizon(where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8; or multicolored in these or other hues without a dominant matrix color
Texture (fine earth fraction)—variable; stratified sediments including sand, loamy sand, loamy fine sand, and sandy loam
Redoximorphic features—iron depletions in shades of gray, yellow, and brown and masses of oxidized iron in shades of red, yellow, and brown

Tarrus Series

Depth class: Deep
Drainage class: Well drained
Permeability: Moderate
Landscape: Piedmont uplands in the Carolina Slate Belt
Landform: Ridges and side slopes
Parent material: Residuum weathered from fine-grained metavolcanic rock
Slope: 2 to 15 percent

Commonly associated soils: Nanford, Badin, Georgeville, Herndon, Lignum, Cid, Callison, and Goldston

Taxonomic class: Fine, kaolinitic, thermic Typic Kanhapludults (fig. 19)

Typical Pedon

Tarrus silt loam in an area of Badin-Tarrus complex, 2 to 8 percent slopes; in Randolph County, about 0.9 mile east of intersection of Secondary Road 1181 and Secondary Road 1105, about 500 feet north of intersection of Secondary Road 1105 and logging

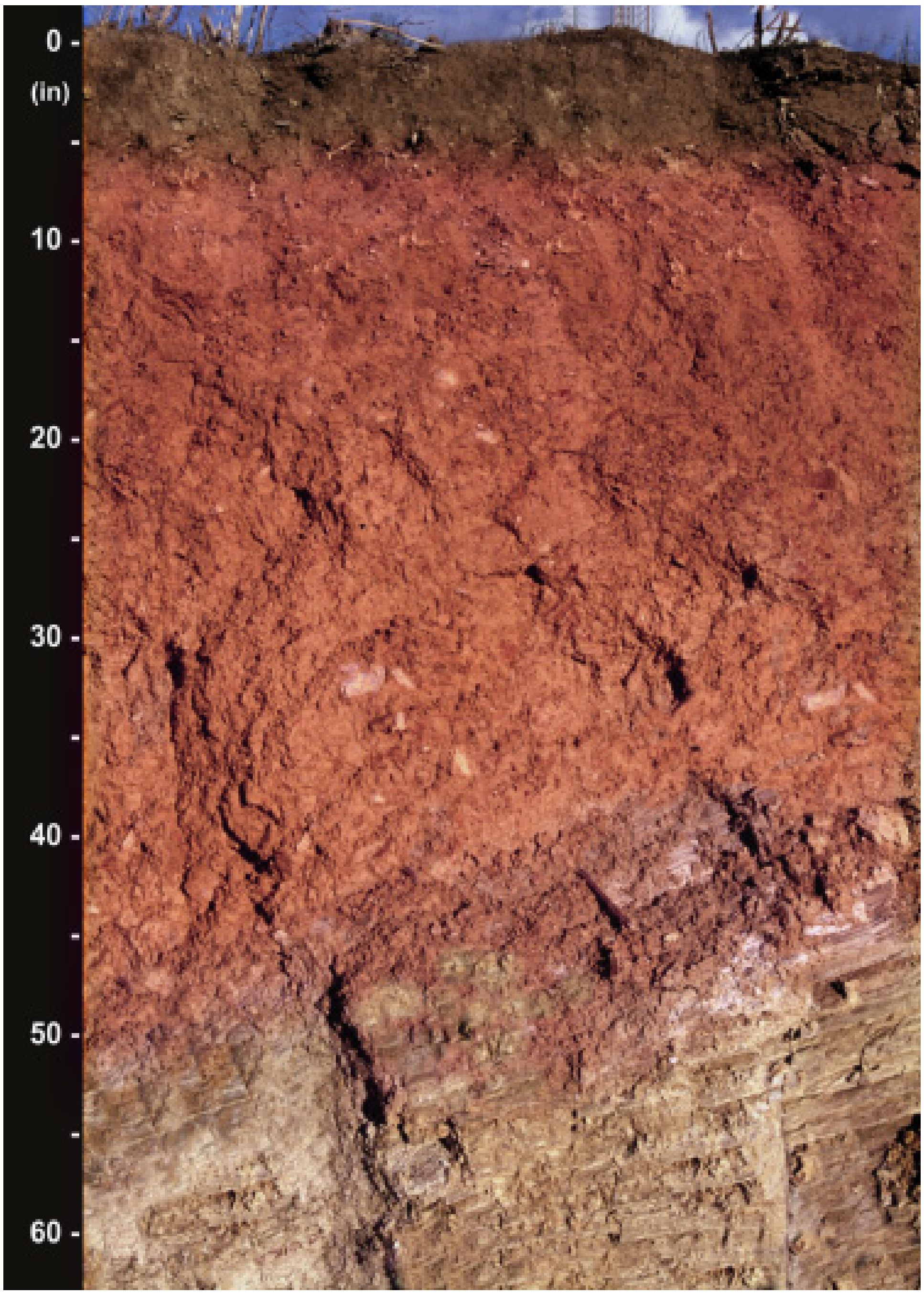

Figure 19.—Profile of a soil in the Tarrus series.

road, about 30 feet west of logging road; Eleazer USGS topographic quadrangle; lat. 35 degrees 39 minutes 23 seconds N. and long. 79 degrees 58 minutes 42 seconds W.

A—0 to 6 inches; reddish yellow (7.5YR 6/6) silt loam; weak fine granular structure; friable; common fine and medium roots; strongly acid; clear smooth boundary.

Bt1—6 to 20 inches; red (2.5YR 5/8) silty clay; moderate medium subangular blocky structure; firm; slightly sticky and slightly plastic; few fine roots; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—20 to 44 inches; red (2.5YR 5/8) clay; common medium prominent brownish yellow (10YR 6/8) mottles; moderate medium subangular blocky structure; firm; slightly sticky and slightly plastic; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Cr—44 to 62 inches; weathered, moderately fractured argillite.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to bedrock: 40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock
Reaction: Very strongly acid or strongly acid, except where lime has been applied
Content and size of rock fragments: 0 to 40 percent, by volume, throughout; quartz and slate channers

A or Ap horizon:
Color—hue of 5YR to 10YR, value of 3 to 6, and chroma of 2 to 8
Texture (fine-earth fraction)—silt loam; eroded areas are silty clay loam

E horizon (where present):
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 3 to 6
Texture (fine-earth fraction)—loam, silt loam, or fine sandy loam

BE horizon (where present):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture (fine earth fraction)—loam, silt loam, clay loam, or silty clay loam

Bt horizon:
Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 or 8
Texture (fine-earth fraction)—silty clay loam, clay loam, silty clay, or clay
Mottles—shades of red, brown, and yellow

BC or CB horizon (where present):
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—clay loam, silty clay loam, silty clay, or clay
Mottles—shades of yellow, red, and brown

C horizon (where present):
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—silt loam, loam, clay loam, silty clay loam, silty clay, or clay saprolite
Mottles—shades of yellow, red, and brown

Cr layer:
Type of bedrock—weathered, slightly fractured to highly fractured fine-grained metavolcanic rock

Turbeville Series

Depth class: Very deep
Drainage class: Well drained

Permeability: Moderate
Parent material: Old alluvium
Landscape: Piedmont river and stream valleys
Landform: High stream terraces
Slope: 0 to 2 percent
Commonly associated soils: Mattaponi, State, Peawick, Merry Oaks, and Moncure
Taxonomic class: Fine, kaolinitic, thermic Typic Kandiudults

Typical Pedon

Turbeville fine sandy loam, 0 to 2 percent slopes; in Chatham County, from the Brickhaven community, about 500 feet east on gravel road that leads to landfill, about 100 feet north, in cultivated field; Moncure USGS topographic quadrangle; lat. 35 degrees 34 minutes 35 seconds N. and long. 79 degrees 01 minute 38 seconds W.

Ap—0 to 9 inches; brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; very friable; common fine and medium roots; slightly acid; abrupt smooth boundary.

Bt1—9 to 16 inches; yellowish red (5YR 5/8) clay loam; weak medium subangular blocky structure; friable; moderately sticky and slightly plastic; common fine roots; common faint clay bridges between sand grains; moderately acid; gradual smooth boundary.

Bt2—16 to 30 inches; red (2.5YR 5/8) clay; weak medium subangular blocky structure; firm; very sticky and slightly plastic; few fine roots; few faint clay films on faces of peds; common faint clay bridges between sand grains; moderately acid; diffuse wavy boundary.

Bt3—30 to 65 inches; red (2.5YR 4/8) clay; weak medium subangular blocky structure; firm; very sticky and slightly plastic; few faint clay films on faces of peds; common faint clay bridges between sand grains; strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Depth to bedrock: More than 60 inches
Content and size of rock fragments: 0 to 35 percent, by volume, throughout; mostly rounded quartz pebbles
Reaction: Very strongly acid to moderately acid, except where lime has been applied

A or Ap horizon:
Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 2 to 4
Texture (fine-earth fraction)—fine sandy loam

E horizon (where present):
Color—hue of 5YR to 10YR, value of 5 to 7, and chroma of 4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, loam, or silt loam

BE horizon (where present):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8;
Texture (fine-earth fraction)—fine sandy loam, loam, sandy clay loam or clay loam

Bt horizon (upper part):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—clay loam, sandy clay, or clay

Bt horizon (lower part):
Color—hue of 10R to 5YR, value of 3 or 4, and chroma of 4 to 8; some pedons have thin sub horizons that have values of 3 or less
Texture (fine-earth fraction)—clay loam, sandy clay, or clay

BC horizon (where present):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, or sandy clay

Udorthents

Depth class: Moderately deep to very deep
Drainage class: Variable; moderately well drained to excessively drained
Permeability: Very slow to moderate
Parent material: Loamy residuum weathered from variable types of bedrock
Landscape: Piedmont uplands throughout the entire county; mainly near towns, major highways, and industrial sites
Landform: Mainly uplands where the natural soil has been excavated or depressions that have been covered by earthy fill material
Slope: 0 to 10

Typical Pedon

A typical pedon is not given due to the variable nature of the soil material. Udorthents consist of cut and fill areas where soil has been removed and placed on an adjacent site. To a lesser extent, it includes landfills, borrow areas, and recreational areas such as baseball fields.

Range in Characteristics

Properties are variable and depend on the type of fill material used and the type of bedrock exposed at the surface
Depth to bedrock: Variable; more than 20 inches to soft bedrock or hard bedrock

Vance Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Slow
Parent material: Residuum weathered from mixed felsic and intermediate igneous rock
Landscape: Piedmont uplands
Landform: Ridges and side slopes
Slope: 2 to 6 percent
Commonly associated soils: Wedowee and Helena
Taxonomic class: Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Vance sandy loam, 2 to 6 percent slopes; in Chatham County, about 7.2 miles north of Pittsboro on U.S. Highway 15-501, about 0.2 mile east on farm road, 20 feet east, in field; Farrington USGS topographic quadrangle; lat. 35 degrees 48 minutes 26 seconds N. and long. 79 degrees 05 minutes 42 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) sandy loam; moderate medium granular structure; very friable; common fine and medium roots; slightly acid; abrupt smooth boundary.
Bt1—8 to 18 inches; strong brown (7.5YR 5/8) clay; common fine prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; firm; moderately sticky and moderately plastic; few fine roots; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt2—18 to 30 inches; strong brown (7.5YR 5/8) clay; many medium prominent red (2.5YR 4/8), many medium distinct yellowish red (5YR 5/6), and many medium

distinct light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; very firm; very sticky and moderately plastic; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

BC—30 to 39 inches; yellowish red (5YR 5/8) sandy clay that has a few pockets of sandy clay loam saprolite; common medium distinct strong brown (7.5YR 5/6) and few fine prominent white (10YR 8/1) mottles; weak coarse subangular blocky structure; firm; moderately sticky and slightly plastic; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

C—39 to 60 inches; yellowish red (5YR 5/8) sandy clay loam saprolite; common medium distinct strong brown (7.5YR 5/6) and few fine prominent white (10YR 8/1) mottles; massive; friable; very strongly acid.

Range in Characteristics

Solum thickness: 24 to 40 inches
Depth to bedrock: More than 60 inches
Content and size of rock fragments: 0 to 35 percent, by volume, in the A and E horizons and 0 to 10 percent, by volume, in the B and C horizons
Reaction: Very strongly acid to moderately acid in the A horizon, except where lime has been applied, and very strongly acid to strongly acid in the B and C horizons

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 2 to 6
Texture—sandy loam

E horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 6
Texture—fine sandy loam, sandy loam, or coarse sandy loam

BA or BE horizon (where present):
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—clay loam or sandy clay loam
Mottles—shades of red, brown, and yellow

Bt horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—clay, clay loam, or sandy clay
Mottles—shades of brown, yellow, and red

BC horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—clay loam, sandy clay loam, clay, sandy clay, or loam
Mottles—shades of brown, yellow, red, and white

C horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8; or multicolored in shades of these colors
Texture—variable; commonly clay loam, sandy clay loam, loam, or sandy loam saprolite
Mottles—shades of brown, yellow, white, and red

Wedowee Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Residuum weathered from felsic crystalline rocks
Landscape: Piedmont uplands

Landform: Interstream divides, ridges and side slopes
Commonly associated soils: Pacolet, Cecil, Helena and Vance
Slope: 2 to 35 percent
Taxonomic class: Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Wedowee sandy loam, 6 to 10 percent slopes; in Chatham County, about 11 miles north of Pittsboro on U.S. Highway 15-501, about 600 feet east on Secondary Road 1721, about 200 feet south of road, in a pasture; Farrington USGS topographic quadrangle; lat. 35 degrees 45 minutes 57 seconds N. and long. 79 degrees 01 minutes 27 seconds W.

Ap—0 to 5 inches; yellowish brown (10YR 5/4) sandy loam; weak fine granular structure; very friable; many very fine and fine and common medium roots; moderately acid; abrupt smooth boundary.

Bt—5 to 28 inches; strong brown (7.5YR 5/8) clay; common medium prominent yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; firm; few fine and medium roots; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

BCt—28 to 51 inches; reddish yellow (5YR 6/6) clay loam; common fine prominent yellow (10YR 7/6) and (10YR 7/8) and common fine prominent very pale brown (10YR 7/4) mottles; weak coarse subangular blocky structure; friable; few distinct clay films on faces of peds; extremely acid; gradual wavy boundary.

C—51 to 62 inches; reddish yellow (5YR 6/6) sandy loam saprolite; many fine prominent yellow (10YR 7/6) and (10YR 7/8) and common fine prominent very pale brown (10YR 7/4) mottles; massive; friable; extremely acid.

Range in Characteristics

Solum thickness: 20 to more than 40 inches
Depth to bedrock: More than 60 inches
Content and size of rock fragments: 0 to 35 percent in the A and E horizons and 0 to 15 percent in the BE, Bt, BCt, and CB horizons; mostly gravel
Reaction: Extremely acid to strongly acid, except where lime has been applied

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 8
Texture (fine-earth fraction)—sandy loam

E horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, coarse sandy loam, loam, or coarse loamy sand

BE horizon (where present):
Color—hue of 5YR to 10YR, value of 4 to 7, and chroma of 3 to 8
Texture—loam, fine sandy loam, sandy loam, sandy clay loam or clay loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 6 or 8
Texture—sandy clay loam, clay loam, sandy clay, or clay
Mottles—shades of red, yellow, and brown

BCt horizon:
Color—hue of 2.5YR to 10YR, value of 5 to 7, and chroma of 4 to 8; or multicolored in shades of red, yellow, white, and brown
Texture—sandy clay loam, clay loam, loam, or fine sandy loam
Mottles (where present)—shades of red, yellow, white, and brown

C horizon:
Color—multicolored in shades of red, yellow, white, and brown
Texture—sandy clay loam, clay loam, loam, fine sandy loam, or sandy loam saprolite

Wehadkee Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Recent alluvium
Landscape: Piedmont river and stream valleys
Landform: Flood plains
Slope: 0 to 2 percent
Commonly associated soils: Chewacla, Riverview, Moncure, and Merry Oaks
Taxonomic class: Fine-loamy, mixed, active, nonacid, thermic Fluvaquentic Endoaquepts

Typical Pedon

Wehadkee silt loam in an area of Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded; in Chatham County, about 8.9 miles north of Pittsboro on U.S. Highway 15-501, about 0.8 mile west on Secondary Road 1528, about 300 feet south of Secondary Road 1528, in hardwood forest; Farrington USGS topographic quadrangle; lat. 35 degrees 48 minutes 38 seconds N. and long. 79 degrees 08 minutes 43 seconds W.

A—0 to 2 inches; dark brown (10YR 3/3) silt loam; moderate fine granular structure; very friable; many fine and medium roots; slightly acid; abrupt smooth boundary.
Bg1—2 to 20 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium subangular blocky structure; friable; common fine and medium roots; common fine prominent strong brown (7.5YR 4/6) masses of oxidized iron; few fine flakes of mica; moderately acid; gradual wavy boundary.
Bg2—20 to 32 inches; light brownish gray (2.5Y 6/2) loam; weak medium subangular blocky structure; friable; few fine roots; few fine prominent strong brown (7.5YR 4/6) and few medium prominent yellowish brown (10YR 5/6) masses of oxidized iron; few fine flakes of mica; very strongly acid; clear smooth boundary.
Cg—32 to 62 inches; light brownish gray (2.5Y 6/2) coarse sandy loam; single grained; loose; few fine flakes of mica; slightly acid.

Range in Characteristics

Solum thickness: 20 to more than 60 inches
Depth to bedrock: More than 60 inches
Content and size of rock fragments: 0 to 15 percent in the A and Bg horizons and 0 to 35 percent in the Cg horizons
Reaction: Very strongly acid to neutral; commonly, part of the 10 to 40 inches control section is moderately acid to neutral

A or Ap horizon:
Color—neutral in hue or hue of 10YR or 2.5Y; value of 3 to 6, and chroma of 0 to 4
Texture—silt loam

Bg horizon:
Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 6, and chroma of 0 to 2
Texture—silt loam, loam, silty clay loam, clay loam, or sandy clay loam

Redoximorphic features—masses of oxidized iron in shades of red, yellow, and brown and manganese accumulations in shades of black

Cg horizon:

Color—neutral in hue or hue of 10YR to 5Y; value of 4 to 7, and chroma of 0 to 2

Texture (fine-earth fraction)—sandy loam, loam, or silt loam; some pedons have stratified layers of sandy clay loam, clay loam, silty clay loam, loamy sand, course sandy loam, sand, or gravel; sandy textures are restricted to depths below 40 inches

Redoximorphic features—masses of oxidized iron in shades of red, yellow, and brown and manganese accumulations in shades of black

White Store Series

Depth class: Deep
Drainage class: Moderately well drained
Permeability: Very slow
Parent material: Residuum weathered from Triassic sandstone, mudstone, siltstone, shale, and conglomerate
Landscape: Triassic Basin uplands
Landform: Interstream divides, ridges and side slopes
Commonly associated soils: Polkton, Creedmoor, Green Level, Carbonton, Brickhaven, and Mayodan
Slope: 2 to 15 percent
Taxonomic class: Fine, mixed, active, thermic Oxyaquic Vertic Hapludalfs

Typical Pedon

White Store loam in an area of White Store-Polkton complex, 2 to 6 percent slopes; in Chatham County, from Pittsboro, about 10.6 miles east on U.S. Highway 64, about 5.1 miles south on Secondary Road 1008, left about 320 feet on abandoned gated secondary road, about 25 feet left of road, in woods; New Hill USGS topographic quadrangle; lat. 35 degrees 40 minutes 51 seconds N. and long. 78 degrees 59 minutes 45 seconds W.

Ap—0 to 8 inches; light yellowish brown (10YR 6/4) loam; moderate fine granular structure; friable; many fine and medium roots; very strongly acid; clear smooth boundary.

Btss1—8 to 23 inches; mixed strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) clay; strong medium angular blocky structure; very firm; very sticky and very plastic; few medium roots; common medium distinct pale brown (10YR 6/3) iron depletions and common medium distinct yellowish red (5YR 4/6) masses of oxidized iron; common distinct clay films on faces of peds; common nonintersecting slickensides; extremely acid; gradual smooth boundary.

Btss2—23 to 33 inches; yellowish brown (10YR 5/6) clay; strong medium angular blocky structure; very firm; very sticky and very plastic; common fine light gray (10YR 7/2) iron depletions; common distinct clay films on faces of peds; common nonintersecting slickensides; extremely acid; gradual smooth boundary.

BC—33 to 37 inches; light yellowish brown (10YR 6/4), yellowish brown (10YR 5/6), light gray (10YR 7/2), pale brown (10YR 6/3), and dark reddish brown (5YR 3/4) clay loam; weak medium subangular blocky structure; friable; moderately sticky and moderately plastic; very strongly acid; gradual wavy boundary.

C—37 to 42 inches; dark reddish brown (5YR 3/4), reddish brown (5YR 4/3), white (7.5YR 8/1), and light gray (10YR 7/2) sandy loam saprolite; massive; friable; very strongly acid; clear wavy boundary.

Cr—42 to 60 inches; weathered, slightly fractured Triassic sandstone

Range in Characteristics

Solum thickness: 20 to 50 inches
Depth to bedrock: 40 to 60 inches to soft bedrock and more than 72 inches to hard bedrock
Content and size of rock fragments: 0 to 15 percent, by volume, throughout
Reaction: Very strongly acid or strongly acid throughout, except where lime has been applied; exchangeable aluminum is high (10 to 25 meq/100g) in the Bt and Btss horizons

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 4
Texture—loam

E horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture—sandy loam, loam, fine sandy loam, or silt loam

BE and BA horizons (where present):
Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—clay loam, sandy clay loam, silty clay, or silty clay loam

Bt horizon (where present):
Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—clay or silty clay with thin layers of clay loam, sandy clay loam, silty clay, sandy clay, or silty clay loam
Redoximorphic features—iron depletions that have chroma of 2 or less below the upper 10 inches of the argillic horizon and masses of oxidized iron in shades of red, brown, and yellow

Btss horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—clay
Redoximorphic features—iron depletions that have chroma of 2 or less below the upper 10 inches of the argillic horizon and masses of oxidized iron in shades of red, brown, and yellow

BC horizon:
Color—hue of 2.5YR to 2.5Y, value of 3 to 6, and chroma of 3 to 8
Texture—silt loam, silty clay loam, clay loam, loam, sandy clay loam, sandy loam, or clay
Redoximorphic features (where present)—iron depletions in shades of gray, yellow, and brown and masses of oxidized iron in shades of red, brown, and yellow

C horizon:
Color—hue of 2.5YR to 2.5Y, value of 3 to 6, and chroma of 3 to 8; or mottled in shades of these colors
Texture—variable; commonly loam saprolite

Cg horizon:
Color—hue of 2.5YR to 2.5Y, value of 3 to 6, and chroma of 1 or 2; or neutral in hue and value of 3 to 8
Texture—variable, ranging from loamy sand to clay saprolite

Cr layer:
Type of bedrock—weathered, partially consolidated Triassic siltstone, mudstone, sandstone, shale, or conglomerate

Wynott Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Slow
Landscape: Piedmont uplands
Landform: Ridges
Parent material: Residuum weathered from gabbro, diorite, and other mafic rocks
Slope: 2 to 15 percent
Commonly associated soils: Enon
Taxonomic class: Fine, mixed, active, thermic Typic Hapludalfs

Typical Pedon

Wynott sandy loam in an area of Wynott-Enon complex, 2 to 8 percent slopes; in Randolph County, about 0.4 mile east of intersection of Secondary Road 1547 and Secondary Road 1545, about 75 feet north of Secondary Road 1545, in woods; Glenola USGS topographic quadrangle; lat. 35 degrees 50 minutes 15 seconds N. and long. 79 degrees 58 minutes 37 seconds W.

A—0 to 4 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; many large roots; very strongly acid; clear smooth boundary.
E—4 to 7 inches; light olive brown (2.5Y 5/4) sandy loam; weak fine granular structure; very friable; many large and medium roots; strongly acid; clear smooth boundary.
EB—7 to 14 inches; light olive brown (2.5Y 5/6) loam; few fine distinct light yellowish brown (10YR 6/4) mottles; weak fine subangular blocky structure; common medium roots; strongly acid; clear smooth boundary.
Bt—14 to 24 inches; yellowish brown (10YR 5/8) clay; strong medium subangular blocky structure; very firm; moderately sticky and moderately plastic; few fine and medium roots; common prominent clay films on faces of peds; common distinct black (10YR 2/1) stains along root channels; common fine prominent yellow (2.5Y 7/8) minerals; strongly acid; gradual wavy boundary.
BC—24 to 28 inches; dark yellowish brown (10YR 4/6) sandy clay loam that has seams of clay; weak medium subangular blocky structure; firm; slightly sticky and slightly plastic; strongly acid; abrupt smooth boundary.
Cr—28 to 60 inches—weathered, moderately fractured diabase.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 20 to 40 inches to soft bedrock and 40 to more than 60 inches to hard bedrock
Reaction: Very strongly acid to slightly acid throughout, except where lime has been applied
Content and size of rock fragments: 0 to 35 percent, by volume, in the A and E horizons and 0 to 40 percent, by volume, in the B and C horizons; mostly gravel

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 8
Texture (fine-earth fraction)—sandy loam; eroded areas are sandy clay loam

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture (fine-earth fraction)—loam, sandy loam, fine sandy loam, or silt loam

EB or BE horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6

Texture (fine-earth fraction)—loam, silt loam, sandy loam, sandy clay loam, clay loam, or silty clay loam

Bt horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—clay loam, silty clay, sandy clay, or clay
Mottles—shades of yellow and brown

BC horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8; or multicolored in shades of brown, yellow, black, and white
Texture (fine-earth fraction)—sandy clay, sandy clay loam, clay loam, or loam
Mottles (where present)—shades of brown, yellow, black, and white

C horizon (where present):

Color—multicolored in shades of brown, yellow, black, and white
Texture (fine-earth fraction)—variable; commonly sandy loam, loam, or silt loam saprolite
Mottles (where present)—shades of brown, yellow, black, and white

Cr layer:

Type of bedrock—weathered, slightly fractured to highly fractured mafic rock

R layer (where present):

Type of bedrock—unweathered, very slightly fractured to highly fractured mafic rock

Formation of the Soils

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

Factors of Soil Formation

Soils are formed by processes of the environment acting upon geologic agents, such as metamorphic, igneous, and sedimentary rocks, and fluvial stream sediments. The characteristics of a soil are determined by the combined influence of parent material, climate, plant and animal life, relief, and time. These five factors are responsible for the profile development and chemical properties that differentiate soils (Buol and others, 1980).

Parent Material

Parent material is the unconsolidated mass in which a soil forms. In Chatham County, parent material is a major factor in determining what kind of soil forms and can be correlated to some degree to geologic formations. The general soil map can be used as an approximate guide to the geology of the county.

The Georgeville-Badin-Nanford association, Cid-Badin-Lignum association, Callison-Lignum association, and Nanford-Badin association units formed in materials weathered from fine-grained metavolcanic rock of the Carolina Slate Belt, such as argillite, felsic-ash flow tuffs, intermediate to mafic lava flows, volcanic breccia, tuff, volcanic greywacke, and mudstone. The Creedmoor-Green Level association and Mayodan association units formed in materials weathered from sedimentary Triassic rock, such as sandstone, conglomerate, mudstone, and siltstone. The Wedowee association and Helena-Vance-Wedowee association units formed in materials weathered from felsic igneous rock, such as granite and gneiss. The Carbonton-Brickhaven association unit formed in materials weathered from sedimentary Triassic rock, such as siltstone and mudstone. The Cecil-Pacolet association unit formed in materials weathered from felsic metamorphic and igneous rock, such as biotite gneiss, mica schist, and granite. The Peawick-Riverview-Mattaponi association unit formed in materials weathered from old alluvium. The Chewacla-Wehadkee association unit formed in materials derived from recent alluvium.

Parent material is largely responsible for the chemical and mineralogical composition of soils and for the major differences among the soils of the county. Major differences in parent material, such as differences in texture, can be observed in the field. Less distinct differences, such as differences in mineralogical composition, can be determined only by careful laboratory analysis.

Climate

Climate, particularly precipitation and temperature, affects the physical, chemical, and biological relationships in the soil. It influences the rate at which rocks weather and organic matter decomposes. The amount of leaching in a soil is related to the amount of rainfall and the movement of water through the soil. The effects of climate also control the kinds of plants and animals living in and on the soil. Temperature influences the kind and growth of organisms and the speed of chemical and physical reactions in the soil.

Chatham County has a warm, humid climate. It occupies a moderate plateau that ranges in elevation from about 150 to 774 feet. The climate favors rapid chemical processes, which result in the decomposition of organic matter and the weathering of rocks. The effects of climate are reflected in the soils of the county. Mild temperatures throughout the year and abundant rainfall have resulted in the depletion of organic matter and considerable leaching of soluble bases. Because variations in the climate of the county are small, climate has probably not caused major local differences among soils. Climate has mainly affected the formation of soils in Chatham County by altering the parent material through changes in temperature and in the amount of precipitation and through influences on plant and animal life.

Plant and Animal Life

Plants and animals influence the formation and differentiation of soil horizons. The type and number of organisms in and on the soil are determined in part by climate and in part by the nature of the soil material, relief, and the age of the soil. Bacteria, fungi, and other micro-organisms aid in the weathering of rocks and in the decomposition of organic matter. The plants and animals that live on a soil are the primary source of organic material.

Plants largely determine the kinds and amounts of organic matter that are added to a soil under normal conditions and the way in which the organic matter is added. They also are important for the changes of base status and for the leaching process of a soil.

Animals convert complex compounds into simpler forms, add organic matter to the soil, and modify certain chemical and physical properties of soil. In Chatham County most of the organic material accumulates on the surface. It is acted upon by micro-organisms, fungi, earthworms, and other forms of life and by direct chemical reaction. Organic material is mixed with the uppermost mineral part of the soil by the activities of earthworms and other small invertebrates.

Under the native forest of this county, not enough bases are brought to the surface by plants to counteract the effects of leaching. Generally, the soils of the county developed under a hardwood forest. Trees took up elements from the subsoil and added organic matter to the soil by depositing leaves, roots, twigs, and other plant remains on the surface. The material deposited on the surface was acted upon by organisms and underwent chemical reaction.

Organic material decomposes rapidly in the county because of the moderate temperature, the abundant moisture supply, and the character of the organic material. It decays so rapidly that little of it accumulates in the soil.

Relief

Relief causes differences in free drainage, surface runoff, soil temperature, and the extent of geologic erosion. Relief in Chatham County is largely determined by the kind of underlying bedrock, the geology of the area, and the extent that the landscape is dissected by streams.

Relief affects the percolation of water through the profile. Water movement through the profile is important in soil development because it aids chemical reactions and is necessary for leaching.

Slopes in the county range from 0 to 45 percent. The upland soils that have slopes of less than 8 percent generally have deeper, better defined profiles than the steeper soils. Examples are the well developed Georgeville, Herndon, and Cecil soils. Relief affects the depth of soils. On some soils that have slopes of greater than 15 percent, geologic erosion removes soil material almost as fast as it forms. As a result, most of the strongly sloping to steep soils have a thin solum. Examples are Pacolet and Louisa soils. These soils are not as deep to saprolite nor as well developed as the less sloping soils.

Relief also affects drainage. For example, a high water table usually occurs in nearly level and gently sloping areas. Cid, Lignum, Callison, White Store, Creedmoor, Green Level, and Polkton soils on uplands are moderately well drained to somewhat poorly drained because they are gently sloping and water moves through them slowly.

Soils at the lower elevations are less sloping and receive runoff from the adjacent higher areas. This runoff tends to accumulate in the nearly level to slightly concave areas. The somewhat poorly drained Chewacla soils and the poorly drained Wehadkee soils on flood plains are in these areas.

Time

The length of time that soil material has been exposed to the soil-forming processes accounts for some differences between soils. The formation of a well defined profile, however, also depends on other factors. Less time is required for a profile to develop in coarse-textured material than in similar but finer textured material, even if the environment is the same for both materials. Less time is required for a profile to develop in an area, such as Chatham County, that is warm and humid and has a dense plant cover than in a cold, dry area that has a sparse plant cover.

Soils vary considerably in age. The length of time that a soil has been forming is generally reflected in the profile. Old soils generally have better defined horizons than young soils. In Chatham County, the effects of time as a soil-forming factor are more apparent in the older soils that are in the broader parts of the uplands. Examples are Georgeville and Cecil soils. These soils have well defined horizons. In contrast, young soils, such as the Chewacla and Wehadkee soils, formed in recent alluvium on flood plains and have not been in place long enough to develop as completely as the Peawick and Mattaponi soils on the higher river terraces.

Processes of Horizon Differentiation

One or more soil-forming processes are involved in the formation of soil horizons. These processes are the accumulation of organic matter; the leaching of carbonates and other soluble material; the chemical weathering, mainly by hydrolysis, of primary minerals into silicate clay minerals; the translocation of silicate clay and some silt-sized particles from one horizon to another; and the reduction and transfer of iron.

These processes have been active in the formation of most of the soils in Chatham County. The interaction of the first four processes is indicated by the strongly expressed horizons in Georgeville and Cecil soils. All five processes have probably been active in the formation of the moderately well drained Creedmoor and Lignum soils. Some organic matter has accumulated in all of the soils in the survey area. Most of the soils contain moderate amounts of organic matter in the surface layer. The content of organic matter ranges from low, as in the moderately eroded Georgeville soils, to high, as in the Moncure soils.

Most of the soils in the survey area are acid in all layers, unless the surface layer has been limed. The majority of these soils formed in material that has a low content of carbonates; some of the carbonates and the more soluble materials have been leached into the lower layers. Georgeville and Mayodan soils are examples.

The translocation of clay minerals is an important process in the development of many soils in the survey area. As clay minerals are removed from the A horizon, they accumulate as clay films on the faces of peds, in pores, and in root channels in the B horizon.

As silicate clay forms from primary minerals, some iron commonly is released as hydrated oxides. These oxides are generally red. Even if they occur in small amounts, they give the soil material a brownish color. They are largely responsible for the strong brown, yellowish brown, reddish brown, or red colors that are dominant in the subsoil of many soils in the survey area.

The reduction and transfer of iron has occurred in all of the soils that are not characterized by good natural drainage. This process, known as gleying, is evidenced by a gray matrix color and by iron or clay depletions. Some of the iron may be reoxidized and segregated and thus form yellow, brown, red, or other brightly colored masses of oxidized iron in an essentially gray matrix in the subsoil. Nodules or concretions of iron ore or manganese also commonly form as a result of this process. Soil features associated with chemically reduced iron are referred to as redoximorphic features (Vepraskas, 1992).

Geology and Soils

The soils of Chatham County primarily formed in three parent rock systems. These systems are the Durham and Sanford Triassic Basins, the Carolina Slate Belt, and the Raleigh Belt (Horton and Zullo, 1991).

Durham Triassic Basin

The Durham Triassic Basin is located in the eastern part of Chatham County. It makes up about 11 percent of the county. The basin was formed approximately 225 million years ago during the Triassic Period (Horton and Zullo, 1991). Displacement of the land west of the Jonesboro Fault, which runs in a northwest- and southeast-trending line between Corinth and Wilton, produced a large trough known as the Durham Basin. Erosion in the higher areas east and west of the basin produced large amounts of sediments, which accumulated in the fault trough. Compaction of these sediments formed the major rock types of the Durham Triassic Basin. In Chatham County, the basin is mostly comprised of arkosic sandstone; some areas include interbedded claystones, siltstones, shale, sandstones, and conglomerates. Fanglomerates occur in areas along the eastern and northern boundaries of the basin. Several diabase dikes and sills have intruded the basin either during or after the filling of the basin (Horton and Zullo, 1991).

The major soil types that formed in residuum weathered from bedrock of the Durham Triassic Basin are Creedmoor, Green Level, Mayodan, White Store, and Polkton soils; Iredell and Pittsboro soils are in areas of diabase dikes and sills. Creedmoor, Green Level, Mayodan, White Store, Polkton, Iredell, and Pittsboro soils have a clayey subsoil, mixed mineralogy, and a high or very high shrink-swell potential. Mayodan soils have a clayey subsoil, mixed mineralogy, and a moderate shrink-swell potential.

Sanford Triassic Basin

The Sanford Triassic Basin is located in the south-central part of Chatham County. It makes up about 5 percent of the county. The basin formed approximately 235 million years ago during the early Carnian Age of the Triassic Period (Horton and Zullo, 1991). Displacement of the land west of the Jonesboro Fault, which runs in a northwest- and southeast-trending line, produced a large trough known as the Sanford Basin. Erosion in the higher areas east and west of the basin produced large amounts of sediments, which accumulated in the fault trough. Compaction of these sediments formed the major rock types of the Sanford Basin. In Chatham County, the basin is composed primarily of the Pekin Formation; the Cumnock Formation makes up a small part of the basin. The most common rocks are siltstone and mudstone and there are much smaller amounts of fine-grained sandstone and conglomerate. Fanglomerates occur in areas along the western boundary of the basin. The Sanford Basin borders the Durham Basin, which lies to the north. An area known as the Colon Cross-Structure separates the two basins. Numerous diabase dikes have intruded after the filling of the basin, especially in the Colon Cross-Structure area.

The major soil that formed in residuum weathered from bedrock of the Sanford Triassic Basin are Carbonton and Brickhaven soils and lesser amounts of Mayodan, Creedmoor, and Green Level soils. Carbonton, Brickhaven, and Mayodan soils have a clayey subsoil, mixed mineralogy, and a moderate shrink-swell potential. Creedmoor and Green Level soils have a clayey subsoil, mixed mineralogy, and a high or very high shrink-swell potential.

Carolina Slate Belt

The Carolina Slate Belt makes up about 72 percent of Chatham County. It consists of felsic to mafic metavolcanic and metasedimentary rocks that are approximately 650 to 570 million years old. The common rock types are argillite, felsic-ash flow tuffs, intermediate to mafic lava flows, volcanic breccia, tuff, volcanic greywacke, and mudstone. Separating soil types within the Carolina Slate Belt is difficult because of the local variation in type, composition, and distribution of the rocks.

The major soils are the Cid, Lignum, Georgeville, Nanford, Badin, and Callison series, with lesser amounts of Goldston, Herndon, Tarrus, and Misenheimer soils. Diabase dikes of mafic intrusive rock, such as gabbro and diorite, or a mixture of both, occur in some areas. Iredell, Pittsboro, Enon, and Wynott soils are the major soils in these dikes. Georgeville, Nanford, Herndon, and Tarrus soils have a clayey subsoil, kaolinitic mineralogy, and a low shrink-swell potential. Cid, Lignum, and Badin soils have a clayey subsoil, mixed mineralogy, and a moderate shrink-swell potential. Iredell and Pittsboro soils have a clayey subsoil, mixed mineralogy, and a high or very high shrink-swell potential. Callison, Goldston, and Misenheimer soils have a loamy subsoil, siliceous mineralogy, and a low shrink-swell potential.

Raleigh Belt

The Raleigh Belt makes up about 8 percent of Chatham County. The belt consists of two distinct areas.

The first area is in the north-central part of the county, south of Chapel Hill. This area is dominated by felsic igneous intrusive rock, such as granite, and minor intrusions of intermediate rock. Wedowee, Vance, and Helena soils are the dominant soils in this area. The soils in this area have a higher content of sand and less silt than the soils typical of the Carolina Slate Belt. Wedowee soils have a clayey subsoil, kaolinitic mineralogy, and a low shrink-swell potential. Vance and Helena soils have a clayey subsoil, mixed mineralogy, and a high shrink-swell potential. Parts of this area have boulders and large stones on the surface.

The second area is in the southeast corner of Chatham County near the Harnett County line. In this area, the common rocks are felsic metamorphic and igneous intrusive rock, such as biotite gneiss, mica schist, and granite. Cecil, Pacolet, and Wedowee soils are the dominant soils in this area. They have a clayey subsoil, kaolinitic mineralogy, and a low shrink-swell potential. The soils in this area commonly have a gravelly surface layer.

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

Access road. A road constructed to facilitate the use and management of the land. Access roads are designed for limited traffic and typically consist of a cut slope, a roadbed, and a fill outslope.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Aquifer. A water-bearing bed or stratum of permeable rock, sand, or gravel capable of fielding considerable quantities of water to wells or springs.

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.

Arkose. A sandstone containing 25 percent or more of feldspar generally derived from the disintegration of felsic igneous rock.

Aspect. The direction toward which a slope faces. Also called slope aspect.

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.

Atterberg limits. Atterberg limits are measured for soil materials passing the No. 40 sieve. They include the liquid limit (LL), which is the moisture content at which the soil passes from a plastic to a liquid state, and the plasticity index (PI), which is the water content corresponding to an arbitrary limit between the plastic and semisolid states of consistency of a soil.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9

High ....9 to 12
Very high .... more than 12

Basalt. A fine-grained igneous rock dominated by dark minerals, consisting of over 50 percent plagioclase feldspars with the balance being ferromagnesian silicates. Basalts and andesites represent about 98 percent of all extrusive rocks.

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.

Benchmark soil. A soil of large extent that holds a key position in the soil classification system or is of special significance to farming, engineering, forestry, or other uses.

Biotite. A common rock-forming mineral consisting primarily of ferromagnesian silicate minerals. Color ranges from dark brown to green in thin section. Biotite is commonly referred to as “black mica” because of the natural black color.

Bottom land. An informal term loosely applied to various portions of a flood plain.

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

Bouldery spot. An area where 0.01 to 0.1 percent of the surface is covered by rock fragments larger than 24 inches in diameter. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

Broad-based dips. Short sections of access road having a reverse grade that intercept storm water. The dips are spaced about 200 feet apart and are designed to divert water away from stream crossings or steep grades.

Buffer zone. The area that extends from the boundary of the soil survey to 500 feet outside the boundary. It appears on the soil maps.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clayey. A general textural term that includes sandy clay, silty clay, and clay. According to family level criteria in the soil taxonomic system, a specific textural name referring to fine earth (particles less than 2 millimeters in size) containing 35 percent or more clay, by weight, within the control section. The content of rock fragments is less than 35 percent, by volume.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.

Coarse fragments. If round, mineral or rock particles 2 millimeters to 25 centimeters (10 inches) in diameter; if flat, mineral or rock particles (flagstone) 15 to 38 centimeters (6 to 15 inches) long.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

Cobbly spot. An area where the content of rock fragments between 3 and 24 inches in diameter is more than 15 percent, by volume, in the surface layer, occurring in a map unit in which the surface layer of the dominant soil or soils has less than 15 percent cobbles. Areas identified on the detailed soil maps by a special symbol typically are less than 0.5 acre in size.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conglomerate. A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

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

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

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

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

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

Delineation. The process of drawing or plotting features on a map with lines and symbols.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression (depressional area). A portion of land surrounded on all sides by higher land. These areas generally do not have outlets for drainage.

Depth class. Refers to the depth to a root-restricting layer. Unless otherwise stated, this layer is understood to be consolidated bedrock. The depth classes in this survey are:

Very shallow	less than 10 inches
Shallow	10 to 20 inches
Moderately deep	20 to 40 inches
Deep	40 to 60 inches
Very deep	more than 60 inches

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 bedrock (in tables). Bedrock is too near the surface for the specified use.

Diabase. A rock of basaltic composition consisting primarily of labradorite and pyroxene and characterized by ophitic texture.

Dike. A long, narrow cross-cutting mass of igneous rock that extends to or crops out on the land surface.

Diorite. A coarse-grained igneous rock with the composition of andesite (no quartz or orthoclase). It is composed of about 75 percent plagioclase feldspars with the balance being ferromagnesian silicates.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Dispersion (soils). The breakup of compound particles, such as soil aggregates or saprolite, into single grains, resulting in a highly erosive condition. This phenomenon results from the failure of grains to adhere or bond to one another and generally is associated with a high water content in soil containing high levels of sodium.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Earthy fill. See Mine spoil.

Engineering index test data. Laboratory test and mechanical analysis of selected soils in the county.

Eroded (soil phase). Because of erosion, the soil has lost an average of 25 to 75 percent of the original A horizon or the uppermost 2 to 6 inches if the original A horizon was less than 8 inches thick.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion classes. Classes based on estimates of past erosion. The classes are as follows:

Class 1.—Soils that have lost some of the original A horizon but on the average less than 25 percent of the original A horizon or of the uppermost 8 inches (if the original A horizon was less than 8 inches thick). Throughout most areas, the thickness of the surface layer is within the normal range of variability of the uneroded soil. Class 1 erosion typically is not designated in the name of the map unit or in the map symbol.

Class 2.—Soils that have lost an average of 25 to 75 percent of the original A horizon or of the uppermost 8 inches (if the original A horizon was less than 8 inches thick). Throughout most cultivated areas of class 2 erosion, the surface layer consists of a mixture of the original A horizon and material from below. Some areas may have intricate patterns ranging from uneroded spots to spots where all of the original A horizon has been removed.

Class 3.—Soils that have lost an average of 75 percent or more of the original A horizon or of the uppermost 8 inches (if the original A horizon was less than 8 inches thick). In most cultivated areas of class 3 erosion, material that was below the original A horizon is exposed. The plow layer consists entirely or largely of this material.

Class 4.—Soils that have lost all of the original A horizon or of the uppermost 8 inches (if the original A horizon was less than 8 inches thick) plus some or all of the deeper horizons throughout most of the area. The original soil can be identified only in spots. Some areas may be smooth, but most have an intricate pattern of gullies.

Erosion hazard. A term describing the potential for future erosion, inherent in the soil itself, in inadequately protected areas. The following definitions are based on estimated annual soil loss in metric tons per hectare (values determined by the Universal Soil Loss Equation assuming bare soil conditions and using rainfall and climate factors for North Carolina):

0 tons per hectare	none
Less than 2.5 tons per hectare	slight
2.5 to 10 tons per hectare	moderate
10 to 25 tons per hectare	severe
More than 25 tons per hectare	very severe

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Evapotranspiration. The combined loss of water from a given area through surface evaporation and through transpiration by plants during a specified period.

Fault. A surface of rock rupture along which there has been differential movement.

Felsic rock. A general term for light-colored igneous rock and some metamorphic crystalline rock that have an abundance of quartz, feldspars, feldspathoids, and muscovite mica.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

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.

Flat. A general term for a level or nearly level surface or small area of land marked by little or no relief.

Flooding. The temporary covering of the soil surface by flowing water from any source, such as overflowing streams, runoff from adjacent or surrounding slopes, and inflow from high tides. The frequency of flooding generally is expressed as none, rare, occasional, or frequent. *None* means that flooding is not probable. *Rare* means that flooding is unlikely but possible under unusual weather conditions (the chance of flooding is nearly.0 percent to 5 percent in any year). *Occasional* means that flooding occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year). *Frequent* means that flooding occurs often under normal weather conditions (the chance of flooding is more than 50 percent in any year). The duration of flooding is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 days to 1 month), and *very long* (more than 1 month).

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

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Foothills. A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

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.

Gneiss. A coarse-grained metamorphic rock in which bands rich in granular minerals alternate with bands that are predominantly schistose minerals. It is commonly formed by the metamorphism of granite.

Granite. A coarse-grained igneous rock dominated by light-colored minerals, consisting of about 50 percent orthoclase and 25 percent quartz with the balance being plagioclase feldspars and ferromagnesian silicates. Granites and granodiorites comprise 95 percent of all intrusive rocks.

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.

Gravelly spot. An area of soils where the content of rock fragments generally less than 3 inches in diameter is more than 15 percent, by volume, in the surface layer, occurring in a map unit in which the surface layer of the dominant soil or soils has less than 15 percent gravel. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

High-grade metamorphic rock. Highly metamorphosed rocks, such as gneiss and schist.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

High water table (seasonal). The highest level of a saturated zone in the soil (the apparent or perched water table) over a continuous period of more than 2 weeks in most years, but not a permanent water table.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Intermediate rock. Igneous or metamorphic crystalline rock that is intermediate in composition between mafic and felsic rock.

Interstream divide (or interstream area). The nearly level land between drainageways in relatively undissected parts of the Coastal Plain. It is in areas on uplands, low marine terraces, and stream terraces. Soils in these areas are generally poorly drained or very poorly drained.

Iron depletions. See Redoximorphic features.

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.

Kaolinite. An aluminosilicate clay mineral with a 1:1 layer structure; that is, a silicon tetrahedral sheet alternating with an aluminum octahedral sheet. Little or no expansion occurs when water mixes with the clay.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Landfill. An area of accumulated wastes produced by human activities. These areas can be above or below the natural ground level. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Levees. Small dikes, generally less than 50 feet wide and several hundred feet in length, used to prevent intrusions of brackish water or to retain fresh water. Areas identified on the detailed soil maps by a special symbol typically are 5 to 20 acres in size.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loamy. A general textural term that includes coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, and silty clay loam. According to family level criteria in the soil taxonomic system, a specific textural name referring to fine earth (particles less than 2 millimeters in size) of loamy very fine sand or finer textured material that contains less than 35 percent clay, by weight, within the control section. The content of rock fragments is less than 35 percent, by volume.

Low stream terrace. A terrace in an area that floods, commonly 3 to 10 feet higher in elevation than the adjacent flood plain.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Mafic rock. A dark rock composed predominantly of magnesium silicates. It can contain small amounts of quartz, feldspar, or muscovite mica.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. See Redoximorphic features.

Mean annual increment. The average annual volume of a stand of trees from the year of origin to the age under consideration.
Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.
Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.
Metasedimentary rock. Metamorphosed sedimentary rocks, such as phyllite, metasandstone, and conglomerate.
Micas. A group of silicate minerals characterized by sheet or scale cleavage. Biotite is the ferromagnesian black mica. Muscovite is the potassic white mica.
Mine or quarry (map symbol). An open excavation from which the soil and underlying material have been removed, exposing bedrock; or the surface opening to underground mines. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.
Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.
Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.
Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.
Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.
Miscellaneous water. Small manmade water area that contains water most of the year and is used for industrial, sanitary, or mining applications. Areas identified on the detailed soil maps typically are less than 0.5 acre in size.
Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.
Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.
Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.
Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).
Mountain. A generic term for an elevated area of the land surface, rising more than 1,000 feet (300 meters) above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range. Mountains are formed primarily by tectonic activity and/or volcanic action but can also be formed by differential erosion.
Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)
Mudstone. A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.
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. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

No-till planting. A method of planting crops in which there is virtually no seedbed preparation. A thin slice of the soil is opened, and the seed is planted at the desired depth.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Perennial water. An area that generally provides water for human or livestock consumption; commonly a lake, pond, river, or stream. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

Permafrost. Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as “permeability.” Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piedmont The physiographic region of central North Carolina characterized by rolling landscapes formed from the weathering of residual rock material.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Pore linings. See Redoximorphic features.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:

   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*

   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*

   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.

2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:

   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*

   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).

3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Reforestation. The process in which tree seedlings are planted or become naturally established in an area that was once forested.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Ridge. A long, narrow elevation of the land surface, usually having a sharp crest and steep sides.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Rippable. Rippable bedrock or hardpan can be excavated using a single-tooth ripping attachment mounted on a tractor with a 200-300 drawbar horsepower rating.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop. An area of exposed bedrock in a map unit that has less than 0.1 percent exposed bedrock. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

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.

Runoff class (surface). Refers to the rate at which water flows away from the soil over the surface without infiltrating. Six classes of rate of runoff are recognized:

Ponded.—Little of the precipitation and water that runs onto the soil escapes as runoff, and free water stands on the surface for significant periods. The amount of water that is removed from ponded areas by movement through the soil, by plants, or by evaporation is usually greater than the total rainfall. Ponding normally occurs on level and nearly level soils in depressions. The water depth may fluctuate greatly.

Very slow.—Surface water flows away slowly, and free water stands on the surface for long periods or immediately enters the soil. Most of the water passes through the soil, is used by plants, or evaporates. The soils are commonly level or nearly level or are very porous.

Slow.—Surface water flows away so slowly that free water stands on the surface for moderate periods or enters the soil rapidly. Most of the water passes through the soil, is used by plants, or evaporates. The soils are nearly level or very gently sloping, or they are steeper but absorb precipitation very rapidly.

Medium.—Surface water flows away so rapidly that free water stands on the surface for only short periods. Part of the precipitation enters the soil and is used by plants, is lost by evaporation, or moves into underground channels. The soils are nearly level to gently sloping and absorb precipitation at a moderate rate, or they are steeper but absorb water rapidly.

Rapid.—Surface water flows away so rapidly that the period of concentration is brief and free water does not stand on the surface. Only a small part of the water enters the soil. The soils are mainly moderately steep or steep and have moderate or slow rates of absorption.

Very rapid.—Surface water flows away so rapidly that the period of concentration is very brief and free water does not stand on the surface. Only a small part of the water enters the soil. The soils are mainly steep or very steep and absorb precipitation slowly.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sandy. A general textural term that includes coarse sand, sand, fine sand, very fine sand, loamy coarse sand, loamy sand, loamy fine sand, and loamy very fine sand. According to family level criteria in the soil taxonomic system, a specific textural name referring to fine earth (particles less than 2 millimeters in size) of sand or loamy sand that contains less than 50 percent very fine sand, by weight, within the control section. The content of rock fragments is less than 35 percent, by volume.

Sandy spot. An area where the surface layer is sandy (loamy sand or sand), occurring in a map unit in which the dominant soil or soils have a loamy, silty, or clayey surface layer. Excluded are areas where the textural classes are adjoining, such as an area of loamy sand occurring in a map unit in which the dominant soil or soils have a surface layer of sandy loam. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (K_{sat}). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Schist. A metamorphic rock that is dominantly fibrous or platy minerals. It has schistose cleavage and is a product of regional metamorphism.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

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.

Severely eroded spot. An area of soil that has lost an average of 75 percent or more of the original surface layer because of accelerated erosion, occurring in a map unit in which the dominant soil or soils have lost less than 25 percent of the original surface layer. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Short steep slope. An area of soils that are at least two slope classes steeper than the named soils in the surrounding map unit. Areas identified on the detailed soil maps by a special symbol typically are long, narrow bands that are less than 2 acres in size. (See Slope.)

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrink-swell potential. The potential for volume change in a soil with a loss or gain in moisture. Shrink-swell potential classes are based on the linear extensibility of the soil. If the soil has a linear extensibility of less than 3 percent, the shrink-swell potential is low; 3 to 6 percent, the shrink-swell potential is moderate; 6 to 9 percent, the shrink-swell potential is high; and more than 9 percent, the shrink-swell potential is very high.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Skid trails. The paths left by skidding logs and the bulldozer or tractor used to pull them.

Slate. A fine-grained metamorphic rock with well developed slaty cleavage. Formed by the low-grade regional metamorphism of shale.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slippage (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

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.

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.

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil compaction. An alteration of soil structure that ultimately can affect the biological and chemical properties of the soil. Compaction decreases the extent of voids and increases bulk density.

Soil map unit. A kind of soil or miscellaneous area, or a combination of two or more soils, or one or more soils and one or more miscellaneous areas that can be shown at the scale of mapping for the defined purposes and objectives of the soil survey. Soil map units generally are designed to reflect significant differences in use and management among the soils of a survey area.

Soil sample site (map symbol). The location of a typifying pedon in the survey.

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

Soil strength. The load-supporting capacity of a soil at specific moisture and density conditions.

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.

Spoil area. An area where earthy material has been piled and either smoothed or left uneven. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

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.

Stony spot. An area where 0.01 to 0.1 percent of surface is covered by rock fragments larger than 10 inches in diameter. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Suitability ratings. Ratings for the degree of suitability of soils for pasture, crops, woodland, and engineering uses. The ratings and the general criteria used for their selection are as follows:

Well suited.—The intended use may be initiated and maintained by using only the standard materials and methods typically required for that use. Good results can be expected.

Suited or moderately suited.—The limitations affecting the intended use make special planning, design, or maintenance necessary.

Poorly suited.—The intended use is difficult or costly to initiate and maintain because of certain soil properties, such as steep slopes, a severe hazard of erosion, a high water table, low fertility, and a hazard of flooding. Major soil reclamation, special design, or intensive management practices are needed.

Very poorly suited, not suited, or unsuited.—The intended use is very difficult or costly to initiate and maintain, and thus it generally should not be undertaken.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface Runoff Classes, Index of. Relative estimates of surface runoff based on slope gradient and saturated hydraulic conductivity under certain conditions.

Classes are negligible, very low, low, medium, high, and very high. The classes are described in the "Soil Survey Manual."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

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." The textural classes are defined as follows:

Sands (coarse sand, sand, fine sand, and very fine sand).—Soil material in which the content of sand is 85 percent or more and the percentage of silt plus $1^1/_2$ times the percentage of clay does not exceed 15.

Loamy sands (loamy coarse sand, loamy sand, loamy fine sand, and loamy very fine sand).—Soil material in which, at the upper limit, the content of sand is 85 to 90 percent and the percentage of silt plus $1^1/_2$ times the percentage of clay is not less than 15; at the lower limit, the content of sand is 70 to 85 percent and the percentage of silt plus twice the percentage of clay does not exceed 30.

Sandy loams (coarse sandy loam, sandy loam, fine sandy loam, and very fine sandy loam).—Soil material in which the content of clay is 20 percent or less, the percentage of silt plus twice the percentage of clay exceeds 30, and the content of sand is 52 percent or more; or soil material in which the content of clay is less than 7 percent, the content of silt is less than 50 percent, and the content of sand is 43 to 52 percent.

Loam.—Soil material that contains 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand.

Silt loam.—Soil material that contains 50 percent or more silt and 1 to 27 percent clay or 50 to 80 percent silt and less than 12 percent clay.

Silt.—Soil material that contains 80 percent or more silt and less than 12 percent clay.

Sandy clay loam.—Soil material that contains 20 to 35 percent clay, less than 28 percent silt, and 45 percent or more sand.

Clay loam.—Soil material that contains 27 to 40 percent clay and 20 to 45 percent sand.

Silty clay loam.—Soil material that contains 27 to 40 percent clay and less than 20 percent sand.

Sandy clay.—Soil material that contains 35 percent or more clay and 45 percent or more sand.

Silty clay.—Soil material that contains 40 percent or more clay and 40 percent or more silt.

Clay.—Soil material that contains 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topography. The relative positions and elevations of the natural or manmade features of an area that describe the configuration of its surface.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Toxicity (in tables). Excessive amounts of toxic substances, such as sodium or sulfur, that severely hinder establishment of vegetation or severely restrict plant growth.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Triassic. The earliest of the three geologic periods comprising the Mesozoic era; approximately 225 million years ago to 180 million years ago.

Tuff. A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Underlying material. Technically the C horizon; the part of the soil below the biologically altered A and B horizons.

Understory. The trees and other woody species growing under a more or less continuous cover of branches and foliage formed collectively by the upper portions of adjacent trees and other woody growth.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Very stony spot. An area where 0.1 to 3.0 percent of the surface is covered by rock fragments larger than 10 inches in diameter. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size.

Water table (apparent). A thick zone of free water in the soil. The apparent water table is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil.

Water table (perched). A saturated zone of water in the soil standing above an unsaturated zone.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wetness. A general term applied to soils that hold water at or near the surface long enough to be a common management problem.

Wet spot. An area of somewhat poorly drained to very poorly drained soils that are at least two drainage classes wetter than the named soils in the surrounding map unit. Areas identified on the detailed soil maps by a special symbol typically are less than 2 acres in size. (See Drainage class.)

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Temperature and Precipitation

(Recorded in the period 1971-2000 at Siler City, North Carolina)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	49.5	27.1	38.3	72	4	17	4.58	2.74	6.37	7	1.5
February----	53.6	28.8	41.2	77	7	32	3.66	2.10	5.10	6	1.9
March-------	62.0	36.8	49.4	84	15	112	4.61	2.72	6.29	7	0.6
April-------	70.8	44.0	57.4	89	24	252	3.35	1.77	4.91	6	0.0
May---------	77.8	53.3	65.6	91	34	480	4.60	2.71	6.31	6	0.0
June--------	84.7	61.9	73.3	96	44	692	3.95	1.73	5.84	6	0.0
July--------	88.4	66.1	77.3	99	51	837	4.67	2.47	6.35	7	0.0
August------	86.9	64.4	75.6	98	51	795	3.94	2.32	5.21	6	0.0
September---	81.1	57.9	69.5	95	40	581	4.26	1.28	7.19	5	0.0
October-----	71.4	44.9	58.1	87	26	269	3.82	1.72	5.59	5	0.0
November----	62.1	36.9	49.5	81	17	106	3.42	1.89	4.66	5	0.0
December----	52.9	30.0	41.4	75	9	34	3.21	1.76	4.54	6	0.3
Yearly:											
Average---	70.1	46.0	58.1	---	---	---	---	---	---	---	---
Extreme---	105	-11	---	100	1	---	---	---	---	---	---
Total-----	---	---	---	---	---	4207	48.06	40.53	54.06	72	4.3

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minumum 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).

Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Siler City, NC)

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. 14	Apr. 21	May 4
2 year in 10 later than--	Apr. 4	Apr. 14	Apr 27
5 year in 10 later than--	Mar. 16	Apr. 1	Apr. 12
First freezing temperature in fall:			
1 yr in 10 earlier than--	Oct. 28	Oct. 12	Oct. 8
2 yr in 10 earlier than--	Nov. 5	Oct. 20	Oct. 14
5 yr in 10 earlier than--	Nov. 20	Nov. 4	Oct. 25

Growing Season

(Recorded for the period 1971-2000 at Siler City, NC)

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	207	179	162
8 years in 10	221	192	174
5 years in 10	248	216	195
2 years in 10	275	241	216
1 year in 10	289	254	228

Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
BaE	Badin-Nanford complex, 15 to 30 percent slopes	8,036	1.8
BdB	Badin-Tarrus complex, 2 to 8 percent slopes	984	0.2
BdC	Badin-Tarrus complex, 8 to 15 percent slopes	325	*
BeB2	Badin-Tarrus complex, 2 to 8 percent slopes, moderately eroded	309	*
BeC2	Badin-Tarrus complex, 8 to 15 percent slopes, moderately eroded	664	0.1
CaB	Callison-Lignum complex, 2 to 6 percent slopes	27,373	6.0
CbC	Callison-Misenheimer complex, 6 to 10 percent slopes	3,822	0.8
CcB	Carbonton-Brickhaven complex, 2 to 6 percent slopes	3,836	0.8
CcC	Carbonton-Brickhaven complex, 6 to 10 percent slopes	3,389	0.7
CcD	Carbonton-Brickhaven complex, 10 to 15 percent slopes	2,711	0.6
CeB	Cecil gravelly sandy loam, 2 to 6 percent slopes	529	0.1
CeC	Cecil gravelly sandy loam, 6 to 10 percent slopes	1,176	0.3
CeD	Cecil gravelly sandy loam, 10 to 15 percent slopes	1,322	0.3
ChA	Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded	12,514	2.8
CkC	Cid silt loam, 6 to 10 percent slopes	20,117	4.4
CmB	Cid-Lignum complex, 2 to 6 percent slopes	61,162	13.5
CrB	Creedmoor-Green Level complex, 2 to 6 percent slopes	20,265	4.5
CrC	Creedmoor-Green Level complex, 6 to 10 percent slopes	14,777	3.3
CrD	Creedmoor-Green Level complex, 10 to 15 percent slopes	4,906	1.1
DAM	Dam	19	*
GaB	Georgeville silt loam, 2 to 6 percent slopes	18,000	4.0
GaC	Georgeville silt loam, 6 to 10 percent slopes	14,463	3.2
GbB	Georgeville silt loam, 2 to 8 percent slopes	199	*
GbC	Georgeville silt loam, 8 to 15 percent slopes	74	*
GeB2	Georgeville silty clay loam, 2 to 6 percent slopes, moderately eroded	19,896	4.4
GeC2	Georgeville silty clay loam, 6 to 10 percent slopes, moderately eroded	12,766	2.8
GhB2	Georgeville silty clay loam, 2 to 8 percent slopes, moderately eroded	389	*
GhC2	Georgeville silty clay loam, 8 to 15 percent slopes, moderately eroded	65	*
GkD	Georgeville-Badin complex, 10 to 15 percent slopes	17,478	3.9
GkE	Georgeville-Badin complex, 15 to 30 percent slopes	11,246	2.5
GnC	Georgeville-Urban land complex, 2 to 10 percent slopes	1,944	0.4
GoC	Goldston-Badin complex, 2 to 15 percent slopes	3,669	0.8
GoE	Goldston-Badin complex, 15 to 35 percent slopes	2,140	0.5
HeB	Helena sandy loam, 2 to 6 percent slopes	2,459	0.5
HeC	Helena sandy loam, 6 to 10 percent slopes	861	0.2
HrB	Herndon silt loam, 2 to 6 percent slopes	3,427	0.8
HrC	Herndon silt loam, 6 to 10 percent slopes	645	0.1
IrB	Iredell fine sandy loam, 2 to 6 percent slopes	1,016	0.2
LsF	Louisa sandy loam, 25 to 45 percent slopes	122	*
M-W	Miscellaneous water	19	*
MaA	Mattaponi fine sandy loam, 0 to 2 percent slopes	839	0.2
MaB	Mattaponi fine sandy loam, 2 to 8 percent slopes	916	0.2
McC	Mattaponi-Peawick complex, 8 to 15 percent slopes	363	*
MdB	Mayodan fine sandy loam, 2 to 6 percent slopes	2,367	0.5
MdC	Mayodan fine sandy loam, 6 to 10 percent slopes	1,837	0.4
MgD	Mayodan gravelly sandy loam, 10 to 15 percent slopes	2,142	0.5
MhE	Mayodan-Brickhaven complex, 15 to 30 percent slopes	913	0.2
MrA	Merry Oaks-Moncure complex, 0 to 2 percent slopes, occasionally flooded	1,437	0.3
NaB	Nanford-Badin complex, 2 to 6 percent slopes	25,438	5.6
NaC	Nanford-Badin complex, 6 to 10 percent slopes	29,869	6.6
NaD	Nanford-Badin complex, 10 to 15 percent slopes	16,977	3.7
PaE	Pacolet gravelly sandy loam, 15 to 25 percent slopes	1,688	0.4
PcA	Peawick fine sandy loam, 0 to 2 percent slopes, rarely flooded	1,179	0.3
PeA	Peawick fine sandy loam, 0 to 2 percent slopes	1,578	0.3
PeB	Peawick fine sandy loam, 2 to 8 percent slopes	3,440	0.8
PsB	Pittsboro-Iredell complex, 2 to 8 percent slopes, stony	4,830	1.1
Qr	Pits, quarry	51	*
RvA	Riverview silt loam, 0 to 3 percent slopes, frequently flooded	6,211	1.4
StB	State sandy loam, 2 to 6 percent slopes	845	0.2
TuA	Turbeville fine sandy loam, 0 to 3 percent slopes	226	*
UdC	Udorthents, loamy, 2 to 10 percent slopes	2,957	0.7
VaB	Vance sandy loam, 2 to 6 percent slopes	2,524	0.6

See footnote at end of table.

Acreage and Proportionate Extent of the Soils—Continued

Map symbol	Soil name	Acres	Percent
W	Water	17,853	3.9
WdC	Wedowee sandy loam, 2 to 15 percent slopes, bouldery	2,645	0.6
WdE	Wedowee sandy loam, 15 to 35 percent slopes, bouldery	2,068	0.5
WeB	Wedowee sandy loam, 2 to 6 percent slopes	4,400	1.0
WeC	Wedowee sandy loam, 6 to 10 percent slopes	4,953	1.1
WeD	Wedowee sandy loam, 10 to 15 percent slopes	2,758	0.6
WeE	Wedowee sandy loam, 15 to 25 percent slopes	3,916	0.9
WhB	White Store-Polkton complex, 2 to 6 percent slopes	2,412	0.5
WhC	White Store-Polkton complex, 6 to 10 percent slopes	3,016	0.7
WhD	White Store-Polkton complex, 10 to 15 percent slopes	1,770	0.4
WtB	Wynott-Enon complex, 2 to 8 percent slopes	21	*
WtC	Wynott-Enon complex, 8 to 15 percent slopes	8	*
WyB2	Wynott-Enon complex, 2 to 8 percent slopes, moderately eroded	19	*
WyC2	Wynott-Enon complex, 8 to 15 percent slopes, moderately eroded	27	*
	Total	453,607	100.0

* Less than 0.1 percent.

Nonirrigated Yields by Map Unit Component

(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	Tall fescue	Flue-cured tobacco
		Bu	Bu	Tons	Lbs
BaE:					
Badin	4e	84.00	32.00	3.00	1,978.00
Nanford	4e	97.00	36.00	3.60	2,267.00
BdB:					
Badin	2e	115.00	43.00	3.80	2,730.00
Tarrus	2e	115.00	43.00	4.30	2,678.00
BdC:					
Badin	3e	107.00	40.00	3.60	2,545.00
Tarrus	3e	107.00	40.00	4.00	2,500.00
BeB2:					
Badin, moderately eroded	2e	103.00	39.00	3.90	2,413.00
Tarrus, moderately eroded	2e	103.00	39.00	3.90	2,413.00
BeC2:					
Badin, moderately eroded	3e	93.00	35.00	3.10	2,212.00
Tarrus, moderately eroded	3e	93.00	35.00	3.50	2,173.00
CaB:					
Callison	2e	103.00	34.00	4.40	1,934.00
Lignum	2e	120.00	40.00	4.30	1,722.00
CbC:					
Callison	3e	90.00	28.00	3.60	1,831.00
Misenheimer	3e	80.00	29.00	3.00	1,660.00
CcB:					
Carbonton	2e	83.00	29.00	2.90	1,869.00
Brickhaven	2e	83.00	29.00	2.90	1,869.00
CcC:					
Carbonton	3e	78.00	28.00	2.80	1,762.00
Brickhaven	3e	78.00	28.00	2.80	1,762.00
CcD:					
Carbonton	4e	68.00	24.00	2.40	1,521.00
Brickhaven	4e	68.00	24.00	2.40	1,521.00
CeB:					
Cecil	2e	121.00	48.00	4.80	3,092.00
CeC:					
Cecil	3e	116.00	46.00	4.60	2,967.00

Nonirrigated Yields by Map Unit Component—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tall fescue	Flue-cured tobacco
		Bu	Bu	Tons	Lbs
CeD:					
Cecil	3e	100.00	40.00	4.00	2,560.00
ChA:					
Chewacla	3w	150.00	55.00	4.50	---
Wehadkee, undrained	6w	---	---	---	---
Wehadkee, drained	4w	85.00	30.00	4.00	---
CkC:					
Cid	3e	110.00	37.00	4.10	2,668.00
CmB:					
Cid	2e	117.00	39.00	4.40	2,817.00
Lignum	2e	120.00	40.00	4.30	1,722.00
CrB:					
Creedmoor	2e	88.00	34.00	3.40	2,156.00
Green Level	2e	77.00	19.00	2.90	1,740.00
CrC:					
Creedmoor	3e	83.00	32.00	3.40	2,024.00
Green Level	3e	74.00	18.00	2.80	1,670.00
CrD:					
Creedmoor	3e	72.00	28.00	2.80	1,760.00
Green Level	3e	71.00	18.00	2.70	1,607.00
DAM:					
Dam	8s	---	---	---	---
GaB:					
Georgeville	2e	120.00	48.00	4.80	2,870.00
GaC:					
Georgeville	3e	116.00	46.00	4.60	2,782.00
GbB:					
Georgeville	2e	120.00	48.00	4.80	2,870.00
GbC:					
Georgeville	3e	100.00	40.00	4.00	2,400.00
GeB2:					
Georgeville, moderately eroded	2e	118.00	44.00	4.40	2,744.00
GeC2:					
Georgeville, moderately eroded	3e	100.00	40.00	4.00	2,400.00
GhB2:					
Georgeville, moderately eroded	2e	108.00	43.00	4.30	2,586.00

Nonirrigated Yields by Map Unit Component—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tall fescue	Flue-cured tobacco
		Bu	Bu	Tons	Lbs
GhC2:					
Georgeville, moderately eroded	3e	97.00	39.00	3.90	2,328.00
GkD:					
Georgeville	3e	100.00	40.00	4.00	2,400.00
Badin	3e	107.00	40.00	3.60	2,545.00
GkE:					
Georgeville	4e	101.00	40.00	4.00	2,429.00
Badin	4e	76.00	28.00	2.70	1,902.00
GnC:					
Georgeville	3e	---	---	---	---
Urban land	8s	---	---	---	---
GoC:					
Goldston	4s	64.00	24.00	2.80	1,920.00
Badin	3e	107.00	40.00	3.60	2,545.00
GoE:					
Goldston	7s	---	---	2.50	---
Badin	6e	---	---	2.80	---
HeB:					
Helena	2e	92.00	39.00	3.90	2,331.00
HeC:					
Helena	3e	87.00	37.00	3.70	2,208.00
HrB:					
Herndon	2e	121.00	48.00	4.80	2,899.00
HrC:					
Herndon	3e	116.00	46.00	4.60	2,782.00
IrB:					
Iredell	2e	83.00	29.00	2.90	1,764.00
LsF:					
Louisa	7e	---	---	2.10	---
MaA:					
Mattaponi	1	124.00	43.00	3.30	2,870.00
MaB:					
Mattaponi	2e	120.00	46.00	4.30	3,061.00
McC:					
Mattaponi	3e	112.00	43.00	4.00	2,857.00
Peawick	3e	112.00	43.00	4.00	2,857.00
MdB:					
Mayodan	2e	106.00	39.00	4.80	2,513.00
MdC:					
Mayodan	3e	101.00	37.00	4.60	2,392.00

Nonirrigated Yields by Map Unit Component—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tall fescue	Flue-cured tobacco
		Bu	Bu	Tons	Lbs
MgD:					
Mayodan	3e	88.00	32.00	4.00	2,080.00
MhE:					
Mayodan	4e	70.00	25.00	3.00	1,604.00
Brickhaven	6e	54.00	24.00	1.80	1,160.00
MrA:					
Merry Oaks	3w	110.00	42.00	4.00	2,290.00
Moncure, undrained	4w	---	---	---	---
NaB:					
Nanford	2e	116.00	43.00	4.30	2,706.00
Badin	2e	115.00	43.00	3.80	2,730.00
NaC:					
Nanford	3e	111.00	42.00	4.20	2,596.00
Badin	3e	111.00	41.00	3.70	2,600.00
NaD:					
Nanford	3e	107.00	40.00	4.00	2,500.00
Badin	3e	107.00	40.00	3.60	2,545.00
PaE:					
Pacolet	4e	77.00	28.00	3.20	1,820.00
PcA:					
Peawick	2w	134.00	50.00	4.50	2,788.00
PeA:					
Peawick	2w	134.00	50.00	4.50	2,788.00
PeB:					
Peawick	2e	129.00	48.00	4.30	2,678.00
PsB:					
Pittsboro, stony	2e	---	---	2.40	---
Iredell, stony	2e	---	---	2.90	---
Qr:					
Pits, quarry	8s	---	---	---	---
RvA:					
Riverview	3w	120.00	45.00	4.50	2,700.00
StB:					
State	2e	123.00	44.00	3.90	2,940.00
TuA:					
Turbeville	1	124.00	42.00	4.00	2,290.00
UdC:					
Udorthents, loamy	7e	---	---	---	---

Nonirrigated Yields by Map Unit Component—Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tall fescue	Flue-cured tobacco
		Bu	Bu	Tons	Lbs
VaB:					
Vance	2e	101.00	39.00	4.30	2,416.00
WdC:					
Wedowee, bouldery	6s	---	---	2.70	---
WdE:					
Wedowee, bouldery	7s	---	---	2.30	---
WeB:					
Wedowee	2e	106.00	39.00	2.90	2,513.00
WeC:					
Wedowee	3e	102.00	37.00	2.80	2,411.00
WeD:					
Wedowee	3e	88.00	32.00	2.40	2,080.00
WeE:					
Wedowee	4e	89.00	32.00	2.40	2,105.00
WhB:					
White Store	2e	77.00	19.00	2.90	1,722.00
Polkton	2e	76.00	19.00	2.90	1,710.00
WhC:					
White Store	3e	77.00	19.00	2.90	1,722.00
Polkton	3e	74.00	22.00	2.80	1,656.00
WhD:					
White Store	3e	77.00	19.00	2.90	1,722.00
Polkton	3e	64.00	20.00	2.40	1,440.00
WtB:					
Wynott	2e	95.00	35.00	4.00	2,230.00
Enon	2e	100.00	38.00	4.30	2,296.00
WtC:					
Wynott	3e	79.00	30.00	3.40	1,871.00
Enon	3e	94.00	36.00	4.00	2,143.00
WyB2:					
Wynott, moderately eroded	2e	76.00	28.00	3.20	1,784.00
Enon, moderately eroded	2e	80.00	30.00	3.40	1,837.00
WyC2:					
Wynott, moderately eroded	3e	63.00	24.00	2.70	1,497.00
Enon, moderately eroded	3e	75.00	29.00	3.20	1,714.00

Prime Farmland and Other Important Farmlands

(Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland. If a soil is prime or important farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

Map symbol	Map unit name	Farmland classification
CeB	Cecil gravelly sandy loam, 2 to 6 percent slopes	All areas are prime farmland
CrB	Creedmoor-Green Level complex, 2 to 6 percent slopes	All areas are prime farmland
GaB	Georgeville silt loam, 2 to 6 percent slopes	All areas are prime farmland
GbB	Georgeville silt loam, 2 to 8 percent slopes	All areas are prime farmland
GeB2	Georgeville silty clay loam, 2 to 6 percent slopes, moderately eroded	All areas are prime farmland
GhB2	Georgeville silty clay loam, 2 to 8 percent slopes, moderately eroded	All areas are prime farmland
HeB	Helena sandy loam, 2 to 6 percent slopes	All areas are prime farmland
HrB	Herndon silt loam, 2 to 6 percent slopes	All areas are prime farmland
MaA	Mattaponi fine sandy loam, 0 to 2 percent slopes	All areas are prime farmland
MaB	Mattaponi fine sandy loam, 2 to 8 percent slopes	All areas are prime farmland
MdB	Mayodan fine sandy loam, 2 to 6 percent slopes	All areas are prime farmland
NaB	Nanford-Badin complex, 2 to 6 percent slopes	All areas are prime farmland
PcA	Peawick fine sandy loam, 0 to 2 percent slopes, rarely flooded	All areas are prime farmland
PeA	Peawick fine sandy loam, 0 to 2 percent slopes	All areas are prime farmland
PeB	Peawick fine sandy loam, 2 to 8 percent slopes	All areas are prime farmland
StB	State sandy loam, 2 to 6 percent slopes	All areas are prime farmland
TuA	Turbeville fine sandy loam, 0 to 3 percent slopes	All areas are prime farmland
VaB	Vance sandy loam, 2 to 6 percent slopes	All areas are prime farmland
WeB	Wedowee sandy loam, 2 to 6 percent slopes	All areas are prime farmland
BdB	Badin-Tarrus complex, 2 to 8 percent slopes	Farmland of statewide importance
BdC	Badin-Tarrus complex, 8 to 15 percent slopes	Farmland of statewide importance
BeB2	Badin-Tarrus complex, 2 to 8 percent slopes, moderately eroded	Farmland of statewide importance
BeC2	Badin-Tarrus complex, 8 to 15 percent slopes, moderately eroded	Farmland of statewide importance
CaB	Callison-Lignum complex, 2 to 6 percent slopes	Farmland of statewide importance
CeC	Cecil gravelly sandy loam, 6 to 10 percent slopes	Farmland of statewide importance
CeD	Cecil gravelly sandy loam, 10 to 15 percent slopes	Farmland of statewide importance
CkC	Cid silt loam, 6 to 10 percent slopes	Farmland of statewide importance
CmB	Cid-Lignum complex, 2 to 6 percent slopes	Farmland of statewide importance
CrC	Creedmoor-Green Level complex, 6 to 10 percent slopes	Farmland of statewide importance
CrD	Creedmoor-Green Level complex, 10 to 15 percent slopes	Farmland of statewide importance
GaC	Georgeville silt loam, 6 to 10 percent slopes	Farmland of statewide importance
GbC	Georgeville silt loam, 8 to 15 percent slopes	Farmland of statewide importance
GeC2	Georgeville silty clay loam, 6 to 10 percent slopes, moderately eroded	Farmland of statewide importance
GhC2	Georgeville silty clay loam, 8 to 15 percent slopes, moderately eroded	Farmland of statewide importance
GkD	Georgeville-Badin complex, 10 to 15 percent slopes	Farmland of statewide importance
HeC	Helena sandy loam, 6 to 10 percent slopes	Farmland of statewide importance
HrC	Herndon silt loam, 6 to 10 percent slopes	Farmland of statewide importance
IrB	Iredell fine sandy loam, 2 to 6 percent slopes	Farmland of statewide importance
McC	Mattaponi-Peawick complex, 8 to 15 percent slopes	Farmland of statewide importance
MdC	Mayodan fine sandy loam, 6 to 10 percent slopes	Farmland of statewide importance
MgD	Mayodan gravelly sandy loam, 10 to 15 percent slopes	Farmland of statewide importance
NaC	Nanford-Badin complex, 6 to 10 percent slopes	Farmland of statewide importance
NaD	Nanford-Badin complex, 10 to 15 percent slopes	Farmland of statewide importance
WeC	Wedowee sandy loam, 6 to 10 percent slopes	Farmland of statewide importance
WeD	Wedowee sandy loam, 10 to 15 percent slopes	Farmland of statewide importance
WhB	White Store-Polkton complex, 2 to 6 percent slopes	Farmland of statewide importance
WhC	White Store-Polkton complex, 6 to 10 percent slopes	Farmland of statewide importance
WhD	White Store-Polkton complex, 10 to 15 percent slopes	Farmland of statewide importance
WtB	Wynott-Enon complex, 2 to 8 percent slopes	Farmland of statewide importance
WtC	Wynott-Enon complex, 8 to 15 percent slopes	Farmland of statewide importance
WyB2	Wynott-Enon complex, 2 to 8 percent slopes, moderately eroded	Farmland of statewide importance

Prime Farmland and Other Important Farmlands—Continued

Map symbol	Map unit name	Farmland classification
WyC2	Wynott-Enon complex, 8 to 15 percent slopes, moderately eroded	Farmland of statewide importance
RvA	Riverview silt loam, 0 to 3 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
BaE:				
Badin	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Too acid	0.50	Slope	1.00
	Depth to bedrock	0.26	Too acid	0.99
Nanford	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Low adsorption	0.70	Slope	1.00
	Too acid	0.22	Too acid	0.77
BdB:				
Badin	Somewhat limited		Very limited	
	Too acid	0.50	Low adsorption	1.00
	Depth to bedrock	0.42	Too acid	0.99
	Low adsorption	0.16	Depth to bedrock	0.42
Tarrus	Somewhat limited		Very limited	
	Low adsorption	0.72	Low adsorption	1.00
	Too acid	0.50	Too acid	0.99
BdC:				
Badin	Somewhat limited		Very limited	
	Slope	0.63	Low adsorption	1.00
	Too acid	0.50	Too acid	0.99
	Depth to bedrock	0.42	Slope	0.63
Tarrus	Somewhat limited		Very limited	
	Low adsorption	0.72	Low adsorption	1.00
	Slope	0.63	Too acid	0.99
	Too acid	0.50	Slope	0.63
BeB2:				
Badin, moderately eroded	Somewhat limited		Very limited	
	Too acid	0.50	Low adsorption	1.00
	Depth to bedrock	0.42	Too acid	0.99
	Low adsorption	0.34	Depth to bedrock	0.42
Tarrus, moderately eroded	Somewhat limited		Very limited	
	Low adsorption	0.69	Low adsorption	1.00
	Too acid	0.50	Too acid	0.99
BeC2:				
Badin, moderately eroded	Somewhat limited		Very limited	
	Slope	0.63	Low adsorption	1.00
	Too acid	0.50	Too acid	0.99
	Depth to bedrock	0.42	Slope	0.63

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
Tarrus, moderately eroded	Somewhat limited		Very limited	
	Low adsorption	0.69	Low adsorption	1.00
	Slope	0.63	Too acid	0.99
	Too acid	0.50	Slope	0.63
CaB:				
Callison	Very limited		Very limited	
	Depth to saturated zone	0.99	Low adsorption	1.00
	Depth to bedrock	0.42	Depth to saturated zone	0.99
	Droughty	0.30	Too acid	0.67
Lignum	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.99	Low adsorption	1.00
	Too acid	0.50	Too acid	0.99
CbC:				
Callison	Very limited		Very limited	
	Depth to saturated zone	0.99	Low adsorption	1.00
	Depth to bedrock	0.42	Depth to saturated zone	0.99
	Droughty	0.30	Too acid	0.67
Misenheimer	Very limited		Very limited	
	Depth to saturated zone	1.00	Droughty	1.00
	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Droughty	1.00	Depth to bedrock	1.00
CcB, CcC:				
Carbonton	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Low adsorption	1.00
	Too acid	0.73	Slow water movement	1.0
Brickhaven	Very limited		Very limited	
	Slow water movement	1.00	Low adsorption	1.00
	Depth to saturated zone	0.95	Slow water movement	1.00
	Too acid	0.73	Too acid	1.00
CcD:				
Carbonton	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Low adsorption	1.00
	Slope	0.84	Slow water movement	1.00

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
Brickhaven----------	Very limited		Very limited	
	Slow water movement	1.00	Low adsorption	1.00
	Depth to saturated zone	0.95	Slow water movement	1.00
	Slope	0.84	Too acid	1.00
CeB:				
Cecil---------------	Somewhat limited		Very limited	
	Too acid	0.68	Too acid	1.00
CeC:				
Cecil---------------	Somewhat limited		Very limited	
	Too acid	0.68	Too acid	1.00
	Slope	0.01	Slope	0.01
CeD:				
Cecil---------------	Somewhat limited		Very limited	
	Slope	0.84	Too acid	1.00
	Too acid	0.68	Slope	0.84
ChA:				
Chewacla------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Too acid	0.22	Too acid	0.77
Wehadkee	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Runoff	0.40	Too acid	0.77
CkC:				
Cid-----------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Low adsorption	1.00
	Too acid	0.78	Slow water movement	1.00
CmB:				
Cid-----------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Low adsorption	1.00
	Too acid	0.78	Slow water movement	1.00
Lignum--------------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.99	Low adsorption	1.00
	Too acid	0.50	Too acid	0.99

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
CrB, CrC:				
Creedmoor-----------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.78	Too acid	1.00
Green Level---------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Sodium content	0.82	Too acid	0.99
CrD:				
Creedmoor-----------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	0.84	Too acid	1.00
Green Level---------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	0.84	Too acid	0.99
DAM:				
Dam-----------------	Not rated		Not rated	
GaB:				
Georgeville---------	Somewhat limited		Somewhat limited	
	Low adsorption	0.31	Too acid	0.31
	Too acid	0.08	Low adsorption	0.09
GaC:				
Georgeville---------	Somewhat limited		Somewhat limited	
	Low adsorption	0.31	Too acid	0.31
	Too acid	0.08	Low adsorption	0.09
	Slope	0.01	Slope	0.01
GbB:				
Georgeville---------	Somewhat limited		Somewhat limited	
	Low adsorption	0.12	Too acid	0.31
	Too acid	0.08		
GbC:				
Georgeville---------	Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63
	Low adsorption	0.12	Too acid	0.31
	Too acid	0.08		
GeB2:				
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited	
	Low adsorption	0.71	Low adsorption	0.75
	Too acid	0.08	Too acid	0.31

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
GeC2:				
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited	
	Low adsorption	0.71	Low adsorption	0.75
	Too acid	0.08	Too acid	0.31
	Slope	0.01	Slope	0.01
GhB2:				
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited	
	Too acid	0.08	Too acid	0.31
GhC2:				
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63
	Too acid	0.08	Too acid	0.31
GkD:				
Georgeville---------	Somewhat limited		Somewhat limited	
	Slope	0.84	Slope	0.84
	Low adsorption	0.31	Too acid	0.31
	Too acid	0.08	Low adsorption	0.09
Badin---------------	Somewhat limited		Very limited	
	Slope	0.84	Low adsorption	1.00
	Too acid	0.50	Too acid	0.99
	Depth to bedrock	0.26	Slope	0.84
GkE:				
Georgeville---------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Low adsorption	0.31	Too acid	0.31
	Too acid	0.08	Low adsorption	0.09
Badin---------------	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Too acid	0.50	Slope	1.00
	Depth to bedrock	0.26	Too acid	0.99
GnC:				
Georgeville---------	Somewhat limited		Somewhat limited	
	Low adsorption	0.49	Too acid	0.31
	Too acid	0.08	Low adsorption	0.05
Urban land----------	Not rated		Not rated	
GoC:				
Goldston------------	Very limited		Very limited	
	Depth to bedrock	1.00	Droughty	1.00
	Droughty	1.00	Depth to bedrock	1.00
	Cobble content	0.99	Low adsorption	1.00
Badin---------------	Somewhat limited		Very limited	
	Too acid	0.78	Low adsorption	1.00
	Slope	0.63	Too acid	1.00
	Depth to bedrock	0.42	Slope	0.63

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
GoE:				
Goldston	Very limited		Very limited	
	Slope	1.00	Droughty	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Droughty	1.00	Low adsorption	1.00
Badin	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Too acid	0.78	Slope	1.00
	Depth to bedrock	0.42	Too acid	1.00
HeB, HeC:				
Helena	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.99	Too acid	0.99
	Too acid	0.50	Depth to saturated zone	0.99
HrB:				
Herndon	Somewhat limited		Somewhat limited	
	Low adsorption	0.52	Too acid	0.77
	Too acid	0.22	Low adsorption	0.03
HrC:				
Herndon	Somewhat limited		Somewhat limited	
	Low adsorption	0.52	Too acid	0.77
	Too acid	0.22	Low adsorption	0.03
	Slope	0.01	Slope	0.01
IrB:				
Iredell	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Low adsorption	1.00
	Leaching	0.50	Slow water movement	1.00
LsF:				
Louisa	Very limited		Very limited	
	Slope	1.00	Droughty	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Droughty	1.00	Low adsorption	1.00
MaA, MaB:				
Mattaponi	Somewhat limited		Very limited	
	Too acid	0.50	Too acid	0.99
	Slow water movement	0.30	Slow water movement	0.22
McC:				
Mattaponi	Somewhat limited		Very limited	
	Slope	0.50	Too acid	0.99
	Too acid	0.50	Slope	0.50
	Slow water movement	0.30	Slow water movement	0.22

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
Peawick-------------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.95	Too acid	1.00
	Too acid	0.78	Depth to saturated zone	0.95
MdB:				
Mayodan-------------	Somewhat limited		Somewhat limited	
	Too acid	0.32	Too acid	0.91
	Sodium content	0.02	Sodium content	0.02
MdC:				
Mayodan-------------	Somewhat limited		Somewhat limited	
	Too acid	0.32	Too acid	0.91
	Sodium content	0.02	Sodium content	0.02
	Slope	0.01	Slope	0.01
MgD:				
Mayodan-------------	Somewhat limited		Somewhat limited	
	Slope	0.84	Too acid	0.91
	Too acid	0.32	Slope	0.84
	Sodium content	0.02	Sodium content	0.02
MhE:				
Mayodan-------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.32	Too acid	0.91
	Sodium content	0.02	Sodium content	0.02
Brickhaven----------	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	0.95	Slow water movement	1.00
MrA:				
Merry Oaks----------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	0.60	Slow water movement	1.00
Moncure, undrained--	Very limited		Very limited	
	Slow water movement	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
NaB:				
Nanford-------------	Somewhat limited		Very limited	
	Too acid	0.22	Low adsorption	1.00
	Low adsorption	0.20	Too acid	0.77

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
Badin	Somewhat limited		Very limited	
	Too acid	0.50	Low adsorption	1.00
	Depth to bedrock	0.26	Too acid	0.99
	Low adsorption	0.24	Depth to bedrock	0.26
NaC:				
Nanford	Somewhat limited		Very limited	
	Too acid	0.22	Low adsorption	1.00
	Low adsorption	0.20	Too acid	0.77
	Slope	0.01	Slope	0.01
Badin	Somewhat limited		Very limited	
	Too acid	0.50	Low adsorption	1.00
	Depth to bedrock	0.26	Too acid	0.99
	Low adsorption	0.24	Depth to bedrock	0.26
NaD:				
Nanford	Somewhat limited		Very limited	
	Slope	0.84	Low adsorption	1.00
	Too acid	0.22	Slope	0.84
	Low adsorption	0.20	Too acid	0.77
Badin	Somewhat limited		Very limited	
	Slope	0.84	Low adsorption	1.00
	Too acid	0.50	Too acid	0.99
	Depth to bedrock	0.26	Slope	0.84
PaE:				
Pacolet	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Low adsorption	0.48	Too acid	0.77
	Too acid	0.22	Low adsorption	0.01
PcA:				
Peawick	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.95	Too acid	1.00
	Too acid	0.78	Depth to saturated zone	0.95
PeA, PeB:				
Peawick	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.95	Too acid	1.00
	Too acid	0.78	Depth to saturated zone	0.95
PsB:				
Pittsboro, stony	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.89	Low adsorption	1.00
	Runoff	0.40	Slow water movement	0.78

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
Iredell, stony------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.50	Low adsorption	1.00
Qr:				
Pits, quarry--------	Not rated		Not rated	
RvA:				
Riverview-----------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Too acid	0.22	Too acid	0.77
StB:				
State---------------	Somewhat limited		Very limited	
	Too acid	0.73	Too acid	1.00
TuA:				
Turbeville----------	Somewhat limited		Very limited	
	Too acid	0.50	Too acid	0.99
	Low adsorption	0.39		
UdC:				
Udorthents, loamy---	Somewhat limited		Somewhat limited	
	Too acid	0.02	Too acid	0.07
	Slope	0.01	Slope	0.01
VaB:				
Vance---------------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Too acid	0.32	Too acid	0.91
WdC:				
Wedowee, bouldery---	Somewhat limited		Very limited	
	Low adsorption	0.53	Too acid	0.99
	Too acid	0.50	Low adsorption	0.13
WdE:				
Wedowee, bouldery---	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Low adsorption	0.53	Too acid	0.99
	Too acid	0.50	Low adsorption	0.13
WeB:				
Wedowee-------------	Somewhat limited		Very limited	
	Low adsorption	0.53	Too acid	0.99
	Too acid	0.50	Low adsorption	0.13
WeC:				
Wedowee-------------	Somewhat limited		Very limited	
	Low adsorption	0.53	Too acid	0.99
	Too acid	0.50	Low adsorption	0.13
	Slope	0.01	Slope	0.01

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
WeD:				
Wedowee	Somewhat limited		Very limited	
	Slope	0.84	Too acid	0.99
	Low adsorption	0.53	Slope	0.84
	Too acid	0.50	Low adsorption	0.13
WeE:				
Wedowee	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Low adsorption	0.53	Too acid	0.99
	Too acid	0.50	Low adsorption	0.13
WhB:				
White Store	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.50	Low adsorption	1.00
Polkton	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.99	Low adsorption	1.00
			Too acid	0.99
	Too acid	0.50		
WhC:				
White Store	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	0.50	Low adsorption	1.00
Polkton	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.99	Low adsorption	1.00
			Too acid	0.99
	Too acid	0.50		
WhD:				
White Store	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	0.84	Low adsorption	1.00
Polkton	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.99	Low adsorption	1.00
			Too acid	0.99
	Slope	0.84		

Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge—Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
WtB:				
Wynott	Very limited		Very limited	
	Slow water movement	1.00	Low adsorption	1.00
	Depth to bedrock	0.42	Slow water movement	1.00
	Droughty	0.34	Too acid	0.77
Enon	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Too acid	0.11	Too acid	0.42
WtC:				
Wynott	Very limited		Very limited	
	Slow water movement	1.00	Low adsorption	1.00
	Slope	0.63	Slow water movement	1.00
	Depth to bedrock	0.42	Too acid	0.77
Enon	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Slope	0.63	Slope	0.63
	Too acid	0.11	Too acid	0.42
WyB2:				
Wynott, moderately eroded	Very limited		Very limited	
	Slow water movement	1.00	Low adsorption	1.00
	Depth to bedrock	0.42	Slow water movement	1.00
				0
	Too acid	0.22	Too acid	0.77
Enon, moderately eroded	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Too acid	0.11	Too acid	0.42
WyC2:				
Wynott, moderately eroded	Very limited		Very limited	
	Slow water movement	1.00	Low adsorption	1.00
	Slope	0.63	Slow water movement	1.00
	Depth to bedrock	0.42	Too acid	0.77
Enon, moderately eroded	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Slope	0.63	Slope	0.63
	Too acid	0.11	Too acid	0.42

Agricultural Disposal of Wastewater by Irrigation and Overland Flow

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
BaE:				
Badin	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.99	Seepage	1.00
Nanford	Very limited		Very limited	
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Seepage	1.00
	Too acid	0.77	Too acid	0.77
BdB:				
Badin	Very limited		Very limited	
	Too acid	0.99	Depth to bedrock	1.00
	Depth to bedrock	0.42	Seepage	1.00
	Too steep for surface application	0.32	Too acid	0.99
Tarrus	Very limited		Very limited	
	Too acid	0.99	Seepage	1.00
	Low adsorption	0.72	Too acid	0.99
	Too steep for surface application	0.32	Low adsorption	0.72
BdC:				
Badin	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Too acid	0.99	Seepage	1.00
	Too steep for sprinkler application	0.78	Too steep for surface application	1.0
Tarrus	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.99	Too steep for surface application	1.00
	Too steep for sprinkler application	0.78	Too acid	0.99

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
BeB2:				
Badin, moderately eroded-------------	Very limited		Very limited	
	Too acid	0.99	Depth to bedrock	1.00
	Depth to bedrock	0.42	Seepage	1.00
	Low adsorption	0.34	Too acid	0.99
Tarrus, moderately eroded-------------	Very limited		Very limited	
	Too acid	0.99	Seepage	1.00
	Low adsorption	0.69	Too acid	0.99
	Too steep for surface application	0.32	Low adsorption	0.69
BeC2:				
Badin, moderately eroded-------------	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
			Seepage	1.00
			Too steep for surface application	1.00
	Too acid	0.99		
	Too steep for sprinkler application	0.78		
Tarrus, moderately eroded-------------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Too steep for surface application	1.00
	Too acid	0.99		
	Too steep for sprinkler application	0.78	Too acid	0.99
CaB:				
Callison------------	Very limited		Very limited	
	Depth to saturated zone	0.99	Depth to bedrock	1.00
			Seepage	1.00
	Too acid	0.67	Depth to saturated zone	0.99
	Depth to bedrock	0.42		
Lignum--------------	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
			Too acid	0.99
	Too acid	0.99	Depth to saturated zone	0.99
	Depth to saturated zone	0.99		
CbC:				
Callison------------	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
			Seepage	1.00
			Depth to saturated zone	0.99
	Depth to saturated zone	0.99		
	Too acid	0.67		

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Misenheimer---------	Very limited		Very limited	
	Droughty	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Seepage	1.00
CcB:				
Carbonton-----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to bedrock	1.00
	Too acid	1.00	Seepage	1.00
Brickhaven----------	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too acid	1.00	Too acid	1.00
	Depth to saturated zone	0.95	Depth to saturated zone	0.95
CcC:				
Carbonton-----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to bedrock	1.00
	Too acid	1.00	Seepage	1.00
Brickhaven----------	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too acid	1.00	Too acid	1.00
	Too steep for surface application	1.00	Depth to saturated zone	0.95
CcD:				
Carbonton-----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Seepage	1.00
Brickhaven----------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Too acid	1.00	Too acid	1.00

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
CeB:				
Cecil	Very limited		Very limited	
	Too acid	1.00	Seepage	1.00
	Too steep for surface application	0.08	Too acid	1.00
CeC:				
Cecil	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Too acid	1.00
			Too steep for surface application	0.22
	Too acid	1.00		
	Too steep for sprinkler application	0.10		
CeD:				
Cecil	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Too steep for surface application	1.00
	Too acid	1.00		
	Too steep for sprinkler application	0.90	Too acid	1.00
ChA:				
Chewacla	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
			Depth to saturated zone	1.00
	Flooding	1.00		
	Too acid	0.77	Seepage	1.00
Wehadkee	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
			Seepage	1.00
	Flooding	1.00	Depth to saturated zone	1.00
	Too acid	0.77		
CkC:				
Cid	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to bedrock	1.00
			Seepage	1.0
	Too acid	1.00		
CmB:				
Cid	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to bedrock	1.00
			Seepage	1.0
	Too acid	1.00		

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
Lignum	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too acid	0.99	Too acid	0.99
	Depth to saturated zone	0.99	Depth to saturated zone	0.9
CrB:				
Creedmoor	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	1.00	Too acid	1.00
Green Level	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Too acid	0.99	Too acid	0.99
CrC:				
Creedmoor	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too acid	1.00	Too acid	1.00
Green Level	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too acid	0.99
CrD:				
Creedmoor	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
Green Level	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.0
DAM:				
Dam	Not rated		Not rated	

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
GaB:				
Georgeville----------	Somewhat limited		Very limited	
	Low adsorption	0.31	Seepage	1.00
	Too acid	0.31	Low adsorption	0.31
	Too steep for surface application	0.08	Too acid	0.31
GaC:				
Georgeville----------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Low adsorption	0.31
			Too acid	0.31
	Low adsorption	0.31		
	Too acid	0.31		
GbB:				
Georgeville----------	Somewhat limited		Very limited	
	Too steep for surface application	0.32	Seepage	1.00
			Too acid	0.31
			Low adsorption	0.12
	Too acid	0.31		
	Low adsorption	0.12		
GbC:				
Georgeville----------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Too steep for surface application	1.00
	Too steep for sprinkler application	0.78	Too acid	0.31
	Too acid	0.31		
GeB2:				
Georgeville, moderately eroded--	Somewhat limited		Very limited	
	Low adsorption	0.71	Seepage	1.00
	Too acid	0.31	Low adsorption	0.71
	Too steep for surface application	0.08	Too acid	0.31
GeC2:				
Georgeville, moderately eroded--	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Low adsorption	0.71
			Too acid	0.31
	Low adsorption	0.71		
	Too acid	0.31		
GhB2:				
Georgeville, moderately eroded--	Somewhat limited		Very limited	
	Too steep for surface application	0.32	Seepage	1.00
			Too acid	0.31
	Too acid	0.31		

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
GhC2:				
Georgeville, moderately eroded	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	0.78	Too steep for surface application	1.00
	Too acid	0.31	Too acid	0.31
GkD:				
Georgeville	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	0.90	Too steep for surface application	1.00
	Low adsorption	0.31	Low adsorption	0.31
Badin	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Too acid	0.99	Seepage	1.00
	Too steep for sprinkler application	0.90	Too steep for surface application	1.00
GkE:				
Georgeville	Very limited		Very limited	
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Seepage	1.00
	Low adsorption	0.31	Low adsorption	0.31
Badin	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.99	Seepage	1.00
GnC:				
Georgeville	Somewhat limited		Very limited	
	Too steep for surface application	0.68	Seepage	1.00
	Low adsorption	0.49	Low adsorption	0.49
	Too acid	0.31	Too acid	0.31
Urban land	Not rated		Not rated	

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
GoC:				
Goldston	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too steep for surface application	1.00	Too acid	1.00
Badin	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
			Seepage	1.00
			Too acid	1.00
	Too acid	1.00		
	Too steep for sprinkler application	0.78		
GoE:				
Goldston	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
Badin	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
			Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Seepage	1.00
	Too acid	1.00		
HeB:				
Helena	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
			Too acid	0.99
	Too acid	0.99	Depth to saturated zone	0.99
	Depth to saturated zone	0.99		
HeC:				
Helena	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
			Too acid	0.99
	Too steep for surface application	1.00	Depth to saturated zone	0.99
	Too acid	0.99		
HrB:				
Herndon	Somewhat limited		Very limited	
	Too acid	0.77	Seepage	1.00
	Low adsorption	0.52	Too acid	0.77
	Too steep for surface application	0.08	Low adsorption	0.52

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
HrC:				
Herndon	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.77	Too acid	0.77
	Low adsorption	0.52	Low adsorption	0.52
IrB:				
Iredell	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Slow water movement	1.00	Depth to saturated zone	1.00
	Too steep for surface application	0.08	Too acid	0.07
LsF:				
Louisa	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
MaA:				
Mattaponi	Very limited		Very limited	
	Too acid	0.99	Seepage	1.00
	Slow water movement	0.22	Too acid	0.99
MaB:				
Mattaponi	Very limited		Very limited	
	Too acid	0.99	Seepage	1.00
	Too steep for surface application	0.32	Too acid	0.99
	Slow water movement	0.22		
McC:				
Mattaponi	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.99	Too acid	0.99
	Too steep for sprinkler application	0.70	Too steep for surface application	0.99
Peawick	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too acid	1.00
	Too acid	1.00	Too acid	1.00
			Too steep for surface application	0.99

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
MdB:				
Mayodan-------------	Somewhat limited		Very limited	
	Too acid	0.91	Seepage	1.00
	Too steep for surface application	0.08	Too acid	0.91
	Sodium content	0.02	Sodium content	0.02
MdC:				
Mayodan-------------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.91	Too acid	0.91
	Too steep for sprinkler application	0.10	Too steep for surface application	0.22
MgD:				
Mayodan-------------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.91	Too steep for surface application	1.00
	Too steep for sprinkler application	0.90	Too acid	0.91
MhE:				
Mayodan-------------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.91	Too acid	0.91
Brickhaven----------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Depth to saturated zone	0.95
MrA:				
Merry Oaks----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
	Slow water movement	1.00	Depth to saturated zone	1.00
	Too acid	0.91	Seepage	1.00

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Moncure, undrained	Very limited		Very limited	
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Slow water movement	1.00	Depth to saturated zone	1.00
NaB:				
Nanford	Somewhat limited		Very limited	
	Too acid	0.77	Seepage	1.00
	Low adsorption	0.20	Too acid	0.77
	Too steep for surface application	0.08	Low adsorption	0.20
Badin	Very limited		Very limited	
	Too acid	0.99	Depth to bedrock	1.00
	Depth to bedrock	0.26	Seepage	1.00
	Low adsorption	0.24	Too acid	0.99
NaC:				
Nanford	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.77	Too acid	0.77
	Low adsorption	0.20	Too steep for surface application	0.22
Badin	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Too acid	0.99	Seepage	1.00
	Depth to bedrock	0.26	Too acid	0.99
NaD:				
Nanford	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	0.90	Too steep for surface application	1.00
	Too acid	0.77	Too acid	0.77
Badin	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Too acid	0.99	Seepage	1.00
	Too steep for sprinkler application	0.90	Too steep for surface application	1.00

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
PaE:				
Pacolet	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.77	Too acid	0.77
PcA:				
Peawick	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too acid	1.00	Too acid	1.00
	Depth to saturated zone	0.95	Depth to saturated zone	0.95
PeA, PeB:				
Peawick	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too acid	1.00	Too acid	1.00
	Depth to saturated zone	0.95	Depth to saturated zone	0.95
PsB:				
Pittsboro, stony	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.78	Depth to bedrock	1.00
	Too steep for surface application	0.32	Seepage	1.00
Iredell, stony	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too steep for surface application	0.32	Too acid	0.07
Qr:				
Pits, quarry	Not rated		Not rated	
RvA:				
Riverview	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Too acid	0.77	Seepage	1.00
			Too acid	0.77
StB:				
State	Very limited		Very limited	
	Too acid	1.00	Seepage	1.00
	Too steep for surface application	0.08	Too acid	1.00

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
TuA:				
Turbeville	Very limited		Very limited	
	Too acid	0.99	Seepage	1.00
	Low adsorption	0.39	Too acid	0.99
			Low adsorption	0.39
UdC:				
Udorthents, loamy	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	0.10	Too steep for surface application	0.22
	Too acid	0.07	Too acid	0.07
VaB:				
Vance	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too acid	0.91	Too acid	0.91
	Too steep for surface application	0.08		
WdC:				
Wedowee, bouldery	Very limited		Very limited	
	Too acid	0.99	Seepage	1.00
	Too steep for surface application	0.68	Too acid	0.99
	Low adsorption	0.53	Low adsorption	0.53
WdE:				
Wedowee, bouldery	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application surface	1.00
	Too acid	0.99	Too acid	0.99
WeB:				
Wedowee	Very limited		Very limited	
	Too acid	0.99	Seepage	1.00
	Low adsorption	0.53	Too acid	0.99
	Too steep for surface application	0.08	Low adsorption	0.53
WeC:				
Wedowee	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.99	Too acid	0.99
	Low adsorption	0.53	Low adsorption	0.53

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
WeD:				
Wedowee	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.99	Too steep for surface application	1.00
	Too steep for sprinkler application	0.90	Too acid	0.99
WeE:				
Wedowee	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.99	Too acid	0.99
WhB:				
White Store	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Too acid	0.99	Too acid	0.99
Polkton	Very limited		Very limited	
	Slow water movement	1.00	Depth to bedrock	1.00
	Too acid	0.99	Seepage	1.00
	Depth to saturated zone	0.99	Too acid	0.99
WhC:				
White Store	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too acid	0.99
Polkton	Very limited		Very limited	
	Slow water movement	1.00	Depth to bedrock	1.00
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.99	Too acid	0.99

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WhD:				
White Store	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
Polkton	Very limited		Very limited	
	Slow water movement	1.00	Depth to bedrock	1.00
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.99	Too steep for surface application	1.00
WtB:				
Wynott	Very limited		Very limited	
	Slow water movement	1.00	Depth to bedrock	1.00
	Too acid	0.77	Seepage	1.00
	Depth to bedrock	0.42	Too acid	0.77
Enon	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too acid	0.42	Too acid	0.42
	Too steep for surface application	0.32		
WtC:				
Wynott	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Seepage	1.00
	Too steep for sprinkler application	0.78	Too steep for surface application	1.00
Enon	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	0.78	Too acid	0.42

Agricultural Disposal of Wastewater by Irrigation and Overland Flow—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WyB2:				
Wynott, moderately eroded-------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to bedrock	1.00
	Too acid	0.77	Seepage	1.00
	Depth to bedrock	0.42	Too acid	0.77
Enon, moderately eroded-------------	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too acid	0.42	Too acid	0.42
	Too steep for surface application	0.32		
WyC2:				
Wynott, moderately eroded-------------	Very limited		Very limited	
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Seepage	1.00
	Too steep for sprinkler application	0.78	Too steep for surface application	1.00
Enon, moderately eroded-------------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	0.78	Too acid	0.42

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
BaE:				
Badin	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Nanford	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
	Slow water movement	1.00	Too acid	0.77
BdB:				
Badin	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Too acid	0.99
	Too acid	0.21	Too steep for surface application	0.32
Tarrus	Very limited		Very limited	
	Depth to bedrock	1.00	Too acid	0.99
	Slow water movement	1.00	Low adsorption	0.72
	Slope	0.12	Depth to bedrock	0.42
BdC:				
Badin	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Tarrus	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
	Slow water movement	1.00	Too acid	0.99

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
BeB2:				
Badin, moderately eroded	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Too acid	0.99
	Too acid	0.21	Low adsorption	0.34
Tarrus, moderately eroded	Very limited		Very limited	
	Depth to bedrock	1.00	Too acid	0.99
	Slow water movement	1.00	Low adsorption	0.69
	Slope	0.12	Depth to bedrock	0.42
BeC2:				
Badin, moderately eroded	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
Tarrus, moderately eroded	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
	Slow water movement	1.00	Too acid	0.99
CaB:				
Callison	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Depth to saturated zone	0.99
	Depth to saturated zone	0.99	Too acid	0.67
Lignum	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to bedrock	1.00	Too acid	0.99
	Depth to saturated zone	0.99	Depth to saturated zone	0.99
CbC:				
Callison	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Depth to saturated zone	0.99

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
Misenheimer	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Too acid	1.00
CcB:				
Carbonton	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too acid	1.00
Brickhaven	Very limited		Very limited	
	Slow water movement	1.00	Too acid	1.00
	Depth to bedrock	1.00	Depth to saturated zone	0.95
	Depth to saturated zone	0.95	Slow water movement	0.94
CcC:				
Carbonton	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too acid	1.00
Brickhaven	Very limited		Very limited	
	Slow water movement	1.00	Too acid	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slope	1.00	Depth to saturated zone	0.95
CcD:				
Carbonton	Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to bedrock	1.00
	Depth to saturated zone	1.00	Too steep for surface application	1.00
Brickhaven	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
	Depth to bedrock	1.00	Too acid	1.00

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
CeB:				
Cecil	Very limited		Very limited	
	Slow water movement	1.00	Too acid	1.00
			Too steep for	0.08
	Too acid	0.07	Too steep for surface application	0.08
CeC:				
Cecil	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00		
	Too acid	0.07	Too acid	1.00
			Too steep for sprinkler irrigation	0.22
CeD:				
Cecil	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00		
	Too acid	0.07	Too steep for sprinkler irrigation	1.00
			Too acid	1.00
ChA:				
Chewacla	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
			Flooding	1.00
	Slow water movement	1.00	Too acid	0.7
			Too acid	0.77
Wehadkee	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
			Flooding	1.00
	Slow water movement	1.00	Too acid	0.77
CkC:				
Cid	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too acid	1.00
CmB:				
Cid	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too acid	1.00

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Lignum	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to bedrock	1.00	Too acid	0.99
	Depth to saturated zone	0.99	Depth to saturated zone	0.99
CrB:				
Creedmoor	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Too acid	0.21	Too acid	1.00
Green Level	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
			Too acid	0.99
CrC:				
Creedmoor	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Slope	1.00	Too acid	1.00
Green Level	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Slope	1.00	Too steep for surface application	1.00
CrD:				
Creedmoor	Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
Green Level	Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
DAM:				
Dam	Not rated		Not rated	

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
GaB:				
Georgeville---------	Very limited		Somewhat limited	
	Slow water movement	1.00	Low adsorption	0.31
			Too acid	0.31
			Too steep for surface application	0.08
GaC:				
Georgeville---------	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00		
			Low adsorption	0.31
			Too acid	0.31
GbB:				
Georgeville---------	Very limited		Somewhat limited	
	Slow water movement	1.00	Too steep for surface application	0.32
	Slope	0.12		
			Too acid	0.31
			Low adsorption	0.12
GbC:				
Georgeville---------	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00		
			Too steep for sprinkler irrigation	1.00
			Too acid	0.31
GeB2:				
Georgeville, moderately eroded--	Very limited		Somewhat limited	
	Slow water movement	1.00	Low adsorption	0.71
			Too acid	0.31
			Too steep for surface application	0.08
GeC2:				
Georgeville,			d	
moderately eroded--	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00		
			Low adsorption	0.71
			Too acid	0.31
GhB2:				
Georgeville, moderately eroded--	Very limited		Somewhat limited	
	Slow water movement	1.00	Too steep for surface application	0.32
	Slope	0.12		
			Too acid	0.31

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
GhC2:				
Georgeville, moderately eroded	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Too acid	0.31
GkD:				
Georgeville	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Low adsorption	0.31
Badin	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
GkE:				
Georgeville	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Low adsorption	0.31
Badin	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
GnC:				
Georgeville	Very limited		Somewhat limited	
	Slow water movement	1.00	Too steep for surface application	0.68
	Slope	0.50	Low adsorption	0.49
			Too acid	0.31
Urban land	Not rated		Not rated	

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
GoC:				
Goldston	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Cobble content	0.57	Too acid	1.00
Badin	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too acid	1.00
GoE:				
Goldston	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Cobble content	0.57	Too steep for sprinkler irrigation	1.00
Badin	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
HeB:				
Helena	Very limited		Very limited	
	Slow water movement	1.00	Too acid	0.99
	Depth to saturated zone	0.99	Depth to saturated zone	0.99
	Too acid	0.21	Slow water movement	0.94
HeC:				
Helena	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too acid	0.99
	Depth to saturated zone	0.99	Depth to saturated zone	0.99
HrB:				
Herndon	Very limited		Somewhat limited	
	Slow water movement	1.00	Too acid	0.77
	Too acid	0.14	Low adsorption	0.52
			Too steep for surface application	0.08

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
HrC:				
Herndon	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too acid	0.77
	Too acid	0.14	Low adsorption	0.52
IrB:				
Iredell	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	0.94
			Too steep for surface application	0.08
LsF:				
Louisa	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
MaA:				
Mattaponi	Very limited		Very limited	
	Slow water movement	1.00	Too acid	0.99
			Slow water movement	0.15
MaB:				
Mattaponi	Very limited		Very limited	
	Slow water movement	1.00	Too acid	0.99
	Slope	0.12	Too steep for surface application	0.32
			Slow water movement	0.15
McC:				
Mattaponi	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too acid	0.99
			Too steep for sprinkler irrigation	0.99

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
Peawick	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.95	Too acid	1.00
MdB:				
Mayodan	Very limited		Somewhat limited	
	Slow water movement	1.00	Too acid	0.91
			Too steep for surface application	0.08
			Sodium content	0.02
MdC:				
Mayodan	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too acid	0.91
			Too steep for sprinkler irrigation	0.22
MgD:				
Mayodan	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Too acid	0.91
MhE:				
Mayodan	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Too acid	0.91
Brickhaven	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
	Depth to bedrock	1.00	Depth to saturated zone	0.95

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
MrA:				
Merry Oaks	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	0.94
	Flooding	0.60	Too acid	0.91
Moncure, undrained	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	0.94
NaB:				
Nanford	Very limited		Somewhat limited	
	Depth to bedrock	1.00	Too acid	0.77
	Slow water movement	1.00	Low adsorption	0.20
			Too steep for surface application	0.08
Badin	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Too acid	0.99
	Too acid	0.21	Low adsorption	0.24
NaC:				
Nanford	Very limited		Very limited	
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too acid	0.77
	Slope	1.00	Too steep for sprinkler irrigation	0.22
Badin	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too acid	0.99
NaD:				
Nanford	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
	Slow water movement	1.00	Too acid	0.77

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
Badin	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
PaE:				
Pacolet	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Too acid	0.77
PcA:				
Peawick	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.95	Too acid	1.00
	Too acid	0.21	Depth to saturated zone	0.95
PeA, PeB:				
Peawick	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.95	Too acid	1.00
	Too acid	0.21	Depth to saturated zone	0.95
PsB:				
Pittsboro, stony	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Slow water movement	0.60
Iredell, stony	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Slope	0.12	Too steep for surface application	0.32
Qr:				
Pits, quarry	Not rated		Not rated	

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
RvA:				
Riverview-----------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Too acid	0.77
	Slow water movement	1.00		
StB:				
State---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Too acid	1.00
	Slow water movement	1.00	Too steep for surface application	0.08
	Too acid	0.14		
TuA:				
Turbeville----------	Very limited		Very limited	
	Slow water movement	1.00	Too acid	0.99
			Low adsorption	0.39
UdC:				
Udorthents, loamy---	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too steep for sprinkler irrigation	0.22
			Too acid	0.07
VaB:				
Vance---------------	Very limited		Somewhat limited	
	Slow water movement	1.00	Slow water movement	0.94
			Too acid	0.91
			Too steep for surface application	0.08
WdC:				
Wedowee, bouldery---	Very limited		Very limited	
	Slow water movement	1.00	Too acid	0.99
	Slope	0.50	Too steep for surface application	0.68
			Low adsorption	0.53
WdE:				
Wedowee, bouldery---	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Too acid	0.99

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WeB:				
Wedowee	Very limited		Very limited	
	Slow water movement	1.00	Too acid	0.99
			Low adsorption	0.53
			Too steep for surface application	0.08
WeC:				
Wedowee	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too acid	0.99
			Low adsorption	0.53
WeD:				
Wedowee	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Too acid	0.99
WeE:				
Wedowee	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Too acid	0.99
WhB:				
White Store	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Depth to bedrock	1.00	Too acid	0.99
Polkton	Very limited		Very limited	
	Slow water movement	1.00	Depth to bedrock	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Depth to bedrock	1.00	Too acid	0.99
WhC:				
White Store	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
Polkton	Very limited		Very limited	
	Slow water movement	1.00	Depth to bedrock	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
WhD:				
White Store	Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
Polkton	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
WtB:				
Wynott	Very limited		Very limited	
	Slow water movement	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Slow water movement	0.94
	Slope	0.12	Too acid	0.77
Enon	Very limited		Somewhat limited	
	Slow water movement	1.00	Slow water movement	0.94
	Slope	0.12	Too acid	0.42
			Too steep for surface application	0.32
WtC:				
Wynott	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
Enon	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Slow water movement	0.94

Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WyB2:				
Wynott, moderately eroded-------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Slow water movement	0.94
	Slope	0.12	Too acid	0.77
Enon, moderately eroded-------------	Very limited		Somewhat limited	
	Slow water movement	1.00	Slow water movement	0.94
	Slope	0.12	Too acid	0.42
			Too steep for surface application	0.32
WyC2:				
Wynott, moderately eroded-------------	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
Enon, moderately eroded-------------	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Slow water movement	0.94

Forestland Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
BaE:				
Badin	loblolly pine	80	110	loblolly pine, shortleaf pine
	shortleaf pine	69	108	
	Virginia pine	---	---	
	yellow-poplar	---	---	
	white oak	68	50	
	scarlet oak	---	---	
	chestnut oak	---	---	
Nanford	loblolly pine	90	131	loblolly pine, shortleaf pine
	shortleaf pine	---	---	
	Virginia pine	---	---	
	northern red oak	---	---	
BdB:				
Badin	loblolly pine	80	110	loblolly pine, shortleaf pine
	shortleaf pine	69	108	
	Virginia pine	72	112	
	yellow-poplar	---	---	
	white oak	68	50	
	scarlet oak	---	---	
	chestnut oak	---	---	
Tarrus	loblolly pine	82	114	loblolly pine, shortleaf pine
	shortleaf pine	72	114	
	Virginia pine	---	---	
	yellow-poplar	---	---	
	white oak	---	---	
BdC:				
Badin	loblolly pine	80	110	loblolly pine, shortleaf pine
	shortleaf pine	69	108	
	Virginia pine	---	---	
	yellow-poplar	---	---	
	white oak	68	50	
	scarlet oak	---	---	
	chestnut oak	---	---	
Tarrus	loblolly pine	82	114	loblolly pine, shortleaf pine
	shortleaf pine	72	114	
	Virginia pine	---	---	
	yellow-poplar	---	---	
	white oak	---	---	
BeB2, BeC2:				
Badin, moderately eroded	loblolly pine	80	110	loblolly pine, shortleaf pine
	shortleaf pine	69	108	
	white oak	68	50	
	scarlet oak	---	---	
	chestnut oak	---	---	
	Virginia pine	---	---	
Tarrus, moderately eroded	loblolly pine	82	114	loblolly pine, shortleaf pine
	northern red oak	72	114	
	Virginia pine	---	---	
	yellow-poplar	---	---	
	white oak	---	---	

Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
CaB:				
Callison----------------	loblolly pine-------	77	105	loblolly pine, shortleaf pine
	red maple-----------	---	---	
	sweetgum------------	---	---	
	willow oak----------	---	---	
	black cherry--------	---	---	
	hickory-------------	---	---	
	shortleaf pine------	64	97	
Lignum------------------	loblolly pine-------	87	125	loblolly pine, shortleaf pine
	northern red oak----	---	---	
	Virginia pine-------	---	---	
	shortleaf pine------	67	103	
	southern red oak----	74	56	
	red maple-----------	---	---	
	yellow-poplar-------	---	---	
CbC:				
Callison----------------	loblolly pine-------	77	105	loblolly pine, shortleaf pine
	red maple-----------	---	---	
	sweetgum------------	---	---	
	willow oak----------	---	---	
	black cherry--------	---	---	
	hickory-------------	---	---	
	shortleaf pine------	64	97	
Misenheimer-------------	shortleaf pine------	58	84	shortleaf pine
	white oak-----------	59	42	
	willow oak----------	---	---	
	sweetgum------------	---	---	
	red maple-----------	---	---	
	blackgum------------	---	---	
	hickory-------------	---	---	
	post oak------------	---	---	
	blackjack oak-------	---	---	
CcB, CcC, CcD:				
Carbonton---------------	loblolly pine-------	81	112	loblolly pine, shortleaf pine
	shortleaf pine------	63	95	
	white oak-----------	59	42	
Brickhaven--------------	loblolly pine-------	86	123	loblolly pine, shortleaf pine
	shortleaf pine------	69	108	
CeB, CeC, CeD:				
Cecil-------------------	loblolly pine-------	83	116	loblolly pine, shortleaf pine
	shortleaf pine------	67	103	
	Virginia pine-------	71	110	
	white oak-----------	78	60	
	northern red oak----	81	63	
	southern red oak----	79	61	
	post oak------------	72	54	
	scarlet oak---------	81	63	
	sweetgum------------	76	70	
	yellow-poplar-------	92	93	

Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
ChA:				
Chewacla----------------	yellow-poplar-------	96	100	yellow-poplar,
	loblolly pine-------	95	100	loblolly pine,
	sweetgum-----------	100	138	sweetgum, American
	water oak-----------	90	86	sycamore, green
	eastern cottonwood--	---	---	ash
	green ash-----------	78	46	
	southern red oak----	---	---	
	blackgum------------	---	---	
	red maple-----------	---	---	
	willow oak----------	90	86	
	American beech------	---	---	
	American sycamore---	97	116	
Wehadkee, undrained-----	yellow-poplar-------	100	107	yellow-poplar,
	American sycamore---	---	---	green ash,
	green ash-----------	89	64	sweetgum
	loblolly pine-------	93	138	
	river birch---------	---	---	
	sweetgum------------	97	128	
	water oak-----------	94	91	
	white ash-----------	---	---	
	willow oak----------	94	91	
Wehadkee, drained-------	---	---	---	---
CkC:				
Cid---------------------	loblolly pine-------	85	120	loblolly pine,
	black oak-----------	---	---	shortleaf pine
	blackgum------------	---	---	
	scarlet oak---------	---	---	
	shortleaf pine------	60	88	
	southern red oak----	---	---	
	sweetgum------------	---	---	
	white oak-----------	52	36	
	willow oak----------	---	---	
CmB:				
Cid---------------------	loblolly pine-------	85	120	loblolly pine,
	black oak-----------	---	---	shortleaf pine
	blackgum------------	---	---	
	scarlet oak---------	---	---	
	shortleaf pine------	60	88	
	southern red oak----	---	---	
	sweetgum------------	---	---	
	white oak-----------	52	36	
	willow oak----------	---	---	
Lignum------------------	loblolly pine-------	87	125	loblolly pine,
	red maple-----------	---	---	shortleaf pine
	shortleaf pine------	67	103	
	southern red oak----	74	56	
	yellow-poplar-------	---	---	

Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
CrB, CrC, CrD:				
Creedmoor	loblolly pine	87	125	loblolly pine, shortleaf pine
	yellow-poplar	97	102	
	Virginia pine	---	---	
	shortleaf pine	---	---	
	sweetgum	---	---	
	water oak	---	---	
	red maple	---	---	
Green Level	loblolly pine	82	114	loblolly pine, shortleaf pine
	shortleaf pine	---	---	
	red maple	---	---	
	white oak	---	---	
	post oak	---	---	
DAM:				
Dam	---	---	---	---
GaB, GaC:				
Georgeville	loblolly pine	86	123	loblolly pine, shortleaf pine, yellow-poplar
	longleaf pine	---	---	
	shortleaf pine	71	112	
	white oak	---	---	
	scarlet oak	---	---	
	southern red oak	---	---	
GbB:				
Georgeville	loblolly pine	86	123	loblolly pine, shortleaf pine, yellow-poplar
	longleaf pine	---	---	
	shortleaf pine	71	112	
	white oak	---	---	
	scarlet oak	---	---	
	southern red oak	---	---	
	Virginia pine	---	---	
	hickory	---	---	
GbC:				
Georgeville	loblolly pine	86	123	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	71	112	
	white oak	---	---	
	scarlet oak	---	---	
	southern red oak	---	---	
	Virginia pine	---	---	
	hickory	---	---	
GeB2:				
Georgeville, moderately eroded	loblolly pine	86	123	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	71	112	
	southern red oak	---	---	
	white oak	---	---	
	post oak	---	---	
	hickory	---	---	
	Virginia pine	---	---	
	red maple	---	---	

Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
GeC2:				
Georgeville, moderately eroded	loblolly pine	86	123	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	71	112	
	post oak	---	---	
	scarlet oak	---	---	
	hickory	---	---	
	southern red oak	---	---	
	Virginia pine	---	---	
	red maple	---	---	
GhB2, GhC2:				
Georgeville, moderately eroded	loblolly pine	86	123	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	71	112	
	southern red oak	---	---	
	white oak	---	---	
	scarlet oak	---	---	
	post oak	---	---	
	hickory	---	---	
	Virginia pine	---	---	
	red maple	---	---	
GkD, GkE:				
Georgeville	loblolly pine	86	123	loblolly pine, shortleaf pine, yellow-poplar
	longleaf pine	---	---	
	shortleaf pine	71	112	
	white oak	---	---	
	scarlet oak	---	---	
	southern red oak	---	---	
Badin	loblolly pine	80	110	loblolly pine, shortleaf pine
	shortleaf pine	69	108	
	Virginia pine	---	---	
	yellow-poplar	---	---	
	white oak	68	50	
	scarlet oak	---	---	
	chestnut oak	---	---	
GnC:				
Georgeville	---	---	---	---
Urban land	---	---	---	---
GoC:				
Goldston	loblolly pine	76	103	loblolly pine
	shortleaf pine	60	88	
	southern red oak	64	47	
	white oak	---	---	
	post oak	---	---	
	hickory	---	---	
	Virginia pine	---	---	
	red maple	---	---	

Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
Badin-------------------	loblolly pine-------	80	110	loblolly pine, shortleaf pine
	shortleaf pine------	69	108	
	Virginia pine-------	---	---	
	yellow-poplar-------	---	---	
	white oak-----------	68	---	
	scarlet oak---------	---	---	
	chestnut oak--------	---	---	
GoE:				
Goldston----------------	loblolly pine-------	76	103	loblolly pine
	shortleaf pine------	57	82	
	southern red oak----	60	43	
	white oak-----------	63	46	
	post oak------------	---	---	
	hickory-------------	---	---	
	Virginia pine-------	65	100	
	red maple-----------	---	---	
Badin-------------------	loblolly pine-------	80	110	loblolly pine, shortleaf pine
	shortleaf pine------	68	106	
	Virginia pine-------	72	112	
	yellow-poplar-------	---	---	
	white oak-----------	66	48	
	scarlet oak---------	65	47	
	chestnut oak--------	66	48	
HeB, HeC:				
Helena------------------	loblolly pine-------	84	118	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine------	66	101	
	white oak-----------	72	54	
	yellow-poplar-------	---	---	
	sweetgum------------	---	---	
	northern red oak----	---	---	
	southern red oak----	72	54	
	black oak-----------	---	---	
	hickory-------------	---	---	
	Virginia pine-------	---	---	
	willow oak----------	---	---	
	American elm--------	---	---	
HrB, HrC:				
Herndon-----------------	loblolly pine-------	75	101	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine------	68	106	
	southern red oak----	---	---	
	white oak-----------	---	---	
	yellow-poplar-------	---	---	
IrB:				
Iredell-----------------	loblolly pine-------	72	96	loblolly pine, shortleaf pine
	shortleaf pine------	52	72	
	post oak------------	---	---	
	white oak-----------	---	---	
LsF:				
Louisa------------------	loblolly pine-------	76	103	loblolly pine, shortleaf pine
	shortleaf pine------	---	---	
	southern red oak----	---	---	
	yellow-poplar-------	---	---	
	longleaf pine-------	---	---	

Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
MaA:				
Mattaponi----------------	loblolly pine-------	96	177	loblolly pine,
	sweetgum-----------	---	---	shortleaf pine,
	Virginia pine-------	---	---	yellow-poplar
	white oak-----------	---	---	
MaB:				
Mattaponi----------------	loblolly pine-------	95	177	loblolly pine,
	sweetgum-----------	---	---	shortleaf pine,
	Virginia pine-------	---	---	yellow-poplar
	white oak-----------	---	---	
McC:				
Mattaponi----------------	loblolly pine-------	96	177	loblolly pine,
	sweetgum-----------	---	---	shortleaf pine,
	Virginia pine-------	---	---	yellow-poplar
	white oak-----------	---	---	
Peawick------------------	loblolly pine-------	86	123	loblolly pine,
	southern red oak----	---	---	shortleaf pine
	sweetgum-----------	---	---	
	yellow-poplar-------	---	---	
	white oak-----------	---	---	
MdB, MdC:				
Mayodan------------------	loblolly pine-------	88	127	loblolly pine,
	shortleaf pine------	63	95	shortleaf pine
	Virginia pine-------	---	---	
	white oak-----------	74	53	
	yellow-poplar-------	---	---	
	sweetgum-----------	---	---	
	southern red oak----	---	---	
	black oak-----------	---	---	
	hickory-------------	---	---	
MgD:				
Mayodan------------------	loblolly pine-------	88	127	loblolly pine,
	shortleaf pine------	63	95	shortleaf pine
	Virginia pine-------	---	---	
	white oak-----------	74	53	
	yellow-poplar-------	---	---	
	sweetgum-----------	---	---	
	southern red oak----	---	---	
	black oak-----------	---	---	
	hickory-------------	---	---	
MhE:				
Mayodan------------------	loblolly pine-------	88	127	loblolly pine,
	shortleaf pine------	63	95	shortleaf pine
	Virginia pine-------	---	---	
	white oak-----------	74	53	
	yellow-poplar-------	---	---	
	sweetgum-----------	---	---	
	southern red oak----	---	---	
	black oak-----------	---	---	
	hickory-------------	---	---	
Brickhaven---------------	loblolly pine-------	86	123	loblolly pine,
	shortleaf pine------	69	108	shortleaf pine

Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
MrA:				
Merry Oaks	loblolly pine	86	123	loblolly pine, yellow-poplar, sweetgum, American sycamore, green ash
	sweetgum	90	106	
	yellow poplar	---	---	
Moncure, undrained	loblolly pine	98	149	loblolly pine, yellow-poplar, sweetgum, American sycamore, green ash
	sweetgum	90	106	
	yellow poplar	---	---	
NaB, NaD:				
Nanford	loblolly pine	90	131	loblolly pine, shortleaf pine
	shortleaf pine	---	---	
	Virginia pine	---	---	
	northern red oak	---	---	
Badin	loblolly pine	80	110	loblolly pine, shortleaf pine
	shortleaf pine	69	108	
	Virginia pine	---	---	
	yellow-poplar	---	---	
	white oak	68	50	
	scarlet oak	---	---	
	chestnut oak	---	---	
NaC:				
Nanford	loblolly pine	90	131	loblolly pine, shortleaf pine
	shortleaf pine	---	---	
	Virginia pine	---	---	
	northern red oak	---	---	
Badin	loblolly pine	80	110	loblolly pine, shortleaf pine
	shortleaf pine	69	108	
	white oak	68	50	
	scarlet oak	---	---	
	chestnut oak	---	---	
	Virginia pine	---	---	
PaE:				
Pacolet	loblolly pine	78	107	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	70	110	
	yellow-poplar	90	90	
	Virginia pine	---	---	
	southern red oak	---	---	
	hickory	---	---	
	white oak	---	---	
PcA:				
Peawick	loblolly pine	86	123	loblolly pine, shortleaf pine
	southern red oak	---	---	
	sweetgum	---	---	
	yellow-poplar	---	---	
	white oak	---	---	

Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
PeA, PeB:				
Peawick	loblolly pine	86	123	loblolly pine, shortleaf pine
	southern red oak	---	---	
	sweetgum	---	---	
	yellow-poplar	---	---	
	white oak	---	---	
PsB:				
Pittsboro, stony	loblolly pine	75	101	loblolly pine, shortleaf pine
	Virginia pine	---	---	
	shortleaf pine	---	---	
	northern red oak	---	---	
Iredell, stony	loblolly pine	72	96	loblolly pine, shortleaf pine
	shortleaf pine	52	72	
	post oak	---	---	
	white oak	---	---	
Qr:				
Pits, quarry	---	---	---	---
RvA:				
Riverview	loblolly pine	110	177	loblolly pine, yellow-poplar, sweetgum, eastern cottonwood, American sycamore
	yellow-poplar	98	104	
	sweetgum	96	125	
StB:				
State	loblolly pine	95	142	loblolly pine, shortleaf pine, yellow-poplar
	southern red oak	---	---	
	yellow-poplar	---	---	
	hickory	---	---	
	American beech	---	---	
	white oak	---	---	
TuA:				
Turbeville	loblolly pine	79	108	yellow-poplar, loblolly pine
	shortleaf pine	---	---	
	southern red oak	---	---	
	yellow-poplar	---	---	
UdC:				
Udorthents, loamy	loblolly pine	---	---	loblolly pine, shortleaf pine, Virginia pine
	shortleaf pine	---	---	
	Virginia pine	---	---	
VaB:				
Vance	loblolly pine	90	131	loblolly pine, shortleaf pine
	shortleaf pine	68	106	
	white oak	---	---	
	northern red oak	---	---	
	hickory	---	---	
	Virginia pine	---	---	
	yellow-poplar	---	---	
	southern red oak	---	---	
	sweetgum	---	---	

Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
WdC, WdE:				
Wedowee, bouldery	loblolly pine	87	125	loblolly pine,
	shortleaf pine	68	106	shortleaf pine,
	southern red oak	74	56	yellow-poplar
	white oak	74	56	
WeB, WeC, WeD, WeE:				
Wedowee	loblolly pine	87	125	loblolly pine,
	shortleaf pine	68	106	shortleaf pine,
	southern red oak	74	56	yellow-poplar
	white oak	74	56	
WhB, WhC, WhD:				
White Store	loblolly pine	87	125	loblolly pine,
	Virginia pine	---	---	shortleaf pine
	eastern redcedar	---	---	
	white oak	---	---	
	post oak	---	---	
Polkton	loblolly pine	81	112	loblolly pine,
	sweetgum	---	---	shortleaf pine
	southern red oak	---	---	
	white oak	---	---	
	willow oak	---	---	
	red maple	---	---	
WtB, WtC:				
Wynott	loblolly pine	75	101	loblolly pine,
	sweetgum	---	---	shortleaf pine
	southern red oak	---	---	
	white oak	---	---	
	willow oak	---	---	
	hickory	---	---	
	yellow-poplar	---	---	
	shortleaf pine	---	---	
Enon	loblolly pine	79	108	loblolly pine,
	shortleaf pine	57	82	shortleaf pine
	Virginia pine	---	---	
	southern red oak	---	---	
	sweetgum	---	---	
	white oak	---	---	
	yellow-poplar	---	---	
	hickory	---	---	
WyB2, WyC2:				
Wynott, moderately eroded	loblolly pine	75	101	loblolly pine,
	sweetgum	---	---	shortleaf pine
	southern red oak	---	---	
	white oak	---	---	
	willow oak	---	---	
	hickory	---	---	
	yellow-poplar	---	---	
	shortleaf pine	---	---	

Forestland Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
Enon, moderately eroded-	loblolly pine-------	79	108	loblolly pine, shortleaf pine
	shortleaf pine------	57	82	
	Virginia pine-------	---	---	
	northern red oak----	---	---	
	sweetgum------------	---	---	
	white oak-----------	---	---	
	hickory-------------	---	---	

Haul Roads, Log Landings, and Soil Rutting on Forestland

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BaE:						
Badin	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
Nanford	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
BdB:						
Badin	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Tarrus	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
BdC:						
Badin	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
Tarrus	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
BeB2:						
Badin, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Tarrus, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
BeC2:						
Badin, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
Tarrus, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
CaB:						
Callison	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Lignum	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Haul Roads, Log Landings, and Soil Rutting on Forestland—Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CbC:						
Callison------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
Misenheimer---------	Slight		Moderately suited		Severe	
	Landslides	0.10	Slope	0.50	Low strength	1.00
			Low strength	0.50		
			Wetness	0.50		
CcB:						
Carbonton-----------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
Brickhaven----------	Slight		Moderately suited		Severe	
			Low strength	0.50	Low strength	1.00
CcC:						
Carbonton-----------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
			Wetness	0.50		
Brickhaven----------	Slight		Moderately suited		Severe	
			Slope	0.50	Low strength	1.00
			Low strength	0.50		
CcD:						
Carbonton-----------	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
			Wetness	0.50		
Brickhaven----------	Slight		Poorly suited		Severe	
			Slope	1.00	Low strength	1.00
			Low strength	0.50		
CeB:						
Cecil---------------	Slight		Well suited		Severe	
					Low strength	1.00
CeC:						
Cecil---------------	Slight		Moderately suited		Severe	
			Slope	0.50	Low strength	1.00
CeD:						
Cecil---------------	Slight		Poorly suited		Severe	
			Slope	1.00	Low strength	1.00
ChA:						
Chewacla------------	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
	Landslides	0.10	Landslides	0.10		

Haul Roads, Log Landings, and Soil Rutting on Forestland—Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Wehadkee, undrained-	Severe		Poorly suited		Moderate	
	Flooding	1.00	Flooding	1.00	Low strength	0.50
	Landslides	0.10	Wetness	0.50		
			Landslides	0.10		
Wehadkee, drained---	Severe		Poorly suited		Moderate	
	Flooding	1.00	Flooding	1.00	Low strength	0.50
			Wetness	0.50		
CkC:						
Cid-----------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Restrictive layer	0.50	Low strength	0.50		
			Wetness	0.50		
CmB:						
Cid-----------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
	Restrictive layer	0.50	Wetness	0.50		
Lignum--------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
	Stickiness/slope	0.50				
CrB:						
Creedmoor-----------	Slight		Moderately suited		Moderate	
			Wetness	0.50	Low strength	0.50
Green Level---------	Moderate		Moderately suited		Severe	
	Stickiness/slope	0.50	Low strength	0.50	Low strength	1.00
	Low strength	0.50	Wetness	0.50		
CrC:						
Creedmoor-----------	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
			Wetness	0.50		
Green Level---------	Moderate		Moderately suited		Severe	
	Stickiness/slope	0.50	Slope	0.50	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
CrD:						
Creedmoor-----------	Slight		Poorly suited		Moderate	
			Slope	1.00	Low strength	0.50
			Wetness	0.50		
Green Level---------	Moderate		Poorly suited		Severe	
	Stickiness/slope	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
DAM:						
Dam-----------------	Not rated		Not rated		Not rated	

Haul Roads, Log Landings, and Soil Rutting on Forestland—Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GaB:						
Georgeville	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
GaC:						
Georgeville	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
GbB:						
Georgeville	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
	Landslides	0.10	Landslides	0.10		
GbC:						
Georgeville	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
GeB2:						
Georgeville, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
GeC2:						
Georgeville, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
GhB2:						
Georgeville, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
	Landslides	0.10	Landslides	0.10		
GhC2:						
Georgeville, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
GkD:						
Georgeville	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
Badin	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
GkE:						
Georgeville	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		

Haul Roads, Log Landings, and Soil Rutting on Forestland—Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Badin	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
GnC:						
Georgeville	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
	Landslides	0.10	Slope	0.50		
			Landslides	0.10		
Urban land	Not rated		Not rated		Not rated	
GoC:						
Goldston	Slight		Moderately suited		Slight	
			Slope	0.50	Strength	0.10
Badin	Moderate		Moderately suited		Moderate	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
GoE:						
Goldston	Moderate		Poorly suited		Slight	
	Slope	0.50	Slope	1.00	Strength	0.10
Badin	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
			Low strength	0.50		
HeB:						
Helena	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
	Landslides	0.10	Landslides	0.10		
HeC:						
Helena	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
HrB:						
Herndon	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
HrC:						
Herndon	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
IrB:						
Iredell	Moderate		Moderately suited		Moderate	
	Low strength	0.50	Wetness	0.50	Low strength	0.50
LsF:						
Louisa	Severe		Poorly suited		Moderate	
	Slope	1.00	Slope	1.00	Low strength	0.50

Haul Roads, Log Landings, and Soil Rutting on Forestland—Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MaA, MaB:						
Mattaponi	Slight		Well suited		Moderate	
					Low strength	0.50
McC:						
Mattaponi	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
Peawick	Moderate		Moderately suited		Severe	
	Stickiness/slope	0.50	Slope	0.50	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
MdB:						
Mayodan	Slight		Moderately suited		Severe	
			Low strength	0.50	Low strength	1.00
MdC:						
Mayodan	Slight		Moderately suited		Severe	
			Slope	0.50	Low strength	1.00
			Low strength	0.50		
MgD:						
Mayodan	Slight		Poorly suited		Severe	
			Slope	1.00	Low strength	1.00
			Low strength	0.50		
MhE:						
Mayodan	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
Brickhaven	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
MrA:						
Merry Oaks	Moderate		Moderately suited		Severe	
	Flooding	0.50	Wetness	0.50	Low strength	1.00
			Flooding	0.50		
			Low strength	0.50		
Moncure, undrained	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Wetness	1.00		
NaB:						
Nanford	Slight		Moderately suited		Severe	
			Low strength	0.50	Low strength	1.00
Badin	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
NaC:						
Nanford	Slight		Moderately suited		Severe	
			Slope	0.50	Low strength	1.00
			Low strength	0.50		

Haul Roads, Log Landings, and Soil Rutting on Forestland—Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
Badin	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
NaD:						
Nanford	Slight		Poorly suited		Severe	
			Slope	1.00	Low strength	1.00
			Low strength	0.50		
Badin	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
PaE:						
Pacolet	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
PcA:						
Peawick	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
	Stickiness/slope	0.50				
PeA, PeB:						
Peawick	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
	Stickiness/slope	0.50				
PsB:						
Pittsboro, stony	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
Iredell, stony	Slight		Moderately suited		Moderate	
			Wetness	0.50	Low strength	0.50
Qr:						
Pits, quarry	Not rated		Not rated		Not rated	
RvA:						
Riverview	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
StB:						
State	Slight		Well suited		Moderate	
					Low strength	0.50
TuA:						
Turbeville	Slight		Well suited		Moderate	
					Low strength	0.50
UdC:						
Udorthents, loamy	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		

Haul Roads, Log Landings, and Soil Rutting on Forestland—Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
VaB:						
Vance---------------	Slight		Well suited		Moderate	
					Low strength	0.50
WdC:						
Wedowee, bouldery---	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
WdE:						
Wedowee, bouldery---	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
WeB:						
Wedowee-------------	Slight		Well suited		Moderate	
	Landslides	0.10	Landslides	0.10	Low strength	0.50
WeC:						
Wedowee-------------	Slight		Moderately suited		Moderate	
	Landslides	0.10	Slope	0.50	Low strength	0.50
			Landslides	0.10		
WeD:						
Wedowee-------------	Slight		Poorly suited		Moderate	
	Landslides	0.10	Slope	1.00	Low strength	0.50
			Landslides	0.10		
WeE:						
Wedowee-------------	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Landslides	0.10	Landslides	0.10		
WhB:						
White Store---------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
Polkton-------------	Slight		Moderately suited		Severe	
			Low strength	0.50	Low strength	1.00
WhC:						
White Store---------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
			Wetness	0.50		
Polkton-------------	Slight		Moderately suited		Severe	
			Slope	0.50	Low strength	1.00
			Low strength	0.50		
WhD:						
White Store---------	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
			Wetness	0.50		
Polkton-------------	Slight		Poorly suited		Severe	
			Slope	1.00	Low strength	1.00
			Low strength	0.50		

Haul Roads, Log Landings, and Soil Rutting on Forestland—Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WtB:						
Wynott	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Enon	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
WtC:						
Wynott	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
Enon	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
WyB2:						
Wynott, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Enon, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
WyC2:						
Wynott, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
Enon, moderately eroded	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		

Hazard of Erosion and Suitability for Roads on Forestland

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
BaE:						
Badin	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
Nanford	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
BdB:						
Badin	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
Tarrus	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
BdC:						
Badin	Moderate		Severe		Moderately suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
Tarrus	Moderate		Severe		Moderately suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
BeB2:						
Badin, moderately eroded	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
Tarrus, moderately eroded	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
BeC2:						
Badin, moderately eroded	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
Tarrus, moderately eroded	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
CaB:						
Callison	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
Lignum	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50

Hazard of Erosion and Suitability for Roads on Forestland—Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CbC:						
Callison------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
Misenheimer---------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
					Wetness	0.50
CcB:						
Carbonton-----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Wetness	0.50
Brickhaven----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
CcC:						
Carbonton-----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
					Wetness	0.50
Brickhaven----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
CcD:						
Carbonton-----------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Wetness	0.50
Brickhaven----------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
CeB:						
Cecil---------------	Slight		Slight		Well suited	
CeC:						
Cecil---------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
CeD:						
Cecil---------------	Slight		Moderate		Poorly suited	
			Slope/erodibility	0.50	Slope	1.00
ChA:						
Chewacla------------	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Landslides	0.10
Wehadkee, undrained-	Slight		Slight		Poorly suited	
					Flooding	1.00
					Wetness	0.50
					Landslides	0.10

Hazard of Erosion and Suitability for Roads on Forestland—Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Wehadkee, drained---	Slight		Slight		Poorly suited	
					Flooding	1.00
					Wetness	0.50
CkC:						
Cid-----------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
					Wetness	0.50
CmB:						
Cid-----------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Wetness	0.50
Lignum--------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
CrB:						
Creedmoor-----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Wetness	0.50
Green Level---------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Wetness	0.50
CrC:						
Creedmoor-----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Wetness	0.50
Green Level---------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
					Wetness	0.50
CrD:						
Creedmoor-----------	Slight		Severe		Poorly suited	
			Slope/erodibility	0.95	Slope	1.00
					Wetness	0.50
Green Level---------	Slight		Severe		Poorly suited	
			Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Wetness	0.50
DAM:						
Dam-----------------	Not rated		Not rated		Not rated	
GaB:						
Georgeville---------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50

Hazard of Erosion and Suitability for Roads on Forestland—Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
GaC:						
Georgeville----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
GbB:						
Georgeville----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Landslides	0.10
GbC:						
Georgeville----------	Moderate		Severe		Moderately suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
GeB2:						
Georgeville, moderately eroded--	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
GeC2:						
Georgeville, moderately eroded--	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
GhB2:						
Georgeville, moderately eroded--	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Landslides	0.10
GhC2:						
Georgeville, moderately eroded--	Moderate		Severe		Moderately suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
GkD, GkE:						
Georgeville----------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
Badin----------------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
GnC:						
Georgeville----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
					Landslides	0.10
Urban land-----------	Not rated		Not rated		Not rated	

Hazard of Erosion and Suitability for Roads on Forestland—Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GoC:						
Goldston------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
Badin---------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
GoE:						
Goldston------------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Badin---------------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
HeB:						
Helena--------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Landslides	0.10
HeC:						
Helena--------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
					Landslides	0.10
HrB:						
Herndon-------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
HrC:						
Herndon-------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
IrB:						
Iredell-------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Wetness	0.50
LsF:						
Louisa--------------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
MaA:						
Mattaponi-----------	Slight		Slight		Well suited	
MaB:						
Mattaponi-----------	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
McC:						
Mattaponi-----------	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
Peawick-------------	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50

Hazard of Erosion and Suitability for Roads on Forestland—Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MdB:						
Mayodan	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
MdC:						
Mayodan	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
MgD:						
Mayodan	Slight		Moderate		Poorly suited	
			Slope/erodibility	0.50	Slope	1.00
					Low strength	0.50
MhE:						
Mayodan	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
Brickhaven	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
MrA:						
Merry Oaks	Slight		Slight		Moderately suited	
					Wetness	0.50
					Flooding	0.50
					Low strength	0.50
Moncure, undrained	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
NaB:						
Nanford	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
Badin	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
NaC:						
Nanford	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
Badin	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
NaD:						
Nanford	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
Badin	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50

Hazard of Erosion and Suitability for Roads on Forestland—Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
PaE:						
Pacolet-------------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
PcA:						
Peawick-------------	Slight		Slight		Moderately suited	
					Low strength	0.50
PeA:						
Peawick-------------	Slight		Slight		Moderately suited	
					Low strength	0.50
PeB:						
Peawick-------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
PsB:						
Pittsboro, stony----	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Wetness	0.50
Iredell, stony------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Wetness	0.50
Qr:						
Pits, quarry--------	Not rated		Not rated		Not rated	
RvA:						
Riverview-----------	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
StB:						
State---------------	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
TuA:						
Turbeville----------	Slight		Slight		Well suited	
UdC:						
Udorthents, loamy---	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
					Landslides	0.10
VaB:						
Vance---------------	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
WdC:						
Wedowee, bouldery---	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
WdE:						
Wedowee, bouldery---	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00

Hazard of Erosion and Suitability for Roads on Forestland—Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
WeB:						
Wedowee	Slight		Slight		Well suited	
					Landslides	0.10
WeC:						
Wedowee	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Landslides	0.10
WeD:						
Wedowee	Slight		Moderate		Poorly suited	
			Slope/erodibility	0.50	Slope	1.00
					Landslides	0.10
WeE:						
Wedowee	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Landslides	0.10
WhB:						
White Store	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Wetness	0.50
Polkton	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
WhC:						
White Store	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
					Wetness	0.50
Polkton	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
WhD:						
White Store	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Wetness	0.50
Polkton	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
WtB:						
Wynott	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
Enon	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
WtC:						
Wynott	Moderate		Severe		Moderately suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50

Hazard of Erosion and Suitability for Roads on Forestland—Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Enon----------------	Moderate		Severe		Moderately suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
WyB2:						
Wynott, moderately eroded-------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
Enon, moderately eroded-------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
WyC2:						
Wynott, moderately eroded-------------	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
Enon, moderately eroded-------------	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50

Forestland Planting and Harvesting

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
BaE:						
Badin	Moderately suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
			Stickiness; high plasticity index	0.50	Slope	0.50
Nanford	Moderately suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
			Stickiness; high plasticity index	0.50	Slope	0.50
BdB, BdC:						
Badin	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
Tarrus	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
BeB2, BeC2:						
Badin, moderately eroded	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
Tarrus, moderately eroded	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
CaB:						
Callison	Well suited		Well suited		Moderately suited	
					Low strength	0.50
Lignum	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
CbC:						
Callison	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
Misenheimer	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
CcB:						
Carbonton	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Forestland Planting and Harvesting—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Brickhaven----------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
CcC, CcD:						
Carbonton-----------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
Brickhaven----------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
CeB:						
Cecil---------------	Well suited		Well suited		Well suited	
CeC, CeD:						
Cecil---------------	Well suited		Moderately suited		Well suited	
			Slope	0.50		
ChA:						
Chewacla------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
Wehadkee------------	Well suited		Well suited		Well suited	
CkC:						
Cid-----------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
CmB:						
Cid-----------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Lignum--------------	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
CrB:						
Creedmoor-----------	Moderately suited		Moderately suited		Well suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
Green Level---------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
CrC, CrD:						
Creedmoor-----------	Moderately suited		Moderately suited		Well suited	
	Stickiness; high plasticity index	0.50	Slope	0.50		
			Stickiness; high plasticity index	0.50		

Forestland Planting and Harvesting—Continued

Map symbol and soil name	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
Green Level	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
			Stickiness; high plasticity index	0.50		
DAM:						
Dam	Not rated		Not rated		Not rated	
GaB:						
Georgeville	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
GaC:						
Georgeville	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
GbB, GbC:						
Georgeville	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
GeB2:						
Georgeville, moderately eroded	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
GeC2:						
Georgeville, moderately eroded	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
GhB2, GhC2:						
Georgeville, moderately eroded	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
GkD:						
Georgeville	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
Badin	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		

Forestland Planting and Harvesting—Continued

Map symbol and soil name	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
GkE:						
Georgeville---------	Moderately suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
			Stickiness; high plasticity index	0.50	Slope	0.50
Badin---------------	Moderately suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
			Stickiness; high plasticity index	0.50	Slope	0.50
GnC:						
Georgeville---------	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
Urban land----------	Not rated		Not rated		Not rated	
GoC:						
Goldston------------	Moderately suited		Unsuited		Well suited	
	Rock fragments	0.50	Rock fragments	1.00		
			Slope	0.50		
Badin---------------	Moderately suited		Poorly suited		Moderately suited	
	Rock fragments	0.50	Rock fragments	0.75	Low strength	0.50
			Slope	0.50		
GoE:						
Goldston------------	Moderately suited		Unsuited		Moderately suited	
	Rock fragments	0.50	Slope	1.00	Slope	0.50
			Rock fragments	1.00		
Badin---------------	Moderately suited		Unsuited		Moderately suited	
	Rock fragments	0.50	Slope	1.00	Slope	0.50
			Rock fragments	0.75	Low strength	0.50
HeB:						
Helena--------------	Well suited		Well suited		Moderately suited	
					Low strength	0.50
HeC:						
Helena--------------	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
HrB:						
Herndon-------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
HrC:						
Herndon-------------	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
IrB:						
Iredell-------------	Poorly suited		Poorly suited		Well suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		

Forestland Planting and Harvesting—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LsF:						
Louisa	Moderately suited		Unsuited		Moderately suited	
	Slope	0.50	Slope	1.00	Slope	0.50
	Rock fragments	0.50	Rock fragments	0.75		
MaA:						
Mattaponi	Well suited		Well suited		Well suited	
MaB:						
Mattaponi	Well suited		Moderately suited		Well suited	
			Slope	0.50		
McC:						
Mattaponi	Well suited		Moderately suited		Well suited	
			Slope	0.50		
Peawick	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
			Slope	0.50		
MdB:						
Mayodan	Well suited		Well suited		Moderately suited	
					Low strength	0.50
MdC:						
Mayodan	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
MgD:						
Mayodan	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
			Rock fragments	0.50		
MhE:						
Mayodan	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Low strength	0.50
			Rock fragments	0.50	Slope	0.50
Brickhaven	Moderately suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
			Stickiness; high plasticity index	0.50	Slope	0.50
			Rock fragments	0.50		
MrA:						
Merry Oaks	Well suited		Well suited		Moderately suited	
					Low strength	0.50
Moncure, undrained	Well suited		Well suited		Moderately suited	
					Low strength	0.50
NaB:						
Nanford	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Forestland Planting and Harvesting—Continued

Map symbol and soil name	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
Badin	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
NaC, NaD:						
Nanford	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
			Stickiness; high plasticity index	0.50		
Badin	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
PaE:						
Pacolet	Moderately suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.75	Slope	0.50
			Stickiness; high plasticity index	0.50		
PcA:						
Peawick	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
PeA:						
Peawick	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
PeB:						
Peawick	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
			Slope	0.50		
PsB:						
Pittsboro, stony	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
			Rock fragments	0.50		
Iredell, stony	Poorly suited		Poorly suited		Well suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
			Slope	0.50		
Qr:						
Pits, quarry	Not rated		Not rated		Not rated	
RvA:						
Riverview	Well suited		Well suited		Moderately suited	
					Low strength	0.50

Forestland Planting and Harvesting—Continued

Map symbol and soil name	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
StB:						
State	Well suited		Well suited		Well suited	
TuA:						
Turbeville	Moderately suited		Moderately suited		Well suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
UdC:						
Udorthents, loamy	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
VaB:						
Vance	Poorly suited		Poorly suited		Well suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
WdC:						
Wedowee, bouldery	Moderately suited		Moderately suited		Well suited	
	Stickiness; high plasticity index	0.50	Slope	0.50		
			Stickiness; high plasticity index	0.50		
WdE:						
Wedowee, bouldery	Moderately suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.75	Slope	0.50
			Stickiness; high plasticity index	0.50		
WeB:						
Wedowee	Moderately suited		Moderately suited		Well suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
WeC, WeD:						
Wedowee	Moderately suited		Moderately suited		Well suited	
	Stickiness; high plasticity index	0.50	Slope	0.50		
			Stickiness; high plasticity index	0.50		
WeE:						
Wedowee	Moderately suited		Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50	Slope	0.75		
			Stickiness; high plasticity index	0.50		
WhB:						
White Store	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
Polkton	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Forestland Planting and Harvesting—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WhC, WhD:						
White Store	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
			Slope	0.50		
Polkton	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
			Slope	0.50		
WtB, WtC:						
Wynott	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
Enon	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
			Slope	0.50		
WyB2, WyC2:						
Wynott, moderately eroded	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
			Slope	0.50		
Enon, moderately eroded	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
			Slope	0.50		

Forestland Site Preparation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
BaE:				
Badin	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
Nanford	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
BdB, BdC:				
Badin	Well suited		Well suited	
Tarrus	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
BeB2, BeC2:				
Badin, moderately eroded	Well suited		Well suited	
Tarrus, moderately eroded	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
CaB:				
Callison	Well suited		Well suited	
Lignum	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
CbC:				
Callison	Well suited		Well suited	
Misenheimer	Well suited		Well suited	
CcB, CcC, CcD:				
Carbonton	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
Brickhaven	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
CeB, CeC, CeD:				
Cecil	Well suited		Well suited	
ChA:				
Chewacla	Well suited		Well suited	
Wehadkee	Well suited		Well suited	
CkC:				
Cid	Well suited		Well suited	

Forestland Site Preparation—Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
CmB:				
Cid	Well suited		Well suited	
Lignum	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
CrB, CrC, CrD:				
Creedmoor	Well suited		Well suited	
Green Level	Well suited		Well suited	
DAM:				
Dam	Not rated		Not rated	
GaB, GaC:				
Georgeville	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
GbB, GbC:				
Georgeville	Well suited		Well suited	
GeB2, GeC2:				
Georgeville, moderately eroded	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
GhB2, GhC2:				
Georgeville, moderately eroded	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
GkD:				
Georgeville	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
Badin	Well suited		Well suited	
GkE:				
Georgeville	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
	Stickiness; high plasticity index	0.50		
Badin	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
GnC:				
Georgeville	Well suited		Well suited	
Urban land	Not rated		Not rated	

Forestland Site Preparation—Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
GoC:				
Goldston	Poorly suited		Well suited	
	Rock fragments	0.50		
Badin	Poorly suited		Well suited	
	Rock fragments	0.50		
GoE:				
Goldston	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
	Rock fragments	0.50		
Badin	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
	Rock fragments	0.50		
HeB, HeC:				
Helena	Well suited		Well suited	
HrB, HrC:				
Herndon	Well suited		Well suited	
IrB:				
Iredell	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
LsF:				
Louisa	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
	Rock fragments	0.50		
MaA, MaB:				
Mattaponi	Well suited		Well suited	
McC:				
Mattaponi	Well suited		Well suited	
Peawick	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
MdB, MdC, MdD:				
Mayodan	Well suited		Well suited	
MhE:				
Mayodan	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
Brickhaven	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
	Stickiness; high plasticity index	0.50		
MrA:				
Merry Oaks	Well suited		Well suited	
Moncure, undrained	Well suited		Well suited	

Forestland Site Preparation—Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
NaB, NaC, NaD:				
Nanford	Well suited		Well suited	
Badin	Well suited		Well suited	
PaE:				
Pacolet	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
PcA:				
Peawick	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
PeA, PeB:				
Peawick	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
PsB:				
Pittsboro, stony	Well suited		Well suited	
Iredell, stony	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
Qr:				
Pits, quarry	Not rated		Not rated	
RvA:				
Riverview	Well suited		Well suited	
StB:				
State	Well suited		Well suited	
TuA:				
Turbeville	Well suited		Well suited	
UdC:				
Udorthents, loamy	Well suited		Well suited	
VaB:				
Vance	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
WdC:				
Wedowee, bouldery	Well suited		Well suited	
WdE:				
Wedowee, bouldery	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
WeB, WeC, WeD:				
Wedowee	Well suited		Well suited	

Forestland Site Preparation—Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
WeE:				
Wedowee	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
WhB, WhC, WhD:				
White Store	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
Polkton	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
WtB, WtC:				
Wynott	Well suited		Well suited	
Enon	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
WyB2, WyC2:				
Wynott, moderately eroded	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
Enon, moderately eroded	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		

Damage by Fire and Seedling Mortality on Forestland

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Potential for damage to soil by fire		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value
BaE:				
Badin	Low		Moderate	
	Texture/rock fragments	0.10	Available water	0.50
Nanford	Moderate		Moderate	
	Texture/surface depth/rock fragments	0.50	Available water	0.50
BdB, BdC:				
Badin	Low		Low	
	Texture/rock fragments	0.10		
Tarrus	Moderate		Low	
	Texture/rock fragments	0.50		
BeB2, BeC2:				
Badin, moderately eroded	Moderate		Low	
	Texture/rock fragments	0.50		
Tarrus, moderately eroded	Moderate		Low	
	Texture/rock fragments	0.50		
CaB:				
Callison	Moderate		Low	
	Texture/rock fragments	0.50		
Lignum	High		Low	
	Texture/surface depth/rock fragments	1.00		
CbC:				
Callison	Moderate		Low	
	Texture/rock fragments	0.50		
Misenheimer	High		High	
	Texture/surface depth/rock fragments	1.00	Wetness	1.00
CcB, CcC, CcD:				
Carbonton	Moderate		High	
	Texture/rock fragments	0.50	Wetness	1.00
			Soil reaction	0.50

Damage by Fire and Seedling Mortality on Forestland—Continued

Map symbol and soil name	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
Brickhaven----------	High		Moderate	
	Texture/surface depth/rock fragments	1.00	Soil reaction	0.50
CeB, CeC, CeD:				
Cecil---------------	Moderate		Low	
	Texture/rock fragments	0.50		
ChA:				
Chewacla------------	Low		Moderate	
	Texture/surface depth/rock fragments	0.10	Wetness	0.50
Wehadkee------------	Low		High	
	Texture/rock fragments	0.10	Wetness	1.00
CkC:				
Cid-----------------	High		Low	
	Texture/surface depth/rock fragments	1.00		
CmB:				
Cid-----------------	High		Low	
	Texture/surface depth/rock fragments	1.00		
Lignum--------------	Moderate		Low	
	Texture/rock fragments	0.50		
CrB, CrC, CrD:				
Creedmoor-----------	Moderate		Low	
	Texture/rock fragments	0.50		
Green Level---------	Moderate		High	
	Texture/rock fragments	0.50	Wetness	1.00
DAM:				
Dam-----------------	Not rated		Not rated	
GaB, GaC:				
Georgeville---------	Moderate		Low	
	Texture/rock fragments	0.50		
GbB, GbC:				
Georgeville---------	Moderate		Low	
	Texture/rock fragments	0.50		

Damage by Fire and Seedling Mortality on Forestland—Continued

Map symbol and soil name	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
GeB2, GeC2:				
Georgeville, moderately eroded	Moderate		Low	
	Texture/rock fragments	0.50		
GhB2, GhC2:				
Georgeville, moderately eroded	Moderate		Low	
	Texture/rock fragments	0.50		
GkD:				
Georgeville	Moderate		Low	
	Texture/rock fragments	0.50		
Badin	Low		Low	
	Texture/rock fragments	0.10		
GkE:				
Georgeville	Moderate		Moderate	
	Texture/rock fragments	0.50	Available water	0.50
Badin	Low		Moderate	
	Texture/rock fragments	0.10	Available water	0.50
GnC:				
Georgeville	Moderate		Low	
	Texture/rock fragments	0.50		
Urban land	Not rated		Not rated	
GoC:				
Goldston	High		Low	
	Texture/rock fragments	1.00		
Badin	Moderate		Low	
	Texture/surface depth/rock fragments	0.50		
GoE:				
Goldston	High		Moderate	
	Texture/slope/rock fragments	1.00	Available water	0.50
Badin	Moderate		Moderate	
	Texture/slope/surface depth/rock fragments	0.50	Available water	0.50

Damage by Fire and Seedling Mortality on Forestland—Continued

Map symbol and soil name	Potential for damage to soil by fire		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value
HeB, HeC:				
Helena	Moderate		Low	
	Texture/rock fragments	0.50		
HrB, HrC:				
Herndon	High		Low	
	Texture/surface depth/rock fragments	1.00		
IrB:				
Iredell	Moderate		Low	
	Texture/rock fragments	0.50		
LsF:				
Louisa	High		Moderate	
	Texture/slope/surface depth/rock fragments	1.00	Available water	0.50
MaA, MaB:				
Mattaponi	Moderate		Low	
	Texture/rock fragments	0.50		
McC:				
Mattaponi	Moderate		Low	
	Texture/rock fragments	0.50		
Peawick	Moderate		Low	
	Texture/rock fragments	0.50		
MdB, MdC:				
Mayodan	Moderate		Low	
	Texture/rock fragments	0.50		
MgD:				
Mayodan	Moderate		Low	
	Texture/rock fragments	0.50		
MhE:				
Mayodan	Moderate		Moderate	
	Texture/rock fragments	0.50	Available water	0.50
Brickhaven	High		Moderate	
	Texture/surface depth/rock fragments	1.00	Soil reaction	0.50
			Available water	0.50

Damage by Fire and Seedling Mortality on Forestland—Continued

Map symbol and soil name	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
MrA:				
Merry Oaks	Moderate		High	
	Texture/rock fragments	0.50	Wetness	1.00
Moncure, undrained	Moderate		High	
	Texture/rock fragments	0.50	Wetness	1.00
NaB, NaC, NaD:				
Nanford	Moderate		Low	
	Texture/surface depth/rock fragments	0.50		
Badin	Low		Low	
	Texture/rock fragments	0.10		
PaE:				
Pacolet	High		Moderate	
	Texture/surface depth/rock fragments	1.00	Available water	0.50
PcA:				
Peawick	Moderate		Low	
	Texture/rock fragments	0.50		
PeA, PeB:				
Peawick	Moderate		Low	
	Texture/rock fragments	0.50		
PsB:				
Pittsboro, stony	Moderate		Low	
	Texture/rock fragments	0.50		
Iredell, stony	Moderate		Low	
	Texture/rock fragments	0.50		
Qr:				
Pits, quarry	Not rated		Not rated	
RvA:				
Riverview	Moderate		Low	
	Texture/rock fragments	0.50		
StB:				
State	Moderate		Low	
	Texture/rock fragments	0.50		

Damage by Fire and Seedling Mortality on Forestland—Continued

Map symbol and soil name	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
TuA:				
Turbeville----------	Moderate		Low	
	Texture/rock fragments	0.50		
UdC:				
Udorthents, loamy---	Moderate		Low	
	Texture/rock fragments	0.50		
VaB:				
Vance---------------	Moderate		Low	
	Texture/rock fragments	0.50		
WdC:				
Wedowee, bouldery---	High		Low	
	Texture/surface depth/rock fragments	1.00		
WdE:				
Wedowee, bouldery---	High		Moderate	
	Texture/surface depth/rock fragments	1.00	Available water	0.50
WeB, WeC, WeD:				
Wedowee-------------	High		Low	
	Texture/surface depth/rock fragments	1.00		
WeE:				
Wedowee-------------	High		Moderate	
	Texture/surface depth/rock fragments	1.00	Available water	0.50
WhB, WhC, WhD:				
White Store---------	Moderate		High	
	Texture/rock fragments	0.50	Wetness	1.00
Polkton-------------	Moderate		Low	
	Texture/rock fragments	0.50		
WtB, WtC:				
Wynott--------------	High		Low	
	Texture/surface depth/rock fragments	1.00		
Enon----------------	Moderate		Low	
	Texture/rock fragments	0.50		

Damage by Fire and Seedling Mortality on Forestland—Continued

Map symbol and soil name	Potential for damage to soil by fire		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WyB2, WyC2:				
Wynott, moderately eroded	Moderate		Low	
	Texture/rock fragments	0.50		
Enon, moderately eroded	Moderate		Low	
	Texture/rock fragments	0.50		

Camp Areas, Picnic Areas, and Playgrounds

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BaE:						
Badin	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.26
					Gravel content	0.18
Nanford	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Gravel content	0.04
BdB:						
Badin	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Depth to bedrock	0.42
					Gravel content	0.18
Tarrus	Not limited		Not limited		Somewhat limited	
					Slope	0.88
BdC:						
Badin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
					Depth to bedrock	0.42
					Gravel content	0.18
Tarrus	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
BeB2:						
Badin, moderately eroded	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Depth to bedrock	0.42
					Gravel content	0.18
Tarrus, moderately eroded	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Gravel content	0.43
BeC2:						
Badin, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
					Depth to bedrock	0.42
					Gravel content	0.18
Tarrus, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
					Gravel content	0.43

Camp Areas, Picnic Areas, and Playgrounds—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CaB:						
Callison------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
	Slow water movement	0.15	Slow water movement	0.15	Depth to bedrock	0.42
					Depth to saturated zone	0.39
Lignum--------------	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
					Depth to saturated zone	0.39
CbC:						
Callison------------	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	1.00
	Slow water movement	0.15	Slow water movement	0.15	Depth to bedrock	0.42
	Slope	0.01	Slope	0.01	Depth to bedrock	0.42
					Depth to saturated zone	0.39
Misenheimer---------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Depth to bedrock	1.00	Depth to saturated zone	0.94	Slope	1.00
	Gravel content	0.05	Gravel content	0.05	Depth to bedrock	1.00
CcB:						
Carbonton-----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.99	Slow water movement	0.99	Depth to saturated zone	0.99
	Slow water movement	0.99	Depth to saturated zone	0.78	Slow water movement	0.99
					Slope	0.50
Brickhaven----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Slope	0.50
					Depth to saturated zone	0.07
CcC:						
Carbonton-----------	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.99	Slow water movement	0.99	Slope	1.00
	Slow water movement	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
	Slope	0.01	Slope	0.01	Slow water movement	0.99
Brickhaven----------	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Slow water movement	0.94
	Slope	0.01	Slope	0.01	Depth to saturated zone	0.07

Camp Areas, Picnic Areas, and Playgrounds—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
CcD:						
Carbonton	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.99	Slow water movement	0.99	Slope	1.00
	Slow water movement	0.99	Slope	0.84	Depth to saturated zone	0.99
	Slope	0.84	Depth to saturated zone	0.78	Slow water movement	0.99
Brickhaven	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
	Slope	0.84	Slope	0.84	Slow water movement	0.94
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Depth to saturated zone	0.07
CeB:						
Cecil	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.27	Gravel content	0.27	Gravel content	1.00
					Slope	0.50
CeC:						
Cecil	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.27	Gravel content	0.27	Slope	1.00
	Slope	0.01	Slope	0.01	Gravel content	1.00
CeD:						
Cecil	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
	Gravel content	0.27	Gravel content	0.27	Gravel content	1.00
ChA:						
Chewacla	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40	Flooding	1.00
Wehadkee	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40	Flooding	1.00
CkC:						
Cid	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.98	Slow water movement	0.94	Slope	1.00
	Slow water movement	0.94	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Slope	0.01	Slope	0.01	Slow water movement	0.94
CmB:						
Cid	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Slow water movement	0.94	Depth to saturated zone	0.98
	Slow water movement	0.94	Depth to saturated zone	0.75	Slow water movement	0.94
					Depth to bedrock	0.61

Camp Areas, Picnic Areas, and Playgrounds—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
Lignum	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
					Depth to saturated zone	0.3
CrB:						
Creedmoor	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.77	Depth to saturated zone	0.43	Depth to saturated zone	0.77
					Slope	0.50
Green Level	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Slow water movement	1.00
					Slope	0.50
CrC:						
Creedmoor	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	0.77	Depth to saturated zone	0.43	Slow water movement	1.00
	Slope	0.01	Slope	0.01	Depth to saturated zone	0.77
Green Level	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Slope	1.00
	Slope	0.01	Slope	0.01	Slow water movement	1.00
CrD:						
Creedmoor	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
	Slope	0.84	Slope	0.84	Slow water movement	1.00
	Depth to saturated zone	0.77	Depth to saturated zone	0.43	Depth to saturated zone	0.77
Green Level	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Slope	1.00
	Slope	0.84	Slope	0.84	Slow water movement	1.00
DAM:						
Dam	Not rated		Not rated		Not rated	
GaB:						
Georgeville	Not limited		Not limited		Somewhat limited	
					Slope	0.50

Camp Areas, Picnic Areas, and Playgrounds—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
GaC:						
Georgeville---------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
GbB:						
Georgeville---------	Not limited		Not limited		Somewhat limited	
					Slope	0.88
GbC:						
Georgeville---------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
GeB2:						
Georgeville, moderately eroded--	Not limited		Not limited		Somewhat limited	
					Slope	0.50
GeC2:						
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
GhB2:						
Georgeville, moderately eroded--	Not limited		Not limited		Somewhat limited	
					Slope	0.88
GhC2:						
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
GkD:						
Georgeville---------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
Badin---------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
					Depth to bedrock	0.26
					Gravel content	0.18
GkE:						
Georgeville---------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Badin---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.26
					Gravel content	0.18
GnC:						
Georgeville---------	Not limited		Not limited		Very limited	
					Slope	1.00
Urban land----------	Not rated		Not rated		Not rated	

Camp Areas, Picnic Areas, and Playgrounds—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
GoC:						
Goldston------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Slope	0.63	Slope	0.63	Depth to bedrock	1.00
	Large stones content	0.08	Large stones content	0.08	Gravel content	1.00
Badin---------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
	Gravel content	0.10	Gravel content	0.10	Gravel content	1.00
					Depth to bedrock	0.42
GoE:						
Goldston------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Large stones content	0.08	Large stones content	0.08	Gravel content	1.00
Badin---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.10	Gravel content	0.10	Gravel content	1.00
					Depth to bedrock	0.42
HeB:						
Helena--------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
					Depth to saturated zone	0.39
HeC:						
Helena--------------	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slow water movement	0.94
	Slope	0.01	Slope	0.01	Depth to saturated zone	0.39
HrB:						
Herndon-------------	Not limited		Not limited		Somewhat limited	
					Slope	0.50
HrC:						
Herndon-------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
IrB:						
Iredell-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Slow water movement	0.94	Depth to saturated zone	0.98
	Slow water movement	0.94	Depth to saturated zone	0.75	Slow water movement	0.94
					Slope	0.50

Camp Areas, Picnic Areas, and Playgrounds—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
LsF:						
Louisa	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
					Gravel content	0.22
MaA:						
Mattaponi	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
MaB:						
Mattaponi	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.15	Slow water movement	0.15	Slope	0.88
					Slow water movement	0.15
McC:						
Mattaponi	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.50	Slope	0.50	Slope	1.00
	Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
Peawick	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
	Slope	0.50	Slope	0.50	Slow water movement	1.00
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Depth to saturated zone	0.07
MdB:						
Mayodan	Not limited		Not limited		Somewhat limited	
					Slope	0.50
MdC:						
Mayodan	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
MgD:						
Mayodan	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
MhE:						
Mayodan	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Brickhaven	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Depth to saturated zone	0.07

Camp Areas, Picnic Areas, and Playgrounds—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MrA:						
Merry Oaks	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
	Flooding	1.00	Slow water movement	0.94	Slow water movement	0.94
	Slow water movement	0.94			Flooding	0.60
Moncure, undrained	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Slow water movement	0.94	Slow water movement	0.94
NaB:						
Nanford	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Gravel content	0.04
Badin	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Depth to bedrock	0.26
					Gravel content	0.18
NaC:						
Nanford	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
					Gravel content	0.04
Badin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
					Depth to bedrock	0.26
					Gravel content	0.18
NaD:						
Nanford	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
					Gravel content	0.04
Badin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
					Depth to bedrock	0.26
					Gravel content	0.18
PaE:						
Pacolet	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Gravel content	0.91
PcA:						
Peawick	Very limited		Very limited		Very limited	
	Flooding	1.00	Slow water movement	1.00	Slow water movement	1.00
	Slow water movement	1.00	Depth to saturated zone	0.03	Depth to saturated zone	0.07
	Depth to saturated zone	0.07			Gravel content	0.06

Camp Areas, Picnic Areas, and Playgrounds—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
PeA:						
Peawick	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Depth to saturated zone	0.07
					Gravel content	0.06
PeB:						
Peawick	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Slope	0.88
					Depth to saturated zone	0.07
PsB:						
Pittsboro, stony	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Gravel content	1.00
	Slow water movement	0.60	Slow water movement	0.60	Depth to saturated zone	0.98
	Gravel content	0.41	Gravel content	0.41	Slope	0.88
Iredell, stony	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Slope	0.88
Qr:						
Pits, quarry	Not rated		Not rated		Not rated	
RvA:						
Riverview	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.40	Flooding	1.00
StB:						
State	Not limited		Not limited		Somewhat limited	
					Slope	0.50
TuA:						
Turbeville	Not limited		Not limited		Not limited	
UdC:						
Udorthents, loamy	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
VaB:						
Vance	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
					Slope	0.50
WdC:						
Wedowee, bouldery	Not limited		Not limited		Very limited	
					Slope	1.00

Camp Areas, Picnic Areas, and Playgrounds—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
WdE:						
Wedowee, bouldery	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WeB:						
Wedowee	Not limited		Not limited		Somewhat limited	
					Slope	0.50
WeC:						
Wedowee	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
WeD:						
Wedowee	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
WeE:						
Wedowee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WhB:						
White Store	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Slow water movement	1.00
					Slope	0.50
Polkton	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.50
					Depth to saturated zone	0.39
WhC:						
White Store	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Slope	1.00
	Slope	0.01	Slope	0.01	Slow water movement	1.00
Polkton	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slow water movement	1.00
	Slope	0.01	Slope	0.01	Depth to saturated zone	0.39
WhD:						
White Store	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Slope	1.00
	Slope	0.84	Slope	0.84	Slow water movement	1.00

Camp Areas, Picnic Areas, and Playgrounds—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
Polkton	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
	Slope	0.84	Slope	0.84	Slow water movement	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
WtB:						
Wynott	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
					Slope	0.88
					Depth to bedrock	0.42
Enon	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
					Slope	0.88
WtC:						
Wynott	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
	Slope	0.63	Slope	0.63	Slow water movement	0.94
					Depth to bedrock	0.42
Enon	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
	Slope	0.63	Slope	0.63	Slow water movement	0.94
WyB2:						
Wynott, moderately eroded	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
					Slope	0.88
					Depth to bedrock	0.42
Enon, moderately eroded	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
					Slope	0.88
WyC2:						
Wynott, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
	Slope	0.63	Slope	0.63	Slow water movement	0.94
					Depth to bedrock	0.42
Enon, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
	Slope	0.63	Slope	0.63	Slow water movement	0.94

Paths, Trails, and Golf Fairways

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BaE:						
Badin	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.92			Depth to bedrock	0.26
Nanford	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.92				
BdB:						
Badin	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
Tarrus	Not limited		Not limited		Not limited	
BdC:						
Badin	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.63
					Depth to bedrock	0.42
Tarrus	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.63
BeB2:						
Badin, moderately eroded	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
Tarrus, moderately eroded	Not limited		Not limited		Not limited	
BeC2:						
Badin, moderately eroded	Not limited		Not limited		Somewhat limited	
					Slope	0.63
					Depth to bedrock	0.42
Tarrus, moderately eroded	Not limited		Not limited		Somewhat limited	
					Slope	0.63
CaB:						
Callison	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
					Depth to saturated zone	0.19
Lignum	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.19

Paths, Trails, and Golf Fairways—Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
CbC:						
Callison	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
					Depth to saturated zone	0.19
					Slope	0.01
Misenheimer	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to bedrock	1.00
					Droughty	0.99
					Depth to saturated zone	0.94
CcB:						
Carbonton	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
					Depth to bedrock	0.14
Brickhaven	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.03
CcC:						
Carbonton	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
					Depth to bedrock	0.14
					Slope	0.01
Brickhaven	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.03
					Slope	0.01
CcD:						
Carbonton	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.84
	Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
					Depth to bedrock	0.14
Brickhaven	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.84
					Depth to saturated zone	0.03
CeB:						
Cecil	Not limited		Not limited		Somewhat limited	
					Gravel content	0.27
CeC:						
Cecil	Not limited		Not limited		Somewhat limited	
					Gravel content	0.27
					Slope	0.01

Paths, Trails, and Golf Fairways—Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
CeD:						
Cecil	Not limited		Not limited		Somewhat limited	
					Slope	0.84
					Gravel content	0.27
ChA:						
Chewacla	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.94
Wehadkee	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
CkC:						
Cid	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Depth to bedrock	0.61
					Slope	0.01
CmB:						
Cid	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Depth to bedrock	0.61
Lignum	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.19
CrB:						
Creedmoor	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.08	Depth to saturated zone	0.08	Depth to saturated zone	0.43
Green Level	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
CrC:						
Creedmoor	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.08	Depth to saturated zone	0.08	Depth to saturated zone	0.43
					Slope	0.01
Green Level	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
					Slope	0.01
CrD:						
Creedmoor	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.08	Depth to saturated zone	0.08	Slope	0.84
					Depth to saturated zone	0.43

Paths, Trails, and Golf Fairways—Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
Green Level---------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
					Slope	0.84
DAM:						
Dam-----------------	Not rated		Not rated		Not rated	
GaB:						
Georgeville---------	Not limited		Not limited		Not limited	
GaC:						
Georgeville---------	Not limited		Not limited		Somewhat limited	
					Slope	0.01
GbB:						
Georgeville---------	Not limited		Not limited		Not limited	
GbC:						
Georgeville---------	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.63
GeB2:						
Georgeville, moderately eroded--	Not limited		Not limited		Not limited	
GeC2:						
Georgeville, moderately eroded--	Not limited		Not limited		Somewhat limited	
					Slope	0.01
GhB2:						
Georgeville, moderately eroded--	Not limited		Not limited		Not limited	
GhC2:						
Georgeville, moderately eroded--	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.63
GkD:						
Georgeville---------	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.84
Badin---------------	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.84
					Depth to bedrock	0.26
GkE:						
Georgeville---------	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.92				
Badin---------------	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.92			Depth to bedrock	0.26

Paths, Trails, and Golf Fairways—Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
GnC:						
Georgeville	Not limited		Not limited		Not limited	
Urban land	Not rated		Not rated		Not rated	
GoC:						
Goldston	Somewhat limited		Somewhat limited		Very limited	
	Large stones content	0.08	Large stones content	0.08	Depth to bedrock	1.00
					Droughty	1.00
					Large stones content	1.00
Badin	Not limited		Not limited		Somewhat limited	
					Slope	0.63
					Depth to bedrock	0.42
					Gravel content	0.10
GoE:						
Goldston	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.22	Depth to bedrock	1.00
	Large stones content	0.08	Large stones content	0.08	Slope	1.00
					Droughty	1.00
Badin	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.22	Slope	1.00
					Depth to bedrock	0.42
					Gravel content	0.10
HeB:						
Helena	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.19
HeC:						
Helena	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.19
					Slope	0.01
HrB:						
Herndon	Not limited		Not limited		Not limited	
HrC:						
Herndon	Not limited		Not limited		Somewhat limited	
					Slope	0.01
IrB:						
Iredell	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
LsF:						
Louisa	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.78	Depth to bedrock	1.00
					Slope	1.00
					Droughty	1.00
MaA, MaB:						
Mattaponi	Not limited		Not limited		Not limited	

Paths, Trails, and Golf Fairways—Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
McC:						
Mattaponi	Not limited		Not limited		Somewhat limited	
					Slope	0.50
Peawick	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Depth to saturated zone	0.03
MdB:						
Mayodan	Not limited		Not limited		Not limited	
MdC:						
Mayodan	Not limited		Not limited		Somewhat limited	
					Slope	0.01
MgD:						
Mayodan	Not limited		Not limited		Somewhat limited	
					Slope	0.84
MhE:						
Mayodan	Somewhat limited		Not limited		Very limited	
	Slope	0.92			Slope	1.00
Brickhaven	Somewhat limited		Not limited		Very limited	
	Slope	0.92			Slope	1.00
					Depth to saturated zone	0.03
MrA:						
Merry Oaks	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
					Flooding	0.60
Moncure, undrained	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
					Flooding	0.60
NaB:						
Nanford	Not limited		Not limited		Not limited	
Badin	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.26
NaC:						
Nanford	Not limited		Not limited		Somewhat limited	
					Slope	0.01
Badin	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.26
					Slope	0.01
NaD:						
Nanford	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.84

Paths, Trails, and Golf Fairways—Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
Badin	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.84
					Depth to bedrock	0.26
PaE:						
Pacolet	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
PcA:						
Peawick	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.03
PeA, PeB:						
Peawick	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.03
PsB:						
Pittsboro, stony	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Gravel content	0.41
					Depth to bedrock	0.01
Iredell, stony	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Qr:						
Pits, quarry	Not rated		Not rated		Not rated	
RvA:						
Riverview	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
StB:						
State	Not limited		Not limited		Not limited	
TuA:						
Turbeville	Not limited		Not limited		Not limited	
UdC:						
Udorthents, loamy	Not limited		Not limited		Somewhat limited	
					Slope	0.01
VaB:						
Vance	Not limited		Not limited		Not limited	
WdC:						
Wedowee, bouldery	Not limited		Not limited		Not limited	
WdE:						
Wedowee, bouldery	Very limited		Not limited		Very limited	
	Slope	1.00			Slope	1.00
WeB:						
Wedowee	Not limited		Not limited		Not limited	

Paths, Trails, and Golf Fairways—Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
WeC:						
Wedowee	Not limited		Not limited		Somewhat limited	
					Slope	0.01
WeD:						
Wedowee	Not limited		Not limited		Somewhat limited	
					Slope	0.84
WeE:						
Wedowee	Somewhat limited		Not limited		Very limited	
	Slope	0.18			Slope	1.00
WhB:						
White Store	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
Polkton	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.20
					Depth to saturated zone	0.19
WhC:						
White Store	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
					Slope	0.01
Polkton	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.20
					Depth to saturated zone	0.19
					Slope	0.01
WhD:						
White Store	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Slope	0.84
Polkton	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.84
					Depth to bedrock	0.20
					Depth to saturated zone	0.19
WtB:						
Wynott	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
Enon	Not limited		Not limited		Not limited	
WtC:						
Wynott	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.63
					Depth to bedrock	0.42
Enon	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.63

Paths, Trails, and Golf Fairways—Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WyB2:						
Wynott, moderately eroded	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
Enon, moderately eroded	Not limited		Not limited		Not limited	
WyC2:						
Wynott, moderately eroded	Not limited		Not limited		Somewhat limited	
					Slope	0.63
					Depth to bedrock	0.42
Enon, moderately eroded	Not limited		Not limited		Somewhat limited	
					Slope	0.63

Dwellings and Small Commercial Buildings

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BaE:						
Badin	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.26		
Nanford	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
BdB:						
Badin	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.42	Slope	0.12
Tarrus	Not limited		Not limited		Somewhat limited	
					Slope	0.12
BdC:						
Badin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.42		
Tarrus	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
BeB2:						
Badin, moderately eroded	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.42	Slope	0.12
Tarrus, moderately eroded	Not limited		Not limited		Somewhat limited	
					Slope	0.12
BeC2:						
Badin, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.42		
Tarrus, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00

Dwellings and Small Commercial Buildings—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CaB:						
Callison------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
			Depth to soft bedrock	0.42		
Lignum--------------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
CbC:						
Callison------------	Somewhat limited		Very limited		Very limited	
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.01	Depth to soft bedrock	0.42	Depth to saturated zone	0.39
			Slope	0.01		
Misenheimer---------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
	Slope	0.01	Slope	0.01	Slope	1.00
CcB:						
Carbonton-----------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.13		
Brickhaven----------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.07	Shrink-swell	0.50	Depth to saturated zone	0.07
CcC:						
Carbonton-----------	Somewhat limited		Very limited		Very limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Depth to saturated zone	0.99
	Slope	0.01	Depth to soft bedrock	0.13	Shrink-swell	0.50
Brickhaven----------	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.07	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.01	Slope	0.01	Depth to saturated zone	0.07

Dwellings and Small Commercial Buildings—Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
CcD:						
Carbonton	Somewhat limited		Very limited		Very limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.84	Slope	0.84	Depth to saturated zone	0.99
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Brickhaven	Somewhat limited		Very limited		Very limited	
	Slope	0.84	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Slope	0.84	Shrink-swell	0.50
	Depth to saturated zone	0.07	Shrink-swell	0.50	Depth to saturated zone	0.07
CeB:						
Cecil	Not limited		Not limited		Not limited	
CeC:						
Cecil	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
CeD:						
Cecil	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
ChA:						
Chewacla	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Wehadkee	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
CkC:						
Cid	Somewhat limited		Very limited		Very limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to hard bedrock	1.00	Depth to saturated zone	0.98
	Depth to hard bedrock	0.10	Depth to soft bedrock	0.61	Shrink-swell	0.50
CmB:						
Cid	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
	Depth to hard bedrock	0.10	Depth to soft bedrock	0.61	Depth to hard bedrock	0.10
Lignum	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39

Dwellings and Small Commercial Buildings—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CrB:						
Creedmoor-----------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.77	Shrink-swell	1.00	Depth to saturated zone	0.77
Green Level---------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
CrC:						
Creedmoor-----------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.77	Shrink-swell	1.00	Slope	1.00
	Slope	0.01	Slope	0.01	Depth to saturated zone	0.77
Green Level---------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Slope	0.01	Slope	0.01	Slope	1.00
CrD:						
Creedmoor-----------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.84	Shrink-swell	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.77	Slope	0.84	Depth to saturated zone	0.77
Green Level---------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Depth to saturated zone	1.00
	Slope	0.84	Slope	0.84	Shrink-swell	1.00
DAM:						
Dam-----------------	Not rated		Not rated		Not rated	
GaB:						
Georgeville---------	Not limited		Not limited		Not limited	
GaC:						
Georgeville---------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
GbB:						
Georgeville---------	Not limited		Not limited		Somewhat limited	
					Slope	0.12
GbC:						
Georgeville---------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
GeB2:						
Georgeville, moderately eroded--	Not limited		Not limited		Not limited	

Dwellings and Small Commercial Buildings—Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
GeC2:						
Georgeville, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
GhB2:						
Georgeville, moderately eroded	Not limited		Not limited		Somewhat limited	
					Slope	0.12
GhC2:						
Georgeville, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
GkD:						
Georgeville	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
Badin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.26		
GkE:						
Georgeville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Badin	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.26		
GnC:						
Georgeville	Not limited		Not limited		Somewhat limited	
					Slope	0.50
Urban land	Not rated		Not rated		Not rated	
GoC:						
Goldston	Somewhat limited		Very limited		Very limited	
	Slope	0.63	Depth to soft bedrock	1.00	Slope	1.00
	Depth to soft bedrock	0.50	Slope	0.63	Depth to soft bedrock	1.00
	Large stones content	0.01	Large stones content	0.01	Large stones content	0.01
Badin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Slope	1.00
			Depth to soft bedrock	0.42		

Dwellings and Small Commercial Buildings—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GoE:						
Goldston------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
	Large stones content	0.01	Large stones content	0.01	Large stones content	0.01
Badin---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to soft bedrock	0.42		
HeB:						
Helena--------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.39			Depth to saturated zone	0.39
HeC:						
Helena--------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.39	Slope	0.01	Slope	1.00
	Slope	0.01			Depth to saturated zone	0.39
HrB:						
Herndon-------------	Not limited		Not limited		Not limited	
HrC:						
Herndon-------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
IrB:						
Iredell-------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
LsF:						
Louisa--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
MaA:						
Mattaponi-----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.61	Shrink-swell	0.50
			Shrink-swell	0.50		
MaB:						
Mattaponi-----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.61	Shrink-swell	0.50
			Shrink-swell	0.50	Slope	0.12

Dwellings and Small Commercial Buildings—Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
McC:						
Mattaponi-----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.50	Depth to saturated zone	0.61	Slope	1.00
	Shrink-swell	0.50	Slope	0.50	Shrink-swell	0.50
			Shrink-swell	0.50		
Peawick-------------	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.50	Shrink-swell	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.07	Slope	0.50	Depth to saturated zone	0.07
MdB:						
Mayodan-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
MdC:						
Mayodan-------------	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.01	Slope	0.01	Shrink-swell	0.50
MgD:						
Mayodan-------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
MhE:						
Mayodan-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Brickhaven----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.07	Shrink-swell	0.50	Depth to saturated zone	0.07
MrA:						
Merry Oaks----------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Moncure, undrained--	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
NaB:						
Nanford-------------	Not limited		Not limited		Not limited	
Badin---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.26		

Dwellings and Small Commercial Buildings—Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
NaC:						
Nanford	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
Badin	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.01	Depth to soft bedrock	0.26	Shrink-swell	0.50
			Slope	0.01		
NaD:						
Nanford	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
Badin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.26		
PaE:						
Pacolet	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
PcA:						
Peawick	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.07	Shrink-swell	1.00	Depth to saturated zone	0.07
PeA:						
Peawick	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.07	Shrink-swell	1.00	Depth to saturated zone	0.07
PeB:						
Peawick	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.07	Shrink-swell	1.00	Slope	0.12
					Depth to saturated zone	0.07
PsB:						
Pittsboro, stony	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
			Depth to hard bedrock	0.92	Slope	0.12
Iredell, stony	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98			Depth to saturated zone	0.98
					Slope	0.12

Dwellings and Small Commercial Buildings—Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
Qr:						
Pits, quarry	Not rated		Not rated		Not rated	
RvA:						
Riverview	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.61		
StB:						
State	Not limited		Somewhat limited		Not limited	
			Depth to saturated zone	0.15		
TuA:						
Turbeville	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
UdC:						
Udorthents, loamy	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.01	Slope	0.01	Shrink-swell	0.50
VaB:						
Vance	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Shrink-swell	0.50
WdC:						
Wedowee, bouldery	Not limited		Not limited		Somewhat limited	
					Slope	0.50
WdE:						
Wedowee, bouldery	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WeB:						
Wedowee	Not limited		Not limited		Not limited	
WeC:						
Wedowee	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Slope	0.01	Slope	1.00
WeD:						
Wedowee	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.84	Slope	0.84	Slope	1.00
WeE:						
Wedowee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WhB:						
White Store	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Dwellings and Small Commercial Buildings—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Polkton-------------	Very limited Shrink-swell Depth to saturated zone	 1.00 0.39	Very limited Depth to saturated zone Shrink-swell Depth to soft bedrock	 1.00 1.00 0.20	Very limited Shrink-swell Depth to saturated zone	 1.00 0.39
WhC:						
White Store---------	Very limited Depth to saturated zone Shrink-swell Slope	 1.00 1.00 0.01	Very limited Depth to saturated zone Shrink-swell Slope	 1.00 1.00 0.01	Very limited Depth to saturated zone Shrink-swell Slope	 1.00 1.00 1.00
Polkton-------------	Very limited Shrink-swell Depth to saturated zone Slope	 1.00 0.39 0.01	Very limited Depth to saturated zone Shrink-swell Depth to soft bedrock	 1.00 1.00 0.20	Very limited Shrink-swell Slope Depth to saturated zone	 1.00 1.00 0.39
WhD:						
White Store---------	Very limited Depth to saturated zone Shrink-swell Slope	 1.00 1.00 0.84	Very limited Depth to saturated zone Shrink-swell Slope	 1.00 1.00 0.84	Very limited Slope Depth to saturated zone Shrink-swell	 1.00 1.00 1.00
Polkton-------------	Very limited Shrink-swell Slope Depth to saturated zone	 1.00 0.84 0.39	Very limited Depth to saturated zone Shrink-swell Slope	 1.00 1.00 0.84	Very limited Slope Shrink-swell Depth to saturated zone	 1.00 1.00 0.39
WtB:						
Wynott--------------	Very limited Shrink-swell	 1.00	Very limited Shrink-swell Depth to soft bedrock	 1.00 0.42	Very limited Shrink-swell Slope	 1.00 0.12
Enon----------------	Very limited Shrink-swell	 1.00	Not limited		Very limited Shrink-swell Slope	 1.00 0.12
WtC:						
Wynott--------------	Very limited Shrink-swell Slope	 1.00 0.63	Very limited Shrink-swell Slope Depth to soft bedrock	 1.00 0.63 0.42	Very limited Slope Shrink-swell	 1.00 1.00
Enon----------------	Very limited Shrink-swell Slope	 1.00 0.63	Somewhat limited Slope	 0.63	Very limited Slope Shrink-swell	 1.00 1.00

Dwellings and Small Commercial Buildings—Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
WyB2:						
Wynott, moderately eroded	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
			Depth to soft bedrock	0.42	Slope	0.12
Enon, moderately eroded	Very limited		Not limited		Very limited	
	Shrink-swell	1.00			Shrink-swell	1.00
					Slope	0.12
WyC2:						
Wynott, moderately eroded	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
	Slope	0.63	Slope	0.63	Shrink-swell	1.00
			Depth to soft bedrock	0.42		
Enon, moderately eroded	Very limited		Somewhat limited		Very limited	
	Shrink-swell	1.00	Slope	0.63	Slope	1.00
	Slope	0.63			Shrink-swell	1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
BaE:						
Badin	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to soft bedrock	0.26	Depth to bedrock	0.26
	Shrink-swell	0.50	Too clayey	0.12		
Nanford	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	0.10	Cutbanks cave	0.10		
			Too clayey	0.03		
BdB:						
Badin	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to soft bedrock	0.42	Depth to bedrock	0.42
	Shrink-swell	0.50	Too clayey	0.12		
			Cutbanks cave	0.10		
Tarrus	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.10	Too clayey	0.88		
			Cutbanks cave	0.10		
BdC:						
Badin	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.63	Slope	0.63
	Slope	0.63	Depth to soft bedrock	0.42	Depth to bedrock	0.42
	Shrink-swell	0.50	Too clayey	0.12		
Tarrus	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.63	Too clayey	0.88	Slope	0.63
	Low strength	0.10	Slope	0.63		
			Cutbanks cave	0.10		
BeB2:						
Badin, moderately eroded	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to soft bedrock	0.42	Depth to bedrock	0.42
	Shrink-swell	0.50	Cutbanks cave	0.10		
Tarrus, moderately eroded	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.10	Too clayey	0.72		
			Cutbanks cave	0.10		
BeC2:						
Badin, moderately eroded	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.63	Slope	0.63
	Slope	0.63	Depth to soft bedrock	0.42	Depth to bedrock	0.42
	Shrink-swell	0.50	Cutbanks cave	0.10		

Roads and Streets, Shallow Excavations, and Lawns and Landscaping—Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
Tarrus, moderately eroded	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.63	Too clayey	0.72	Slope	0.63
	Low strength	0.10	Slope	0.63		
			Cutbanks cave	0.10		
CaB:						
Callison	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.42
	Depth to saturated zone	0.19	Depth to soft bedrock	0.42	Depth to saturated zone	0.19
			Cutbanks cave	0.10		
Lignum	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Shrink-swell	0.50	Too clayey	0.12		
	Depth to saturated zone	0.19	Cutbanks cave	0.10		
CbC:						
Callison	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.42
	Depth to saturated zone	0.19	Depth to soft bedrock	0.42	Depth to saturated zone	0.19
	Slope	0.01	Cutbanks cave	0.10	Slope	0.01
Misenheimer	Somewhat limited		Very limited		Very limited	
	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
					Droughty	0.99
	Depth to saturated zone	0.94	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Slope	0.01	Slope	0.01		
CcB:						
Carbonton	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
	Depth to saturated zone	0.78	Too clayey	0.28	Depth to bedrock	0.14
	Shrink-swell	0.50	Depth to soft bedrock	0.13		
Brickhaven	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
	Shrink-swell	0.50	Too clayey	0.50		
	Depth to saturated zone	0.03	Cutbanks cave	0.10		
CcC:						
Carbonton	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
	Depth to saturated zone	0.78	Too clayey	0.28	Depth to bedrock	0.14
	Shrink-swell	0.50	Depth to soft bedrock	0.13	Slope	0.01

Roads and Streets, Shallow Excavations, and Lawns and Landscaping—Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
Brickhaven----------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
	Shrink-swell	0.50	Too clayey	0.50	Slope	0.01
	Depth to saturated zone	0.03	Cutbanks cave	0.10		
CcD:						
Carbonton-----------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Slope	0.84
	Slope	0.84	Slope	0.84	Depth to saturated zone	0.78
	Depth to saturated zone	0.78	Too clayey	0.28	Depth to bedrock	0.14
Brickhaven----------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Slope	0.84
	Slope	0.84	Slope	0.84	Depth to saturated zone	0.03
	Shrink-swell	0.50	Too clayey	0.50		
CeB:						
Cecil---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Low strength	0.10	Too clayey	0.88	Gravel content	0.27
			Cutbanks cave	0.10		
CeC:						
Cecil---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Low strength	0.10	Too clayey	0.88	Gravel content	0.27
	Slope	0.01	Cutbanks cave	0.10	Slope	0.01
			Slope	0.01		
CeD:						
Cecil---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.84	Too clayey	0.88	Slope	0.84
	Low strength	0.10	Slope	0.84	Gravel content	0.27
			Cutbanks cave	0.10		
ChA:						
Chewacla------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Low strength	1.00	Flooding	0.80	Depth to saturated zone	0.94
	Depth to saturated zone	0.94	Cutbanks cave	0.10		
Wehadkee------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Low strength	1.00	Cutbanks cave	0.10		
CkC:						
Cid-----------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to bedrock	0.61
	Shrink-swell	0.50	Depth to soft bedrock	0.61	Slope	0.01

Roads and Streets, Shallow Excavations, and Lawns and Landscaping—Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
CmB:						
Cid	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to bedrock	0.61
	Shrink-swell	0.50	Depth to soft bedrock	0.61		
Lignum	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Shrink-swell	0.50	Too clayey	0.12		
	Depth to saturated zone	0.19	Cutbanks cave	0.10		
CrB:						
Creedmoor	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.43
	Shrink-swell	1.00	Too clayey	0.28		
	Depth to saturated zone	0.43	Cutbanks cave	0.10		
Green Level	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Too clayey	0.28		
	Depth to saturated zone	0.94	Cutbanks cave	0.10		
CrC:						
Creedmoor	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.43
	Shrink-swell	1.00	Too clayey	0.28	Slope	0.01
	Depth to saturated zone	0.43	Cutbanks cave	0.10		
Green Level	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Too clayey	0.28	Slope	0.01
	Depth to saturated zone	0.94	Cutbanks cave	0.10		
CrD:						
Creedmoor	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Slope	0.84
	Shrink-swell	1.00	Slope	0.84	Depth to saturated zone	0.43
	Slope	0.84	Too clayey	0.28		
Green Level	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Slope	0.84	Slope	0.84
	Depth to saturated zone	0.94	Too clayey	0.28		
DAM:						
Dam	Not rated		Not rated		Not rated	

Roads and Streets, Shallow Excavations, and Lawns and Landscaping—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GaB:						
Georgeville---------	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.10	Too clayey	0.50		
			Cutbanks cave	0.10		
GaC:						
Georgeville---------	Somewhat limited		Somewhat limited		Somewhat limited	
	Low strength	0.10	Too clayey	0.50	Slope	0.01
	Slope	0.01	Cutbanks cave	0.10		
			Slope	0.01		
GbB:						
Georgeville---------	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.10	Cutbanks cave	0.10		
			Too clayey	0.06		
GbC:						
Georgeville---------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63	Slope	0.63
	Low strength	0.10	Cutbanks cave	0.10		
			Too clayey	0.06		
GeB2:						
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.10	Too clayey	0.50		
			Cutbanks cave	0.10		
GeC2:						
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited		Somewhat limited	
	Low strength	0.10	Too clayey	0.50	Slope	0.01
	Slope	0.01	Cutbanks cave	0.10		
			Slope	0.01		
GhB2:						
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.10	Too clayey	0.50		
			Cutbanks cave	0.10		
GhC2:						
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63	Slope	0.63
	Low strength	0.10	Too clayey	0.50		
			Cutbanks cave	0.10		
GkD:						
Georgeville---------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.84	Slope	0.84	Slope	0.84
	Low strength	0.10	Too clayey	0.50		
			Cutbanks cave	0.10		
Badin---------------	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.84	Slope	0.84
	Slope	0.84	Depth to soft bedrock	0.26	Depth to bedrock	0.26
	Shrink-swell	0.50	Too clayey	0.12		

Roads and Streets, Shallow Excavations, and Lawns and Landscaping—Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
GkE:						
Georgeville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	0.10	Too clayey	0.50		
			Cutbanks cave	0.10		
Badin	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to soft bedrock	0.26	Depth to bedrock	0.26
	Shrink-swell	0.50				
			Too clayey	0.12		
GnC:						
Georgeville	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.10	Too clayey	0.50		
			Cutbanks cave	0.10		
Urban land	Not rated		Not rated		Not rated	
GoC:						
Goldston	Somewhat limited		Very limited		Very limited	
	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
					Droughty	1.00
	Slope	0.63	Slope	0.63	Large stones content	1.00
	Large stones content	0.01	Large stones content	0.01		
Badin	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63	Slope	0.63
	Low strength	0.22	Depth to soft bedrock	0.42	Depth to bedrock	0.42
					Gravel content	0.10
			Cutbanks cave	0.10		
GoE:						
Goldston	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
	Depth to soft bedrock	1.00			Slope	1.00
			Slope	1.00	Droughty	1.00
	Large stones content	0.01	Large stones content	0.01		
Badin	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	0.22	Depth to soft bedrock	0.42	Depth to bedrock	0.42
					Gravel content	0.10
			Cutbanks cave	0.10		
HeB:						
Helena	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Shrink-swell	1.00				
	Depth to saturated zone	0.19	Too clayey	0.28		
			Cutbanks cave	0.10		

Roads and Streets, Shallow Excavations, and Lawns and Landscaping—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HeC:						
Helena	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Shrink-swell	1.00	Too clayey	0.28	Slope	0.01
	Depth to saturated zone	0.19	Cutbanks cave	0.10		
HrB:						
Herndon	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.10	Too clayey	0.28		
			Cutbanks cave	0.10		
HrC:						
Herndon	Somewhat limited		Somewhat limited		Somewhat limited	
	Low strength	0.10	Too clayey	0.28	Slope	0.01
	Slope	0.01	Cutbanks cave	0.10		
			Slope	0.01		
IrB:						
Iredell	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Too clayey	0.50		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
LsF:						
Louisa	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
	Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
			Cutbanks cave	0.10	Droughty	1.00
MaA, MaB:						
Mattaponi	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Too clayey	0.68		
	Shrink-swell	0.50	Depth to saturated zone	0.61		
			Cutbanks cave	0.10		
McC:						
Mattaponi	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Too clayey	0.68	Slope	0.50
	Slope	0.50	Depth to saturated zone	0.61		
	Shrink-swell	0.50	Slope	0.50		
Peawick	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	0.50
	Low strength	1.00	Slope	0.50	Depth to saturated zone	0.03
	Slope	0.50	Too clayey	0.28		
MdB:						
Mayodan	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Too clayey	0.28		
	Shrink-swell	0.50	Cutbanks cave	0.10		

Roads and Streets, Shallow Excavations, and Lawns and Landscaping—Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
MdC:						
Mayodan	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Too clayey	0.28	Slope	0.01
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Slope	0.01	Slope	0.01		
MgD:						
Mayodan	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.84	Slope	0.84
	Slope	0.84	Too clayey	0.28		
	Shrink-swell	0.50	Cutbanks cave	0.10		
MhE:						
Mayodan	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Too clayey	0.28		
	Shrink-swell	0.50	Cutbanks cave	0.10		
Brickhaven	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
	Shrink-swell	0.50	Too clayey	0.50		
MrA:						
Merry Oaks	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Low strength	1.00	Flooding	0.60	Flooding	0.60
	Depth to saturated zone	0.99	Cutbanks cave	0.10		
Moncure, undrained	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.60	Flooding	0.60
NaB:						
Nanford	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.10	Cutbanks cave	0.10		
			Too clayey	0.03		
Badin	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to soft bedrock	0.26	Depth to bedrock	0.26
	Shrink-swell	0.50	Too clayey	0.12		
			Cutbanks cave	0.10		
NaC:						
Nanford	Somewhat limited		Somewhat limited		Somewhat limited	
	Low strength	0.10	Cutbanks cave	0.10	Slope	0.01
	Slope	0.01	Too clayey	0.03		
			Slope	0.01		

Roads and Streets, Shallow Excavations, and Lawns and Landscaping—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Badin	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to soft bedrock	0.26	Depth to bedrock	0.26
	Shrink-swell	0.50	Too clayey	0.12	Slope	0.01
	Slope	0.01	Cutbanks cave	0.10		
NaD:						
Nanford	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.84	Slope	0.84	Slope	0.84
	Low strength	0.10	Cutbanks cave	0.10		
			Too clayey	0.03		
Badin	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.84	Slope	0.84
	Slope	0.84	Depth to soft bedrock	0.26	Depth to bedrock	0.26
	Shrink-swell	0.50	Too clayey	0.12		
PaE:						
Pacolet	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	0.10	Too clayey	0.50		
			Cutbanks cave	0.10		
PcA:						
Peawick	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
	Low strength	1.00	Too clayey	0.28		
	Flooding	0.40	Cutbanks cave	0.10		
PeA, PeB:						
Peawick	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
	Low strength	1.00	Too clayey	0.28		
	Depth to saturated zone	0.03	Cutbanks cave	0.10		
PsB:						
Pittsboro, stony	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Shrink-swell	1.00	Depth to hard bedrock	0.92	Gravel content	0.41
	Depth to saturated zone	0.75	Too clayey	0.50	Depth to bedrock	0.01
Iredell, stony	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Too clayey	0.50		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
Qr:						
Pits, quarry	Not rated		Not rated		Not rated	

Roads and Streets, Shallow Excavations, and Lawns and Landscaping—Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
RvA:						
Riverview	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.80	Flooding	1.00
	Low strength	0.78	Depth to saturated zone	0.61		
			Cutbanks cave	0.10		
StB:						
State	Not limited		Somewhat limited		Not limited	
			Depth to saturated zone	0.15		
			Cutbanks cave	0.10		
TuA:						
Turbeville	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Too clayey	0.12		
	Low strength	0.10	Cutbanks cave	0.10		
UdC:						
Udorthents, loamy	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Cutbanks cave	0.10	Slope	0.01
	Low strength	0.22	Slope	0.01		
	Slope	0.01				
VaB:						
Vance	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Too clayey	0.28		
	Shrink-swell	0.50	Cutbanks cave	0.10		
WdC:						
Wedowee, bouldery	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.10	Too clayey	0.24		
			Cutbanks cave	0.10		
WdE:						
Wedowee, bouldery	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	0.10	Too clayey	0.24		
			Cutbanks cave	0.10		
WeB:						
Wedowee	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.10	Too clayey	0.24		
			Cutbanks cave	0.10		
WeC:						
Wedowee	Somewhat limited		Somewhat limited		Somewhat limited	
	Low strength	0.10	Too clayey	0.24	Slope	0.01
	Slope	0.01	Cutbanks cave	0.10		
			Slope	0.01		
WeD:						
Wedowee	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.84	Slope	0.84	Slope	0.84
	Low strength	0.10	Too clayey	0.24		
			Cutbanks cave	0.10		

Roads and Streets, Shallow Excavations, and Lawns and Landscaping—Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
WeE:						
Wedowee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	0.10	Too clayey	0.24		
			Cutbanks cave	0.10		
WhB:						
White Store	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Too clayey	0.97		
	Depth to saturated zone	0.94	Cutbanks cave	0.10		
Polkton	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.20
	Low strength	1.00	Too clayey	0.50	Depth to saturated zone	0.19
	Low strength	1.00	Depth to soft bedrock	0.20		
	Depth to saturated zone	0.19				
WhC:						
White Store	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Too clayey	0.97	Slope	0.01
	Depth to saturated zone	0.94	Cutbanks cave	0.10		
Polkton	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.20
	Low strength	1.00	Too clayey	0.50	Depth to saturated zone	0.19
	Depth to saturated zone	0.19	Depth to soft bedrock	0.20	Slope	0.01
WhD:						
White Store	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Too clayey	0.97	Slope	0.84
	Depth to saturated zone	0.94	Slope	0.84		
Polkton	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	0.84
	Low strength	1.00	Slope	0.84	Depth to bedrock	0.20
	Slope	0.84	Too clayey	0.50	Depth to saturated zone	0.19
WtB:						
Wynott	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Too clayey	0.50	Depth to bedrock	0.42
	Shrink-swell	1.00	Depth to soft bedrock	0.42		
			Cutbanks cave	0.10		
Enon	Very limited		Very limited		Not limited	
	Low strength	1.00	Cutbanks cave	1.00		
	Shrink-swell	1.00	Too clayey	0.28		

Roads and Streets, Shallow Excavations, and Lawns and Landscaping—Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
WtC:						
Wynott	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.63	Slope	0.63
	Shrink-swell	1.00	Too clayey	0.50	Depth to bedrock	0.42
	Slope	0.63	Depth to soft bedrock	0.42		
Enon	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Cutbanks cave	1.00	Slope	0.63
	Shrink-swell	1.00	Slope	0.63		
	Slope	0.63	Too clayey	0.28		
WyB2:						
Wynott, moderately eroded	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Too clayey	0.50	Depth to bedrock	0.42
	Shrink-swell	1.00	Depth to soft bedrock	0.42		
			Cutbanks cave	0.10		
Enon, moderately eroded	Very limited		Very limited		Not limited	
	Low strength	1.00	Cutbanks cave	1.00		
	Shrink-swell	1.00	Too clayey	0.28		
WyC2:						
Wynott, moderately eroded	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.63	Slope	0.63
	Shrink-swell	1.00	Too clayey	0.50	Depth to bedrock	0.42
	Slope	0.63	Depth to soft bedrock	0.42		
Enon, moderately eroded	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Cutbanks cave	1.00	Slope	0.63
	Shrink-swell	1.00	Slope	0.63		
	Slope	0.63	Too clayey	0.28		

Sewage Disposal

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BaE:				
Badin	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
Nanford	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
	Depth to bedrock	0.41	Depth to soft bedrock	0.022
BdB:				
Badin	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
Tarrus	Somewhat limited		Somewhat limited	
	Depth to bedrock	0.78	Slope	0.68
	Slow water movement	0.50	Seepage	0.50
			Depth to soft bedrock	0.42
BdC:				
Badin	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	0.63	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
Tarrus	Somewhat limited		Very limited	
	Depth to bedrock	0.78	Slope	1.00
	Slope	0.63	Seepage	0.50
	Slow water movement	0.50	Depth to soft bedrock	0.42
BeB2:				
Badin, moderately eroded	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Tarrus, moderately eroded	Somewhat limited		Somewhat limited	
	Depth to bedrock	0.78	Slope	0.68
	Slow water movement	0.50	Seepage	0.50
			Depth to soft bedrock	0.42
BeC2:				
Badin, moderately eroded	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	0.63	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
Tarrus, moderately eroded	Somewhat limited		Very limited	
	Depth to bedrock	0.78	Slope	1.00
	Slope	0.63	Seepage	0.50
	Slow water movement	0.50	Depth to soft bedrock	0.42
CaB:				
Callison	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.75
			Slope	0.32
Lignum	Very limited		Somewhat limited	
	Slow water movement	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	1.00	Depth to soft bedrock	0.42
	Depth to bedrock	0.78	Slope	0.32
CbC:				
Callison	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.01	Depth to saturated zone	0.75
Misenheimer	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Slope	1.00
CcB:				
Carbonton	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.32

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Brickhaven----------	Very limited		Somewhat limited	
	Slow water movement	1.00	Depth to saturated zone	0.44
	Depth to saturated zone	1.00	Slope	0.32
	Depth to bedrock	0.73	Depth to soft bedrock	0.32
CcC:				
Carbonton-----------	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
Brickhaven----------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.44
	Depth to bedrock	0.73	Depth to soft bedrock	0.32
CcD:				
Carbonton-----------	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Brickhaven----------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.44 4
	Slope	0.84	Depth to soft bedrock	0.32
CeB:				
Cecil---------------	Somewhat limited		Very limited	
	Slow water movement	0.50	Seepage	1.00
			Slope	0.32
CeC:				
Cecil---------------	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.01	Seepage	1.00
CeD:				
Cecil---------------	Somewhat limited		Very limited	
	Slope	0.84	Slope	1.00
	Slow water movement	0.50	Seepage	1.00

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
ChA:				
Chewacla------------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	0.50
Wehadkee------------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50	Seepage	0.50
CkC:				
Cid-----------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to hard bedrock	1.00
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Slope	1.00
CmB:				
Cid-----------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to hard bedrock	1.00
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.99
Lignum--------------	Very limited		Somewhat limited	
	Slow water movement	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	1.00	Depth to soft bedrock	0.68
	Depth to bedrock	0.88	Seepage	0.50
CrB:				
Creedmoor-----------	Very limited		Somewhat limited	
	Slow water movement	1.00	Depth to saturated zone	0.92
	Depth to saturated zone	1.00	Slope	0.32
Green Level---------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.32
CrC:				
Creedmoor-----------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.92
	Slope	0.01		

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Green Level----------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.01		
CrD:				
Creedmoor-----------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.92
	Slope	0.84		
Green Level----------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	0.84		
DAM:				
Dam------------------	Not rated		Not rated	
GaB:				
Georgeville----------	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.32
GaC:				
Georgeville----------	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
			Seepage	0.50
	Slope	0.01		
GbB:				
Georgeville----------	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
GbC:				
Georgeville----------	Somewhat limited		Very limited	
	Slope	0.63	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
GeB2:				
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.32
GeC2:				
Georgeville, moderately eroded--	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
			Seepage	0.50
	Slope	0.01		

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
GhB2:				
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
GhC2:				
Georgeville, moderately eroded--	Somewhat limited		Very limited	
	Slope	0.63	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
GkD:				
Georgeville---------	Somewhat limited		Very limited	
	Slope	0.84	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
Badin---------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	0.84	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
GkE:				
Georgeville---------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
Badin---------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
GnC:				
Georgeville---------	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.92
			Seepage	0.50
Urban land----------	Not rated		Not rated	
GoC:				
Goldston------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Seepage, bottom layer	1.00	Slope	1.00
	Slope	0.63	Seepage	0.18
Badin---------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	0.63	Slope	1.00
			Seepage	0.50

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
GoE:				
Goldston------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	0.18
Badin---------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
			Seepage	0.50
HeB:				
Helena--------------	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.75
			Slope	0.32
HeC:				
Helena--------------	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
			Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Slope	0.01		
HrB:				
Herndon-------------	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.32
HrC:				
Herndon-------------	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
			Seepage	0.50
	Slope	0.01		
IrB:				
Iredell-------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.32
			Seepage	0.18
LsF:				
Louisa--------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
MaA:				
Mattaponi	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Depth to saturated zone	0.99		
MaB:				
Mattaponi	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
			Slope	0.68
	Depth to saturated zone	0.99		
McC:				
Mattaponi	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
			Seepage	1.00
	Depth to saturated zone	0.99		
	Slope	0.50		
Peawick	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
			Depth to saturated zone	0.44
	Depth to saturated zone	1.00		
	Slope	0.50		
MdB:				
Mayodan	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.32
MdC:				
Mayodan	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
			Seepage	0.50
	Slope	0.01		
MgD:				
Mayodan	Somewhat limited		Very limited	
	Slope	0.84	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
MhE:				
Mayodan	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
Brickhaven	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
			Depth to saturated zone	0.44
	Depth to saturated zone	1.00	Depth to soft bedrock	0.32
	Slope	1.00		

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
MrA:				
Merry Oaks	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.50
Moncure, undrained	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Slow water movement	1.00	Flooding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
NaB:				
Nanford	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
	Depth to bedrock	0.41	Slope	0.32
			Depth to soft bedrock	0.02
Badin	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.32
NaC:				
Nanford	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Depth to bedrock	0.41	Seepage	0.50
	Slope	0.01	Depth to soft bedrock	0.02
Badin	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slow water movement	0.50	Slope	1.00
	Slope	0.01	Seepage	0.50
NaD:				
Nanford	Somewhat limited		Very limited	
	Slope	0.84	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
	Depth to bedrock	0.41	Depth to soft bedrock	0.02
Badin	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	0.84	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
PaE:				
Pacolet	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
PcA:				
Peawick-------------	Very limited		Somewhat limited	
	Slow water movement	1.00	Depth to saturated zone	0.44
	Depth to saturated zone	1.00	Flooding	0.40
	Flooding	0.40		
PeA:				
Peawick-------------	Very limited		Somewhat limited	
	Slow water movement	1.00	Depth to saturated zone	0.44
	Depth to saturated zone	1.00		
PeB:				
Peawick-------------	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.68
	Depth to saturated zone	1.00	Depth to saturated zone	0.44
PsB:				
Pittsboro, stony----	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to hard bedrock	0.92
Iredell, stony------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	0.99
	Depth to saturated zone	1.00	Slope	0.68
			Seepage	0.32
Qr:				
Pits, quarry--------	Not rated		Not rated	
RvA:				
Riverview-----------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.71
	Slow water movement	0.50	Seepage	0.50
StB:				
State---------------	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.50	Slope	0.32
	Depth to saturated zone	0.40		

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
TuA:				
Turbeville----------	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
UdC:				
Udorthents, loamy---	Somewhat limited		Very limited	
	Slow water movement	0.82	Slope	1.00
			Seepage	0.18
	Slope	0.01		
VaB:				
Vance---------------	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
			Slope	0.32
	Seepage, bottom layer	1.00		
WdC:				
Wedowee, bouldery---	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.92
			Seepage	0.50
WdE:				
Wedowee, bouldery---	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
WeB:				
Wedowee-------------	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.32
WeC:				
Wedowee-------------	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
			Seepage	0.50
	Slope	0.01		
WeD:				
Wedowee-------------	Somewhat limited		Very limited	
	Slope	0.84	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
WeE:				
Wedowee-------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
WhB:				
White Store---------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to soft bedrock	0.96
	Depth to bedrock	0.99	Seepage	0.50

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Polkton	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.50
WhC:				
White Store	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Depth to bedrock	0.99	Depth to soft bedrock	0.96
Polkton	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
WhD:				
White Store	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to bedrock	0.99	Depth to soft bedrock	0.96
Polkton	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WtB:				
Wynott	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	0.68
			Seepage	0.50
Enon	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.68
			Seepage	0.32
WtC:				
Wynott	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Slope	0.63	Seepage	0.50
Enon	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	0.63	Seepage	0.32

Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WyB2:				
Wynott, moderately eroded-------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
			Slope	0.68
			Seepage	0.18
Enon, moderately eroded-------------	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.68
			Seepage	0.32
WyC2:				
Wynott, moderately eroded-------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	0.63		
			Slope	1.00
			Seepage	0.18
Enon, moderately eroded-------------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
			Seepage	0.32
	Slope	0.63		

Landfills

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BaE:						
Badin	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
Nanford	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.02	Depth to bedrock	0.02
BdB:						
Badin	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	1.00			Too clayey	1.00
Tarrus	Very limited		Somewhat limited		Somewhat limited	
	Depth to bedrock	1.00	Depth to bedrock	0.42	Too clayey	0.50
	Too clayey	0.50			Hard to compact	0.50
					Depth to bedrock	0.42
BdC:						
Badin	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	1.00	Slope	0.63	Too clayey	1.00
	Slope	0.63			Slope	0.63
Tarrus	Very limited		Somewhat limited		Somewhat limited	
	Depth to bedrock	1.00	Slope	0.63	Slope	0.63
	Slope	0.63	Depth to bedrock	0.42	Too clayey	0.50
	Too clayey	0.50			Hard to compact	0.50
BeB2:						
Badin, moderately eroded	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	0.50			Too clayey	0.50
Tarrus, moderately eroded	Very limited		Somewhat limited		Somewhat limited	
	Depth to bedrock	1.00	Depth to bedrock	0.42	Too clayey	0.50
	Too clayey	0.50			Hard to compact	0.50
					Depth to bedrock	0.42
BeC2:						
Badin, moderately eroded	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	0.63	Slope	0.63	Slope	0.63
	Too clayey	0.50			Too clayey	0.50

Landfills—Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
Tarrus, moderately eroded	Very limited		Somewhat limited		Somewhat limited	
	Depth to bedrock	1.00	Slope	0.63	Slope	0.63
	Slope	0.63	Depth to bedrock	0.42	Too clayey	0.50
	Too clayey	0.50			Hard to compact	0.50
CaB:						
Callison	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.75	Depth to saturated zone	0.86
	Too clayey	0.50			Too clayey	0.50
Lignum	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to saturated zone	0.75	Too clayey	1.00
	Too clayey	1.00	Depth to bedrock	0.42	Depth to saturated zone	0.86
	Depth to saturated zone	0.99			Depth to bedrock	0.42
CbC:						
Callison	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.75	Depth to saturated zone	0.86
	Too clayey	0.50	Slope	0.01	Too clayey	0.50
Misenheimer	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Slope	0.01	Seepage	0.21
CcB:						
Carbonton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Too clayey	1.00			Too clayey	1.00
Brickhaven	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to saturated zone	0.44	Too clayey	1.00
	Too clayey	1.00	Depth to bedrock	0.32	Depth to saturated zone	0.68
	Depth to saturated zone	0.95			Depth to bedrock	0.32
CcC:						
Carbonton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Slope	0.01	Too clayey	1.00
Brickhaven	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to saturated zone	0.44	Too clayey	1.00
	Too clayey	1.00	Depth to bedrock	0.32	Depth to saturated zone	0.68
	Depth to saturated zone	0.95	Slope	0.01	Depth to bedrock	0.32

Landfills—Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
CcD:						
Carbonton-----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Slope	0.84	Too clayey	1.00
Brickhaven----------	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Slope	0.84	Too clayey	1.00
	Too clayey	1.00	Depth to saturated zone	0.44	Slope	0.84
	Depth to saturated zone	0.95	Depth to bedrock	0.32	Depth to saturated zone	0.68
CeB:						
Cecil---------------	Not limited		Not limited		Somewhat limited	
					Too clayey	0.50
					Hard to compact	0.50
CeC:						
Cecil---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.01	Slope	0.01	Too clayey	0.50
					Hard to compact	0.50
					Slope	0.01
CeD:						
Cecil---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.84	Slope	0.84	Slope	0.84
					Too clayey	0.50
					Hard to compact	0.50
ChA:						
Chewacla------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Seepage, bottom layer	1.00				
Wehadkee------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
CkC:						
Cid-----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to saturated zone	0.99	Too clayey	1.00
	Too clayey	1.00	Slope	0.01	Depth to saturated zone	0.99
CmB:						
Cid-----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to saturated zone	0.99	Too clayey	1.00
	Too clayey	1.00			Depth to saturated zone	0.99

Landfills—Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
Lignum----------------	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to saturated zone	0.75	Too clayey	1.00
	Too clayey	1.00	Depth to bedrock	0.68	Depth to saturated zone	0.86
	Depth to saturated zone	0.99			Depth to bedrock	0.68
CrB:						
Creedmoor-----------	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.92	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
					Depth to saturated zone	0.95
Green Level---------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00			Too clayey	1.00
					Hard to compact	1.00
CrC:						
Creedmoor-----------	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.92	Too clayey	1.00
	Too clayey	1.00	Slope	0.01	Hard to compact	1.00
	Slope	0.01			Depth to saturated zone	0.95
Green Level---------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Slope	0.01	Too clayey	1.00
	Slope	0.01			Hard to compact	1.00
CrD:						
Creedmoor-----------	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.92	Too clayey	1.00
	Too clayey	1.00	Slope	0.84	Hard to compact	1.00
	Slope	0.84			Depth to saturated zone	0.95
Green Level---------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Slope	0.84	Too clayey	1.00
	Slope	0.84			Hard to compact	1.00
DAM:						
Dam-----------------	Not rated		Not rated		Not rated	
GaB:						
Georgeville---------	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
GaC:						
Georgeville---------	Somewhat limited		Somewhat limited		Somewhat limited	
	Too clayey	0.50	Slope	0.01	Too clayey	0.50
	Slope	0.01			Slope	0.01

Landfills—Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
GbB:						
Georgeville	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
GbC:						
Georgeville	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63	Slope	0.63
	Too clayey	0.50			Too clayey	0.50
GeB2:						
Georgeville, moderately eroded	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
GeC2:						
Georgeville, moderately eroded	Somewhat limited		Somewhat limited		Somewhat limited	
	Too clayey	0.50	Slope	0.01	Too clayey	0.50
	Slope	0.01			Slope	0.01
GhB2:						
Georgeville, moderately eroded	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
GhC2:						
Georgeville, moderately eroded	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63	Slope	0.63
	Too clayey	0.50			Too clayey	0.50
GkD:						
Georgeville	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.84	Slope	0.84	Slope	0.84
	Too clayey	0.50			Too clayey	0.50
Badin	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	1.00	Slope	0.84	Too clayey	1.00
	Slope	0.84			Slope	0.84
GkE:						
Georgeville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
Badin	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
GnC:						
Georgeville	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
Urban land	Not rated		Not limited		Not rated	

Landfills—Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
GoC:						
Goldston------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Seepage, bottom layer	1.00	Slope	0.63	Slope	0.63
	Slope	0.63			Large stones content	0.01
Badin---------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	0.63	Slope	0.63	Slope	0.63
	Too clayey	0.50			Too clayey	0.50
GoE:						
Goldston------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Seepage, bottom layer	1.00			Large stones content	0.01
Badin---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
HeB:						
Helena--------------	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.75	Too clayey	1.00
					Depth to saturated zone	0.86
HeC:						
Helena--------------	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.75	Too clayey	1.00
	Slope	0.01	Slope	0.01	Depth to saturated zone	0.86
					Slope	0.01
HrB:						
Herndon-------------	Not limited		Not limited		Somewhat limited	
					Too clayey	0.50
HrC:						
Herndon-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.01	Slope	0.01	Too clayey	0.50
					Slope	0.01
IrB:						
Iredell-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
LsF:						
Louisa--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Seepage, bottom layer	1.00			Seepage	0.50

Landfills—Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
MaA, MaB:						
Mattaponi	Very limited		Not limited		Very limited	
	Too clayey	1.00			Too clayey	1.00
					Hard to compact	1.00
McC:						
Mattaponi	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Slope	0.50	Too clayey	1.00
	Slope	0.50			Hard to compact	1.00
					Slope	0.50
Peawick	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Slope	0.50	Too clayey	1.00
	Depth to saturated zone	0.95	Depth to saturated zone	0.44	Depth to saturated zone	0.68
	Slope	0.50			Slope	0.50
MdB:						
Mayodan	Very limited		Not limited		Very limited	
	Too clayey	1.00			Too clayey	1.00
MdC:						
Mayodan	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Slope	0.01	Too clayey	1.00
	Slope	0.01			Slope	0.01
MgD:						
Mayodan	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Slope	0.84	Too clayey	1.00
	Slope	0.84			Slope	0.84
MhE:						
Mayodan	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
Brickhaven	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to saturated zone	0.44	Too clayey	1.00
	Too clayey	1.00	Depth to bedrock	0.32	Depth to saturated zone	0.68
MrA:						
Merry Oaks	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
Moncure, undrained	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Seepage	0.50
NaB:						
Nanford	Very limited		Somewhat limited		Somewhat limited	
	Depth to bedrock	1.00	Depth to bedrock	0.02	Depth to bedrock	0.02

Landfills—Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
Badin	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	1.00			Too clayey	1.00
NaC:						
Nanford	Very limited		Somewhat limited		Somewhat limited	
	Depth to bedrock	1.00	Depth to bedrock	0.02	Depth to bedrock	0.02
	Slope	0.01	Slope	0.01	Slope	0.01
Badin	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	1.00	Slope	0.01	Too clayey	1.00
	Slope	0.01			Slope	0.01
NaD:						
Nanford	Very limited		Somewhat limited		Somewhat limited	
	Depth to bedrock	1.00	Slope	0.84	Slope	0.84
	Slope	0.84	Depth to bedrock	0.02	Depth to bedrock	0.02
Badin	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	1.00	Slope	0.84	Too clayey	1.00
	Slope	0.84			Slope	0.84
PaE:						
Pacolet	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
PcA:						
Peawick	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Depth to saturated zone	0.44	Too clayey	1.00
	Depth to saturated zone	0.95	Flooding	0.40	Depth to saturated zone	0.68
	Flooding	0.40				
PeA, PeB:						
Peawick	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Depth to saturated zone	0.44	Too clayey	1.00
	Depth to saturated zone	0.95			Depth to saturated zone	0.68
PsB:						
Pittsboro, stony	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
Iredell, stony	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
Qr:						
Pits, quarry	Not rated		Very limited		Not rated	
			Depth to bedrock	1.00		
			Slope	1.00		

Landfills—Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
RvA:						
Riverview	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
StB:						
State	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00				
TuA:						
Turbeville	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
UdC:						
Udorthents, loamy	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.01	Slope	0.01	Slope	0.01
VaB:						
Vance	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Hard to compact	1.00
					Too clayey	1.00
					Seepage	0.50
WdC:						
Wedowee, bouldery	Not limited		Not limited		Not limited	
WdE:						
Wedowee, bouldery	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WeB:						
Wedowee	Not limited		Not limited		Not limited	
WeC:						
Wedowee	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.01	Slope	0.01	Slope	0.01
WeD:						
Wedowee	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.84	Slope	0.84	Slope	0.84
WeE:						
Wedowee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WhB:						
White Store	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.96	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00

Landfills—Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
Polkton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
WhC:						
White Store	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.96	Too clayey	1.00
	Too clayey	1.00	Slope	0.01	Hard to compact	1.00
Polkton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
	Too clayey	1.00	Slope	0.01	Hard to compact	1.00
WhD:						
White Store	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.96	Too clayey	1.00
	Too clayey	1.00	Slope	0.84	Hard to compact	1.00
Polkton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
	Too clayey	1.00	Slope	0.84	Hard to compact	1.00
WtB:						
Wynott	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	1.00			Too clayey	1.00
Enon	Not limited		Not limited		Very limited	
					Too clayey	1.00
WtC:						
Wynott	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	1.00	Slope	0.63	Too clayey	1.00
	Slope	0.63			Slope	0.63
Enon	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Too clayey	1.00
					Slope	0.63
WyB2:						
Wynott, moderately eroded	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	1.00			Too clayey	1.00
Enon, moderately eroded	Not limited		Not limited		Very limited	
					Too clayey	1.00

Landfills—Continued

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
WyC2:						
Wynott, moderately eroded	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	1.00	Slope	0.63	Too clayey	1.00
	Slope	0.63			Slope	0.63
Enon, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.63	Slope	0.63	Too clayey	1.00
					Slope	0.63

Source of Gravel and Sand

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
BaE:				
Badin	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Nanford	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BdB, BdC:				
Badin	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Tarrus	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BeB2, BeC2:				
Badin, moderately eroded	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Tarrus, moderately eroded	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CaB:				
Callison	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Lignum	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CbC:				
Callison	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
Misenheimer	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CcB, CcC, CcD:				
Carbonton	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Source of Gravel and Sand—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
Brickhaven----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CeB, CeB, CeD:				
Cecil---------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
ChA:				
Chewacla------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Wehadkee------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CkC:				
Cid-----------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CmB:				
Cid-----------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
Lignum--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CrB, CrC, CrD:				
Creedmoor-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Green Level---------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.04
DAM:				
Dam-----------------	Not rated		Not rated	
GaB, GaC:				
Georgeville---------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
GbB, GbC:				
Georgeville---------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
GeB2, GeC2:				
Georgeville, moderately eroded--	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00

Source of Gravel and Sand—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
GhB2, GhC2:				
Georgeville, moderately eroded--	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
GkD, GkE:				
Georgeville---------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
Badin---------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
GnC:				
Georgeville---------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Urban land----------	Not rated		Not rated	
GoC, GoE:				
Goldston------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
Badin---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
HeB, HeC:				
Helena--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.01
HrB, HrC:				
Herndon-------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
IrB:				
Iredell-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
LsF:				
Louisa--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MaA, MaB:				
Mattaponi-----------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
McC:				
Mattaponi-----------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00

Source of Gravel and Sand—Continued

Map symbol and soil name	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
Peawick-------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
MdB, MdC:				
Mayodan-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MgD:				
Mayodan-------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
MhE:				
Mayodan-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Brickhaven----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MrA:				
Merry Oaks----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Moncure, undrained--	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
NaB, NaC, NaD:				
Nanford-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Badin---------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
PaE:				
Pacolet-------------	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.01
PcA:				
Peawick-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
PeA, PeB:				
Peawick-------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
PsB:				
Pittsboro, stony----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Source of Gravel and Sand—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
Iredell, stony------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Qr:				
Pits, quarry--------	Not rated		Not rated	
RvA:				
Riverview-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
StB:				
State---------------	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
TuA:				
Turbeville----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
UdC:				
Udorthents, loamy---	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
VaB:				
Vance---------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.01
	Thickest layer	0.00	Bottom layer	0.03
WdC, WdE:				
Wedowee, bouldery---	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
WeB, WeC, WeD, WeE:				
Wedowee-------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
WhB, WhC, WhD:				
White Store---------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.04
Polkton-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
WtB, WtC:				
Wynott--------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
Enon----------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00

Source of Gravel and Sand—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
WyB2, WyC2:				
Wynott, moderately eroded	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Enon, moderately eroded	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Source of Reclamation Material, Roadfill, and Topsoil

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
BaE:						
Badin	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
	Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
	Too acid	0.50	Slope	0.08	Too acid	0.50
Nanford	Poor		Fair		Poor	
	Too clayey	0.00	Slope	0.08	Slope	0.00
	Organic matter content low	0.02	Low strength	0.10	Too clayey	0.00
	Too acid	0.50	Depth to bedrock	0.98	Too acid	0.88
BdB:						
Badin	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Too acid	0.50
	Too acid	0.50	Shrink-swell	0.87	Rock fragments	0.50
Tarrus	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.58	Rock fragments	0.88
	Too acid	0.50			Too acid	0.88
BdC:						
Badin	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Slope	0.37
	Too acid	0.50	Shrink-swell	0.87	Too acid	0.50
Tarrus	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.58	Slope	0.37
	Too acid	0.50			Rock fragments	0.88
BeB2:						
Badin, moderately eroded	Fair		Poor		Fair	
	Too clayey	0.08	Depth to bedrock	0.00	Too clayey	0.05
	Organic matter content low	0.12	Low strength	0.00	Too acid	0.50
	Too acid	0.50	Shrink-swell	0.87	Rock fragments	0.50
Tarrus, moderately eroded	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.58	Rock fragments	0.88
	Too acid	0.50			Too acid	0.88

Source of Reclamation Material, Roadfill, and Topsoil—Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
BeC2:						
Badin, moderately eroded	Fair		Poor		Fair	
	Too clayey	0.08	Depth to bedrock	0.00	Too clayey	0.05
	Organic matter content low	0.12	Low strength	0.00	Slope	0.37
			Shrink-swell	0.87	Too acid	0.50
	Too acid	0.50				
Tarrus, moderately eroded	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.58	Slope	0.37
					Rock fragments	0.88
	Too acid	0.50				
CaB:						
Callison	Fair		Poor		Fair	
	Organic matter content low	0.12	Depth to bedrock	0.00	Wetness depth	0.53
			Low strength	0.00	Depth to bedrock	0.58
	Too acid	0.50	Wetness depth	0.53	Too acid	0.76
	Depth to bedrock	0.58				
Lignum	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Wetness depth	0.53	Hard to reclaim (rock fragments)	0.18
			Depth to bedrock	0.58		
	Too acid	0.50			Wetness depth	0.53
CbC:						
Callison	Fair		Poor		Fair	
	Organic matter content low	0.12	Depth to bedrock	0.00	Wetness depth	0.53
			Low strength	0.00	Depth to bedrock	0.58
	Too acid	0.50	Wetness depth	0.53	Too acid	0.76
	Depth to bedrock	0.58				
Misenheimer	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Depth to bedrock	0.00	Wetness depth	0.04	Rock fragments	0.00
	Organic matter content low	0.12			Wetness depth	0.04
CcB:						
Carbonton	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Too clayey	0.00	Low strength	0.00	Wetness depth	0.12
	Organic matter content low	0.02	Wetness depth	0.12	Too acid	0.32
Brickhaven	Poor		Poor		Poor	
	Wind erosion	0.00	Low strength	0.00	Too clayey	0.00
	Too clayey	0.00	Depth to bedrock	0.68	Too acid	0.32
	Organic matter content low	0.02	Wetness depth	0.76	Wetness depth	0.76

Source of Reclamation Material, Roadfill, and Topsoil—Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
CcC:						
Carbonton-----------	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Too clayey	0.00	Low strength	0.00	Wetness depth	0.12
	Organic matter content low	0.02	Wetness depth	0.12	Too acid	0.32
Brickhaven----------	Poor		Poor		Poor	
	Wind erosion	0.00	Low strength	0.00	Too clayey	0.00
	Too clayey	0.00	Depth to bedrock	0.68	Too acid	0.32
	Organic matter content low	0.02	Wetness depth	0.76	Wetness depth	0.76
CcD:						
Carbonton-----------	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Too clayey	0.00	Low strength	0.00	Wetness depth	0.12
	Organic matter content low	0.02	Wetness depth	0.12	Slope	0.16
Brickhaven----------	Poor		Poor		Poor	
	Wind erosion	0.00	Low strength	0.00	Too clayey	0.00
	Too clayey	0.00	Depth to bedrock	0.68	Slope	0.16
	Organic matter content low	0.02	Wetness depth	0.76	Too acid	0.32
CeB, CeC:						
Cecil---------------	Poor		Good		Poor	
	Too clayey	0.00			Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.88
	Too acid	0.16				
CeD:						
Cecil---------------	Poor		Good		Poor	
	Too clayey	0.00			Too clayey	0.00
	Organic matter content low	0.12			Slope	0.16
	Too acid	0.16			Too acid	0.88
ChA:						
Chewacla------------	Fair		Poor		Fair	
	Too acid	0.68	Low strength	0.00	Wetness depth	0.04
	Water erosion	0.90	Wetness depth	0.04		
Wehadkee------------	Fair		Poor		Poor	
	Too acid	0.68	Wetness depth	0.00	Wetness depth	0.00
	Water erosion	0.90	Low strength	0.00		
CkC:						
Cid-----------------	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.14
			Wetness depth	0.14	Depth to bedrock	0.39
	Droughty	0.32				

Source of Reclamation Material, Roadfill, and Topsoil—Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
CmB:						
Cid	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.14
			Wetness depth	0.14	Depth to bedrock	0.39
	Droughty	0.32				
Lignum	Fair		Poor		Fair	
	Organic matter content low	0.12	Low strength	0.00	Too clayey	0.29
			Depth to bedrock	0.32	Wetness depth	0.53
	Too acid	0.50	Wetness depth	0.53	Too acid	0.88
	Too clayey	0.50				
CrB, CrC:						
Creedmoor	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.22	Hard to reclaim (dense layer)	0.00
	Organic matter content low	0.02	Wetness depth	0.32		
			Wetness depth	0.32	Too clayey	0.00
	Too acid	0.08	Shrink-swell	0.67	Wetness depth	0.32
Green Level	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.00	Wetness depth	0.04
			Wetness depth	0.04	Sodium content	0.22
	Sodium content	0.22				
CrD:						
Creedmoor	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.22	Hard to reclaim (dense layer)	0.00
	Organic matter content low	0.02	Wetness depth	0.32		
			Shrink-swell	0.67	Too clayey	0.00
	Too acid	0.08	Shrink-swell	0.67	Slope	0.16
Green Level	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.00	Wetness depth	0.04
			Wetness depth	0.04	Slope	0.16
	Sodium content	0.22				
DAM:						
Dam	Not rated		Not rated		Not rated	
GaB, GaC:						
Georgeville	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.88
	Too acid	0.32				
GbB:						
Georgeville	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.88
	Too acid	0.32				

Source of Reclamation Material, Roadfill, and Topsoil—Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GbC:						
Georgeville---------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12			Slope	0.37
	Too acid	0.32			Too acid	0.88
GeB2, GeC2:						
Georgeville, moderately eroded--	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.88
	Too acid	0.32				
GhB2:						
Georgeville, moderately eroded--	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.88
	Too acid	0.32				
GhC2:						
Georgeville, moderately eroded--	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12			Slope	0.37
	Too acid	0.32			Too acid	0.88
GkD:						
Georgeville---------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12			Slope	0.16
	Too acid	0.32			Too acid	0.88
Badin---------------	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Slope	0.16
			Shrink-swell	0.89	Too acid	0.50
	Too acid	0.50				
GkE:						
Georgeville---------	Poor		Fair		Poor	
	Too clayey	0.00	Slope	0.08	Slope	0.00
	Organic matter content low	0.12	Low strength	0.10	Too clayey	0.00
					Too acid	0.88
	Too acid	0.32				
Badin---------------	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
	Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
			Slope	0.08	Too acid	0.50
	Too acid	0.50				

Source of Reclamation Material, Roadfill, and Topsoil—Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
GnC:						
Georgeville	Poor		Good		Poor	
	Too clayey	0.00			Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.88
	Too acid	0.32				
Urban land	Not rated		Not rated		Not rated	
GoC:						
Goldston	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Depth to bedrock	0.00			Rock fragments	0.00
	Too acid	0.50			Slope	0.37
Badin	Fair		Poor		Poor	
	Organic matter content low	0.02	Depth to bedrock	0.00	Rock fragments	0.00
	Too acid	0.50	Low strength	0.78	Slope	0.37
	Depth to bedrock	0.58			Too acid	0.50
GoE:						
Goldston	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
	Too acid	0.50			Rock fragments	0.00
Badin	Fair		Poor		Poor	
	Organic matter content low	0.02	Depth to bedrock	0.00	Slope	0.00
	Too acid	0.50	Slope	0.00	Rock fragments	0.00
	Depth to bedrock	0.58	Low strength	0.78	Too acid	0.50
HeB, HeC:						
Helena	Poor		Fair		Poor	
	Too clayey	0.00	Wetness depth	0.53	Too clayey	0.00
	Organic matter content low	0.02	Shrink-swell	0.98	Too acid	0.50
	Too acid	0.08			Wetness depth	0.53
HrB, HrC:						
Herndon	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Too acid	0.12			Too acid	0.59
	Organic matter content low	0.12				
IrB:						
Iredell	Poor		Poor		Poor	
	Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
	Organic matter content low	0.02	Low strength	0.00	Wetness depth	0.14
	Too acid	0.97	Wetness depth	0.14	Rock fragments	0.50

Source of Reclamation Material, Roadfill, and Topsoil—Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
LsF:						
Louisa---------------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
	Organic matter content low	0.12			Rock fragments	0.00
MaA, MaB:						
Mattaponi-----------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.92	Too acid	0.88
	Too acid	0.32				
McC:						
Mattaponi-----------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.92	Slope	0.50
	Too acid	0.32			Too acid	0.88
Peawick-------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Too acid	0.08	Shrink-swell	0.12	Slope	0.50
	Organic matter content low	0.12	Wetness depth	0.76	Too acid	0.50
MdB, MdC:						
Mayodan-------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.02	Shrink-swell	0.97	Too acid	0.88
	Too acid	0.32				
MgD:						
Mayodan-------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.02	Shrink-swell	0.97	Slope	0.16
	Too acid	0.32			Too acid	0.88
MhE:						
Mayodan-------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Slope	0.00
	Organic matter content low	0.02	Slope	0.08	Too clayey	0.00
			Shrink-swell	0.97	Too acid	0.88
	Too acid	0.32				
Brickhaven----------	Poor		Poor		Poor	
	Wind erosion	0.00	Low strength	0.00	Slope	0.00
	Too clayey	0.00	Slope	0.08	Too clayey	0.00
	Organic matter content low	0.02	Depth to bedrock	0.68	Too acid	0.32

Source of Reclamation Material, Roadfill, and Topsoil—Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
MrA:						
Merry Oaks	Fair		Poor		Poor	
	Organic matter content low	0.08	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.54	Shrink-swell	0.98	Too clayey	0.52
	Too clayey	0.92			Too acid	0.98
Moncure, undrained	Fair		Poor		Poor	
	Organic matter content low	0.08	Wetness depth	0.00	Wetness depth	0.00
	Too acid	0.54	Shrink-swell	0.99	Too clayey	0.5
	Too clayey	0.92			Too acid	0.98
NaB, NaC:						
Nanford	Poor		Fair		Poor	
	Too clayey	0.00	Depth to bedrock	0.98	Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.88
	Too acid	0.50			Rock fragments	0.97
Badin	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Too acid	0.50
	Too acid	0.50	Shrink-swell	0.89	Rock fragments	0.50
NaD:						
Nanford	Poor		Fair		Poor	
	Too clayey	0.00	Depth to bedrock	0.98	Too clayey	0.00
	Organic matter content low	0.12			Slope	0.16
	Too acid	0.50			Too acid	0.88
Badin	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Slope	0.16
	Too acid	0.50	Shrink-swell	0.89	Too acid	0.50
PaE:						
Pacolet	Poor		Fair		Poor	
	Too clayey	0.00	Slope	0.50	Slope	0.00
	Organic matter content low	0.02			Too clayey	0.00
	Too acid	0.54			Too acid	0.98
PcA:						
Peawick	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Too acid	0.08	Shrink-swell	0.12	Too acid	0.50
	Organic matter content low	0.12	Wetness depth	0.76	Wetness depth	0.76
PeA, PeB:						
Peawick	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Too acid	0.08	Shrink-swell	0.12	Too acid	0.50
	Organic matter content low	0.12	Wetness depth	0.76	Wetness depth	0.76

Source of Reclamation Material, Roadfill, and Topsoil—Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PsB:						
Pittsboro, stony----	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.14
			Wetness depth	0.14	Depth to bedrock	0.99
	Too acid	0.92				
Iredell, stony------	Poor		Fair		Poor	
	Too clayey	0.00	Shrink-swell	0.07	Too clayey	0.00
	Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
					Rock fragments	0.50
	Too acid	0.97				
Qr:						
Pits, quarry--------	Not rated		Not rated		Not rated	
RvA:						
Riverview-----------	Fair		Fair		Fair	
	Too acid	0.54	Low strength	0.22	Too acid	0.98
	Organic matter content low	0.88				
StB:						
State---------------	Fair		Good		Fair	
	Too acid	0.12			Too acid	0.59
	Organic matter content low	0.12				
TuA:						
Turbeville----------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.02	Shrink-swell	0.93	Too acid	0.88
	Too acid	0.50				
UdC:						
Udorthents, loamy---	Fair		Fair		Not rated	
	Organic matter content low	0.50	Low strength	0.78		
			Shrink-swell	0.87		
	Too acid	0.97				
VaB:						
Vance---------------	Poor		Good		Poor	
	Too clayey	0.00			Too clayey	0.00
	Organic matter content low	0.02			Too acid	0.88
	Too acid	0.32				
WdC:						
Wedowee, bouldery---	Poor		Good		Poor	
	Too clayey	0.00			Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.88
	Too acid	0.50				

Source of Reclamation Material, Roadfill, and Topsoil—Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
WdE:						
Wedowee, bouldery---	Poor		Poor		Poor	
	Too clayey	0.00	Slope	0.00	Slope	0.00
	Organic matter content low	0.12			Too clayey	0.00
	Too acid	0.50			Too acid	0.88
WeB, WeC:						
Wedowee-------------	Poor		Good		Poor	
	Too clayey	0.00			Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.88
	Too acid	0.50				
WeD:						
Wedowee-------------	Poor		Good		Poor	
	Too clayey	0.00			Too clayey	0.00
	Organic matter content low	0.12			Slope	0.16
	Too acid	0.50			Too acid	0.88
WeE:						
Wedowee-------------	Poor		Fair		Poor	
	Too clayey	0.00	Slope	0.82	Slope	0.00
	Organic matter content low	0.12			Too clayey	0.00
	Too acid	0.50			Too acid	0.88
WhB, WhC						
White Store---------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.00	Wetness depth	0.04
			Wetness depth	0.04	Too acid	0.88
	Too acid	0.50				
Polkton-------------	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.02	Low strength	0.00	Wetness depth	0.53
			Shrink-swell	0.00	Depth to bedrock	0.79
	Too acid	0.50				
WhD:						
White Store---------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.00	Wetness depth	0.04
			Wetness depth	0.04	Slope	0.16
	Too acid	0.50				
Polkton-------------	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.02	Low strength	0.00	Slope	0.16
			Shrink-swell	0.00	Wetness depth	0.53
	Too acid	0.50				
WtB:						
Wynott--------------	Fair		Poor		Fair	
	Depth to bedrock	0.58	Depth to bedrock	0.00	Depth to bedrock	0.58
	Droughty	0.66	Low strength	0.00		
	Too acid	0.68	Shrink-swell	0.92		

Source of Reclamation Material, Roadfill, and Topsoil—Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Enon----------------	Poor		Fair		Poor	
	Too clayey	0.00	Shrink-swell	0.86	Too clayey	0.00
	Organic matter content low	0.12			Hard to reclaim (rock fragments)	0.98
	Too acid	0.84				
WtC:						
Wynott--------------	Fair		Poor		Fair	
	Depth to bedrock	0.58	Depth to bedrock	0.00	Slope	0.37
	Droughty	0.66	Low strength	0.00	Depth to bedrock	0.58
	Too acid	0.68	Shrink-swell	0.92		
Enon----------------	Poor		Fair		Poor	
	Too clayey	0.00	Shrink-swell	0.86	Too clayey	0.00
	Organic matter content low	0.12			Slope	0.37
	Too acid	0.84			Hard to reclaim (rock fragments)	0.98
WyB2:						
Wynott, moderately eroded-------------	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Depth to bedrock	0.58
	Depth to bedrock	0.58	Shrink-swell	0.76		
Enon, moderately eroded-------------	Poor		Fair		Poor	
	Too clayey	0.00	Shrink-swell	0.86	Too clayey	0.00
	Organic matter content low	0.12			Hard to reclaim (rock fragments)	0.98
	Too acid	0.84				
WyC2:						
Wynott, moderately eroded-------------	Poor		Poor		Poor	
	Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Slope	0.37
	Depth to bedrock	0.58	Shrink-swell	0.76	Depth to bedrock	0.58
Enon, moderately eroded-------------	Poor		Fair		Poor	
	Too clayey	0.00	Shrink-swell	0.86	Too clayey	0.00
	Organic matter content low	0.12			Slope	0.37
	Too acid	0.84			Hard to reclaim (rock fragments)	0.98

Ponds and Embankments

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
BaE:						
Badin	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.79	Depth to water	1.00
	Slope	0.21	Hard to pack	0.02		
	Depth to bedrock	0.07				
Nanford	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.01	Depth to water	1.00
	Slope	0.21	Hard to pack	0.01		
	Depth to bedrock	0.01				
BdB:						
Badin	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.85	Depth to water	1.00
	Depth to bedrock	0.11				
Tarrus	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.11	Depth to water	1.00
	Depth to bedrock	0.01	Hard to pack	0.06		
BdC:						
Badin	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.85	Depth to water	1.00
	Depth to bedrock	0.11	Hard to pack	0.02		
	Slope	0.01				
Tarrus	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.11	Depth to water	1.00
	Slope	0.01	Hard to pack	0.06		
	Depth to bedrock	0.01				
BeB2:						
Badin, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.85	Depth to water	1.00
	Depth to bedrock	0.11				
Tarrus, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.15	Depth to water	1.00
	Depth to bedrock	0.01	Thin layer	0.11		
BeC2:						
Badin, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.85	Depth to water	1.00
	Depth to bedrock	0.11				
	Slope	0.01				
Tarrus, moderately eroded	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.15	Depth to water	1.00
	Slope	0.01	Thin layer	0.11		
	Depth to bedrock	0.01				

Ponds and Embankments—Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
CaB:						
Callison------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.43	Depth to saturated zone	0.99	Depth to water	1.00
	Depth to bedrock	0.11	Thin layer	0.85		
			Piping	0.58		
Lignum--------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.43	Depth to saturated zone	0.99	Depth to water	1.00
	Depth to bedrock	0.01	Thin layer	0.11		
			Hard to pack	0.08		
CbC:						
Callison------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.43	Depth to saturated zone	0.99	Depth to water	1.00
	Depth to bedrock	0.11	Thin layer	0.85		
			Piping	0.58		
Misenheimer---------	Somewhat limited		Very limited		Very limited	
	Depth to bedrock	0.66	Depth to saturated zone	1.00	Depth to water	1.00
	Seepage	0.43	Thin layer	1.00		
CcB, CcC:						
Carbonton-----------	Somewhat limited		Very limited		Very limited	
	Depth to bedrock	0.04	Depth to saturated zone	1.00	Depth to water	1.00
	Seepage	0.03	Thin layer	0.73		
			Piping	0.21		
Brickhaven----------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.03	Depth to saturated zone	0.95	Depth to water	1.00
	Depth to bedrock	0.01	Thin layer	0.08		
			Piping	0.01		
CcD:						
Carbonton-----------	Somewhat limited		Very limited		Very limited	
	Depth to bedrock	0.04	Depth to saturated zone	1.00	Depth to water	1.00
	Seepage	0.03				
	Slope	0.01	Thin layer	0.73		
			Piping	0.21		
Brickhaven----------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.03	Depth to saturated zone	0.95	Depth to water	1.00
	Slope	0.01				
	Depth to bedrock	0.01	Thin layer	0.08		
			Piping	0.01		
CeB, CeC:						
Cecil---------------	Somewhat limited		Not limited		Very limited	
	Seepage	0.70			Depth to water	1.00
CeD:						
Cecil---------------	Somewhat limited		Not limited		Very limited	
	Seepage	0.70			Depth to water	1.00
	Slope	0.01				

Ponds and Embankments—Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
ChA:						
Chewacla	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.91		
Wehadkee	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.96		
CkC:						
Cid	Somewhat limited		Very limited		Very limited	
	Depth to bedrock	0.69	Depth to saturated zone	1.00	Depth to water	1.00
	Seepage	0.43				
			Thin layer	0.90		
			Hard to pack	0.01		
CmB:						
Cid	Somewhat limited		Very limited		Very limited	
	Depth to bedrock	0.69	Depth to saturated zone	1.00	Depth to water	1.00
	Seepage	0.43				
			Thin layer	0.90		
			Hard to pack	0.01		
Lignum	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Depth to saturated zone	0.99	Depth to water	1.00
	Depth to bedrock	0.01				
			Hard to pack	0.34		
			Thin layer	0.18		
CrB, CrC:						
Creedmoor	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.22		
Green Level	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
			Hard to pack	1.00		
			Seepage	0.04		
CrD:						
Creedmoor	Somewhat limited		Very limited		Very limited	
	Slope	0.01	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.22		
Green Level	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
	Slope	0.01	Hard to pack	1.00		
			Seepage	0.04		
DAM:						
Dam	Not rated		Not rated		Not rated	

Ponds and Embankments—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GaB, GaC:						
Georgeville---------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.17	Depth to water	1.00
GbB:						
Georgeville---------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.51	Depth to water	1.00
GbC:						
Georgeville---------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.51	Depth to water	1.00
	Slope	0.01				
GeB2, GeC2:						
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.07	Depth to water	1.00
GhB2:						
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Hard to pack	0.03	Depth to water	1.00
GhC2:						
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Hard to pack	0.03	Depth to water	1.00
	Slope	0.01				
GkD:						
Georgeville---------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.17	Depth to water	1.00
	Slope	0.01				
Badin---------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.79	Depth to water	1.00
	Depth to bedrock	0.07	Hard to pack	0.02		
	Slope	0.01				
GkE:						
Georgeville---------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.17	Depth to water	1.00
	Slope	0.21				
Badin---------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.79	Depth to water	1.00
	Slope	0.21	Hard to pack	0.02		
	Depth to bedrock	0.07				
GnC:						
Georgeville---------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.38	Depth to water	1.00
Urban land----------	Not limited		Not rated		Not rated	

Ponds and Embankments—Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
GoC:						
Goldston	Somewhat limited		Very limited		Very limited	
	Depth to bedrock	0.66	Thin layer	1.00	Depth to water	1.00
	Seepage	0.43	Large stones content	0.01		
	Slope	0.01				
Badin	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.85	Depth to water	1.00
	Depth to bedrock	0.11	Piping	0.25		
	Slope	0.01				
GoE:						
Goldston	Somewhat limited		Very limited		Very limited	
	Depth to bedrock	0.66	Thin layer	1.00	Depth to water	1.00
	Slope	0.50	Large stones content	0.01		
	Seepage	0.43				
Badin	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.85	Depth to water	1.00
	Slope	0.50	Piping	0.25		
	Depth to bedrock	0.11				
HeB, HeC:						
Helena	Somewhat limited		Very limited		Very limited	
	Seepage	0.95	Depth to saturated zone	0.99	Depth to water	1.00
			Seepage	0.01		
HrB, HrC:						
Herndon	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Hard to pack	0.01	Depth to water	1.00
IrB:						
Iredell	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.43	Depth to saturated zone	1.00	Slow refill	0.57
					Cutbanks cave	0.10
LsF:						
Louisa	Somewhat limited		Very limited		Very limited	
	Slope	0.72	Thin layer	1.00	Depth to water	1.00
	Depth to bedrock	0.66				
	Seepage	0.43				
MaA, MaB:						
Mattaponi	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.05	Piping	0.02	Depth to water	1.00
McC:						
Mattaponi	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.05	Piping	0.02	Depth to water	1.00
	Slope	0.01				
Peawick	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.01	Depth to saturated zone	0.95	Depth to water	1.00
			Hard to pack	0.30		

Ponds and Embankments—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MdB, MdC:						
Mayodan-------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.01	Depth to water	1.00
MgD:						
Mayodan-------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.01	Depth to water	1.00
	Slope	0.01				
MhE:						
Mayodan-------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.01	Depth to water	1.00
	Slope	0.21				
Brickhaven----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.21	Depth to saturated zone	0.95	Depth to water	1.00
	Seepage	0.03				
	Depth to bedrock	0.01	Piping	0.22		
			Thin layer	0.08		
MrA:						
Merry Oaks----------	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.97		
Moncure, undrained--	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		
			Piping	0.99		
NaB, NaC:						
Nanford-------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.47	Depth to water	1.00
	Depth to bedrock	0.01	Thin layer	0.01		
Badin---------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.79	Depth to water	1.00
	Depth to bedrock	0.07	Hard to pack	0.02		
NaC:						
Nanford-------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.47	Depth to water	1.00
	Depth to bedrock	0.01	Thin layer	0.01		
Badin---------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.79	Depth to water	1.00
	Depth to bedrock	0.07	Hard to pack	0.02		
NaD:						
Nanford-------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.47	Depth to water	1.00
	Slope	0.01	Thin layer	0.01		
	Depth to bedrock	0.01				

Ponds and Embankments—Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
Badin----------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.79	Depth to water	1.00
	Depth to bedrock	0.07	Hard to pack	0.02		
	Slope	0.01				
PaE:						
Pacolet--------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Seepage	0.01	Depth to water	1.00
	Slope	0.12				
PcA:						
Peawick--------------	Not limited		Somewhat limited		Very limited	
			Depth to saturated zone	0.95	Depth to water	1.00
			Hard to pack	0.30		
PeA, PeB:						
Peawick--------------	Not limited		Somewhat limited		Very limited	
			Depth to saturated zone	0.95	Depth to water	1.00
			Hard to pack	0.30		
PsB:						
Pittsboro, stony----	Somewhat limited		Very limited		Somewhat limited	
	Depth to bedrock	0.32	Depth to saturated zone	1.00	Slow refill	0.95
	Seepage	0.05			Depth to hard bedrock	0.92
			Thin layer	0.56		
			Hard to pack	0.12	Cutbanks cave	0.10
Iredell, stony------	Somewhat limited		Very limited		Very limited	
	Seepage	0.57	Depth to saturated zone	1.00	Depth to water	1.00
			Piping	0.01		
Qr:						
Pits, quarry--------	Very limited		Not rated		Not rated	
	Depth to bedrock	1.00				
	Slope	1.00				
RvA:						
Riverview-----------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.70	Piping	1.00	Depth to saturated zone	0.81
					Slow refill	0.30
					Cutbanks cave	0.10
StB:						
State---------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.01	Depth to water	1.00
TuA:						
Turbeville----------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Hard to pack	0.33	Depth to water	1.00
			Seepage	0.01		
UdC:						
Udorthents, loamy---	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.43	Piping	0.59	Depth to water	1.00

Ponds and Embankments—Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
VaB:						
Vance	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.03	Depth to water	1.00
WdC:						
Wedowee, bouldery	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Piping	1.00	Depth to water	1.00
WdE:						
Wedowee, bouldery	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Piping	1.00	Depth to water	1.00
	Slope	0.28				
WeB, WeC:						
Wedowee	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Piping	1.00	Depth to water	1.00
WeD:						
Wedowee	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Piping	1.00	Depth to water	1.00
	Slope	0.01				
WeE:						
Wedowee	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Piping	1.00	Depth to water	1.00
	Slope	0.08				
WhB, WhC:						
White Store	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
	Depth to bedrock	0.01				
			Hard to pack	0.96		
			Thin layer	0.37		
Polkton	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	0.99	Slow refill	0.30
	Depth to bedrock	0.06			Cutbanks cave	0.10
			Thin layer	0.77	Depth to saturated zone	0.01
			Hard to pack	0.58		
WhD:						
White Store	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
	Slope	0.01	Hard to pack	0.96		
	Depth to bedrock	0.01	Thin layer	0.37		
Polkton	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	0.99	Slow refill	0.30
	Depth to bedrock	0.06	Thin layer	0.77	Cutbanks cave	0.10
	Slope	0.01	Hard to pack	0.58	Depth to saturated zone	0.01
WtB:						
Wynott	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.43	Thin layer	0.85	Depth to water	1.00
	Depth to bedrock	0.11				

Ponds and Embankments—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Enon----------------	Somewhat limited		Not limited		Very limited	
	Seepage	0.57			Depth to water	1.00
WtC:						
Wynott--------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.43	Thin layer	0.85	Depth to water	1.00
	Depth to bedrock	0.11				
	Slope	0.01				
Enon----------------	Somewhat limited		Not limited		Very limited	
	Seepage	0.57			Depth to water	1.00
	Slope	0.01				
WyB2:						
Wynott, moderately eroded-------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.43	Thin layer	0.85	Depth to water	1.00
	Depth to bedrock	0.11	Hard to pack	0.42		
Enon, moderately eroded-------------	Somewhat limited		Not limited		Very limited	
	Seepage	0.57			Depth to water	1.00
WyC2:						
Wynott, moderately eroded-------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.43	Thin layer	0.85	Depth to water	1.00
	Depth to bedrock	0.11	Hard to pack	0.42		
	Slope	0.01				
Enon, moderately eroded-------------	Somewhat limited		Not limited		Very limited	
	Seepage	0.57			Depth to water	1.00
	Slope	0.01				

Engineering Properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
BaE:												
Badin-----------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	85-100	75-95	65-90	60-85	25-40	5-15
	6-24	Clay, silty clay, channery silty clay loam	CH, CL, ML	A-7	0	0-5	65-100	60-100	55-100	50-98	45-65	15-35
	24-32	Silty clay, channery silty clay loam, clay loam	CH, CL, ML	A-7	0	0-5	65-100	60-100	55-100	50-98	45-65	15-35
	32-80	Weathered bedrock			---	---	---	---	---	---	---	---
Nanford---------	0-3	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	80-100	75-100	55-95	50-85	15-35	NP-15
	3-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	80-100	75-100	55-95	50-85	15-35	NP-15
	7-12	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0-5	80-100	75-100	70-95	65-90	40-60	15-30
	12-27	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0-5	80-100	75-100	70-95	65-90	40-60	15-30
	27-38	Silty clay loam, silt loam, loam	CL, GC-GM	A-2, A-4, A-6	0	0-5	80-100	75-100	70-95	65-90	40-60	15-30
	38-57	Loam, silt loam, silty clay loam	CL, GC-GM	A-2, A-4, A-6	0	0-5	80-100	75-100	70-95	65-90	40-60	14-30
	57-80	Weathered bedrock			---	---	---	---	---	---	---	---
BdB:												
Badin-----------	0-6	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0-5	85-100	75-95	65-90	60-85	25-40	5-15
	6-24	Silty clay, silty clay loam, clay	CH, CL, ML	A-7	0	0-5	65-100	60-100	55-100	50-98	30-65	15-35
	24-32	Silty clay, silty clay loam, clay loam	CH, CL, ML	A-7	0	0-5	65-100	60-100	55-100	50-98	30-65	15-35
	32-80	Weathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Tarrus----------	0-6	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0-5	85-100	80-100	65-100	60-90	20-35	NP-11
	6-20	Silty clay, channery silty clay loam, clay	CH, MH	A-7	0	0-5	75-100	75-95	60-95	55-95	41-85	15-45
	20-44	Clay, silty clay, channery silty clay loam	CH, MH	A-7	0	0-5	75-100	75-95	60-95	55-95	41-85	15-45
	44-80	Weathered bedrock			---	---	---	---	---	---	---	---
BdC:												
Badin-----------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	85-100	75-95	65-90	60-85	25-40	5-15
	6-24	Clay, silty clay, silty clay loam	CL, CH, ML	A-7	0	0-5	65-100	60-100	55-100	50-98	45-65	15-35
	24-32	Silty clay, silty clay loam, clay loam	CH, CL, ML	A-7	0	0-5	65-100	60-100	55-100	50-98	45-65	15-35
	32-80	Weathered bedrock			---	---	---	---	---	---	---	---
Tarrus----------	0-6	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0-5	85-100	80-100	65-100	60-90	20-35	NP-11
	6-20	Silty clay, channery silty clay loam, clay	CH, MH	A-7	0	0-5	75-100	75-95	60-95	55-95	41-85	15-45
	20-44	Clay, silty clay, channery silty clay loam	CH, MH	A-7	0	0-5	75-100	75-95	60-95	55-95	41-85	15-45
	44-80	Weathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
BeB2:												
Badin, moderately eroded---------	0-8	Silty clay loam	CL, ML	A-6, A-7	0	0-5	85-100	75-95	65-90	60-85	30-49	11-20
	8-27	Silty clay loam, silty clay, clay	CH, CL, ML	A-7, A-6	0	0-5	65-100	60-100	55-100	50-98	30-65	15-35
	27-37	Silty clay loam, silty clay, clay	CH, CL, ML	A-7, A-6	0	0-5	65-100	60-100	55-100	50-98	30-65	15-35
	37-80	Weathered bedrock			---	---	---	---	---	---	---	---
Tarrus, moderately eroded---------	0-10	Silty clay loam, clay loam	CL, ML	A-6, A-7	0	0-5	85-100	75-90	65-90	60-85	24-49	3-20
	10-32	Silty clay, clay, channery silty clay loam	CH, MH	A-7	0	0-5	75-100	75-95	60-95	55-95	41-85	15-45
	32-47	Silt loam, silty clay loam, channery silty clay loam, silty clay	CL-ML, CL, ML	A-6, A-4	0	0-5	65-100	60-100	55-100	50-98	15-30	NP-12
	47-80	Weathered bedrock			---	---	---	---	---	---	---	---
BeC2:												
Badin, moderately eroded---------	0-8	Silty clay loam	CL, ML	A-6, A-7	0	0-5	85-100	75-95	65-90	60-85	30-49	11-20
	8-27	Silty clay loam, silty clay, clay	CH, CL, ML	A-6, A-7	0	0-5	65-100	60-100	55-100	50-98	30-65	15-35
	27-37	Silty clay loam, silty clay, clay	CH, CL, ML	A-6, A-7	0	0-5	65-100	60-100	55-100	50-98	30-65	15-35
	37-80	Weathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification Unified	Classification AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Tarrus, moderately eroded---------	0-10	Silty clay loam	CL, ML	A-6, A-7	0	0-5	85-100	75-90	65-90	60-85	24-49	3-20
	10-32	Silty clay, clay, channery silty clay loam	CH, MH	A-7	0	0-5	75-100	75-95	60-95	55-95	41-85	15-45
	32-47	Silt loam, silty clay loam, channery silty clay loam, silty clay	CL-ML, CL, ML	A-6, A-4	0	0-5	65-100	60-100	55-100	50-98	15-30	NP-12
	47-80	Weathered bedrock			---	---	---	---	---	---	---	---
CaB: Callison--------	0-5	Silt loam, fine sandy loam, loam	ML	A-4	0	0-1	90-100	88-100	80-95	70-90	16-40	NP-10
	5-34	Silty clay loam, silt loam	CL	A-4, A-6, A-7, A-5	0	0-1	95-100	90-100	90-98	80-95	20-49	7-26
	34-37	Silt loam, silty clay loam, silty clay	CL	A-4, A-6	0-1	0-2	95-100	90-100	90-98	89-95	16-40	7-27
	37-45	Weathered bedrock			---	---	---	---	---	---	---	---
	45-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Lignum----------	0-2	Silt loam, very fine sandy loam, loam	CL, CL-ML	A-4, A-6	0	0	95-100	80-100	80-100	55-90	20-35	5-19
	2-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	80-100	80-100	55-90	20-35	5-19
	12-39	Silty clay loam, silty clay, clay	CH, CL	A-7	0	0-5	80-100	75-100	70-100	55-90	45-70	22-45
	39-56	Gravelly sandy clay loam, gravelly silty clay loam, silt loam, silty clay loam	CL, ML, SC, SM	A-2, A-4, A-6, A-7	0	0-15	70-85	35-80	30-80	20-75	30-50	8-18
	56-80	Weathered bedrock			---	---	---	---	---	---	---	---
CbC:												
Callison--------	0-5	Silt loam, loam, fine sandy loam	ML	A-4	0	0-1	90-100	88-100	80-95	70-90	16-40	NP-10
	5-34	Silty clay loam, silt loam	CL	A-5, A-4, A-6, A-7	0	0-1	95-100	90-100	90-98	80-95	20-49	7-26
	34-37	Silt loam, silty clay loam, silty clay	CL	A-4, A-6	0-1	0-2	95-100	90-100	90-98	89-95	16-40	7-27
	37-45	Weathered bedrock			---	---	---	---	---	---	---	---
	45-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Misenheimer-----	0-2	Channery silt loam, channery loam	GM, ML, SM	A-2-4, A-4	0-5	0-15	65-90	55-80	30-80	25-75	20-40	NP-10
	2-7	Channery silt loam	GM, ML, SM	A-2-4, A-4	0-5	0-15	65-90	55-80	30-80	25-75	20-40	NP-10
	7-14	Channery silt loam, channery loam, channery silty clay loam	GM, ML, SM	A-4, A-6, A-7, A-2-4	0-5	0-15	65-90	55-80	30-80	25-75	20-45	NP-15
	14-25	Weathered bedrock			---	---	---	---	---	---	---	---
	25-80	Unweathered bedrock			---	---	---	---	---	---	---	---
CcB, CcC, CcD: Carbonton-------	0-8	Silt loam, fine sandy loam, loam	ML	A-4	0	0-1	90-100	88-100	80-95	70-90	16-40	NP-10
	8-12	Silty clay loam, silt loam, loam	ML	A-4	0	0-1	90-100	88-100	80-95	70-90	16-40	NP-10
	12-28	Silty clay, clay, silty clay loam	CL, ML, MH, CH	A-7	0	0-1	95-100	90-100	80-100	50-98	41-80	15-45
	28-34	Silty clay loam, silt loam, loam	ML	A-4	0	0-1	90-100	88-100	80-95	70-90	16-40	NP-10
	34-80	Weathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Brickhaven------	0-4	Silt loam, fine sandy loam, loam	ML	A-4	0	0-1	90-100	88-100	80-95	70-90	16-40	NP-10
	4-7	Silt loam, fine sandy loam, loam	ML	A-4	0	0-1	90-100	88-100	80-95	70-90	16-40	NP-10
	7-12	Silty clay loam, silty clay, clay	ML, MH	A-7	0	0-1	95-100	90-100	80-100	50-98	41-80	12-40
	12-37	Silty clay, clay, silty clay loam	CL, ML, MH, CH	A-7	0	0-1	95-100	90-100	80-100	50-98	41-80	15-45
	37-51	Silty clay loam, silt loam, loam	ML	A-4	0	0-1	90-100	88-100	80-95	70-90	16-40	NP-10
	51-80	Weathered bedrock			---	---	---	---	---	---	---	---
CeB, CeC, CeD: Cecil-----------	0-7	Gravelly sandy loam, gravelly loam, very gravelly sandy loam, sandy loam	SC-SM	A-1-b	0	0-5	60-80	50-75	30-55	15-30	7-25	NP-8
	7-14	Gravelly sandy loam, gravelly loam, very gravelly sandy loam, sandy loam	SC-SM	A-1-b	0	0-5	60-80	50-75	30-55	15-30	7-25	NP-8
	14-35	Clay, clay loam	CH, MH, ML	A-5, A-7	0	0-3	97-100	92-100	72-100	55-95	41-80	9-37
	35-44	Clay loam, sandy clay loam	CL, ML, SC, SM	A-4, A-6	0	0-3	75-100	75-100	68-95	38-81	21-40	3-17
	44-80	Sandy loam, loam	SM	A-4	0-1	0-2	80-100	70-100	60-90	25-50	10-28	NP-6

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
ChA:												
Chewacla--------	0-4	Loam, clay loam, silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	98-100	95-100	70-100	55-90	25-49	4-20
	4-26	Silty clay loam, silt loam, clay loam	CL, ML	A-4, A-6, A-7	0	0	96-100	95-100	80-100	51-98	30-49	4-22
	26-38	Loam, sandy clay loam, sandy loam	SC-SM, SM, ML	A-4, A-6, A-7-6	0	0	96-100	95-100	60-100	36-70	20-45	2-15
	38-60	Clay loam, silt loam, silty clay loam	CH, CL, MH, ML	A-4, A-6, A-7	0	0	85-100	75-100	60-100	51-98	22-61	4-28
	60-80	Loam, sandy loam, fine sandy loam, sandy clay loam	SM, SC-SM, SC, ML, CL	A-2-4, A-4, A-6, A-7-6	0	0	80-100	75-100	45-100	25-80	10-45	NP-18
Wehadkee--------	0-7	Loam, sandy loam, fine sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	100	95-100	60-90	30-50	20-30	NP-10
	7-58	Loam, silty clay loam, sandy clay loam	CL, CL-ML, ML, SC	A-4, A-6, A-7	0	0	100	99-100	85-100	45-98	25-58	6-25
	58-84	Sandy loam, loam, silt loam	SM	A-4, A-2-4	0	0	100	95-100	60-90	30-50	20-30	NP-10

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
CkC:												
Cid-------------	0-2	Silt loam, loam	ML, SM	A-4	0	0-5	90-100	80-100	65-85	35-75	20-35	NP-10
	2-5	Silt loam, loam	ML, SM	A-4	0	0-5	90-100	80-100	65-85	35-75	20-35	NP-10
	5-14	Silty clay, clay, silty clay loam	MH, ML	A-7	0	0-5	90-100	80-100	75-100	60-98	45-70	15-36
	14-24	Silty clay loam, silty clay, clay	MH, ML	A-7	0	0-5	90-100	80-100	75-100	60-98	45-70	15-36
	24-28	Silty clay, clay, silty clay loam	MH, ML	A-7	0	0-5	90-100	80-100	75-100	60-98	45-70	15-36
	28-35	Weathered bedrock			---	---	---	---	---	---	---	---
	35-80	Unweathered bedrock			---	---	---	---	---	---	---	---
CmB:												
Cid-------------	0-2	Silt loam, loam	ML, SM	A-4	0	0-5	90-100	80-100	65-85	35-75	20-35	NP-10
	2-5	Silt loam, loam	ML, SM	A-4	0	0-5	90-100	80-100	65-85	35-75	20-35	NP-10
	5-14	Silty clay, clay, silty clay loam	MH, ML	A-7	0	0-5	90-100	80-100	75-100	60-98	45-70	15-36
	14-24	Silty clay loam, silty clay, clay	MH, ML	A-7	0	0-5	90-100	80-100	75-100	60-98	45-70	15-36
	24-28	Silty clay, clay, silty clay loam	MH, ML	A-7	0	0-5	90-100	80-100	75-100	60-98	45-70	15-36
	28-35	Weathered bedrock			---	---	---	---	---	---	---	---
	35-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Lignum----------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	80-100	80-100	55-90	20-35	5-19
	6-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	80-100	80-100	55-90	20-35	5-19
	11-22	Channery silty clay loam, silty clay, clay	CH, CL	A-7	0	0-5	80-100	75-100	70-100	55-90	45-70	22-45
	22-29	Channery silty clay loam, silty clay, clay	CH, CL	A-7	0	0-5	80-100	75-100	70-100	55-90	45-70	22-45
	29-47	Channery silty clay loam, silty clay, clay	CH, CL	A-7	0	0-5	80-100	75-100	70-100	55-90	45-70	22-45
	47-80	Weathered bedrock			---	---	---	---	---	---	---	---
CrB, CrC, CrD:												
Creedmoor-------	0-5	Sandy loam, loamy sand	SC-SM, SM	A-2, A-4	0	0-2	98-100	95-100	70-90	30-49	15-25	NP-7
	5-10	Sandy loam, loamy sand	SC-SM, SM	A-2, A-4	0	0-2	98-100	95-100	70-90	30-49	15-25	NP-7
	10-15	Sandy clay loam, clay loam, silty clay loam	CL	A-6, A-7	0	0-2	98-100	95-100	85-95	60-80	35-50	20-30
	15-45	Clay, silty clay, sandy clay	CH	A-7	0	0-2	98-100	95-100	85-97	70-95	51-79	25-49
	45-80	Sandy clay loam, silty clay loam, sandy loam	CL-ML, ML, SC, SM	A-4, A-6, A-7	0	0-2	98-100	95-100	85-98	45-90	25-49	4-21

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Green Level-----	0-7	Sandy loam, loamy sand	CL-ML, ML	A-4	0	0-3	95-100	95-100	75-96	56-76	15-25	NP-7
	7-10	Sandy loam, loamy sand	CL-ML, ML	A-4	0	0-3	95-100	95-100	75-96	56-76	15-25	NP-7
	10-13	Sandy loam, sandy clay loam, clay loam	CL	A-6, A-7	0	0-3	95-100	90-100	85-99	80-98	25-50	10-30
	13-51	Clay, sandy clay, silty clay	CH	A-7	0	0-3	95-100	85-100	75-95	55-85	70-92	45-65
	51-65	Clay loam, sandy clay loam, silty clay loam	CL	A-6	0	0-3	95-100	85-100	75-95	55-85	25-50	10-30
	65-80	Sandy loam	CL-ML, ML	A-4	0	0-3	95-100	95-100	75-96	56-76	15-25	NP-7
DAM:												
Dam-------------	---	---	---	---	---	---	---	---	---	---	---	---
GaB, GaC:												
Georgeville-----	0-7	Silt loam	CL-ML, ML	A-4, A-6	0-1	0-2	90-100	80-100	65-100	55-95	10-40	NP-11
	7-10	Silty clay loam	ML	A-6	0-1	0-2	90-100	90-100	85-100	65-98	24-49	3-20
	10-44	Clay, silty clay, silty clay loam	MH, ML	A-7	0	0-1	95-100	95-100	90-100	75-98	41-85	15-45
	44-53	Silty clay loam	ML	A-6	0-1	0-2	90-100	90-100	85-100	65-98	24-49	3-20
	53-80	Loam, silt loam, silty clay loam	CL-ML, ML, CL	A-4, A-6	0	0-5	90-100	90-100	65-100	51-95	10-30	NP-12
GbB, GbC:												
Georgeville-----	0-5	Very fine sandy loam, loam, silt loam	ML	A-4, A-6	0-1	0-2	90-100	80-100	65-100	55-95	15-40	NP-11
	5-50	Silty clay, clay, silty clay loam	CL, ML	A-4, A-6, A-7	0-1	0-1	90-100	90-100	85-100	70-98	30-49	8-20
	50-65	Silty clay loam, silt loam	MH, ML	A-7	0	0-1	95-100	95-100	90-100	75-98	41-85	15-45
	65-80	Loam, silt loam, silty clay loam	CL-ML, ML, CL	A-4, A-6	0	0-5	90-100	90-100	65-100	51-95	10-30	NP-12

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
GeB2, GeC2: Georgeville, moderately eroded---------	0-7	Silty clay loam, clay loam	ML	A-4, A-6, A-7	0-1	0-2	90-100	90-100	85-100	65-98	24-49	3-20
	7-44	Clay, silty clay, silty clay loam	MH, ML	A-7	0	0-1	95-100	95-100	90-100	75-98	41-85	15-45
	44-52	Silty clay loam, clay, silty clay	ML	A-6	0-1	0-2	90-100	90-100	85-100	65-98	24-49	3-20
	52-80	Silt loam, loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0-5	90-100	90-100	65-100	51-95	10-30	NP-12
GhB2, GhC2: Georgeville, moderately eroded---------	0-7	Silty clay loam, clay loam	ML, CL	A-4, A-6, A-7	0-1	0-2	90-100	90-100	85-100	65-98	24-49	3-20
	7-60	Clay, silty clay, silty clay loam	MH, ML	A-7	0	0-1	95-100	95-100	90-100	75-98	41-85	15-45
	60-80	Silty clay loam, loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	90-100	90-100	65-100	51-95	15-30	NP-12
GkD, GkE: Georgeville-----	0-7	Silt loam	ML	A-4, A-6	0-1	0-2	90-100	80-100	65-100	55-95	10-40	NP-11
	7-10	Silty clay loam			0-1	0-2	90-100	90-100	85-100	65-98	24-49	3-20
	10-44	Clay, silty clay, silty clay loam	MH, ML	A-7	0	0-1	95-100	95-100	90-100	75-98	41-85	15-45
	44-53	Silty clay loam			0-1	0-2	90-100	90-100	85-100	65-98	24-49	3-20
	53-80	Loam, silt loam, silty clay loam	CL-ML, ML, CL	A-4, A-6	0	0-5	90-100	90-100	65-100	51-95	10-30	NP-12

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Badin-----------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	85-100	75-95	65-90	60-85	25-40	5-15
	6-24	Clay, silty clay, channery silty clay loam	CH, CL, ML	A-7	0	0-5	65-100	60-100	55-100	50-98	45-65	15-35
	24-32	Silty clay, channery silty clay loam, clay loam	CH, CL, ML	A-7	0	0-5	65-100	60-100	55-100	50-98	45-65	15-35
	32-80	Weathered bedrock			---	---	---	---	---	---	---	---
GnC:												
Georgeville-----	0-8	Very fine sandy loam, silt loam, loam	ML	A-4, A-6	0-1	0-2	90-100	80-100	65-100	55-95	15-40	NP-11
	8-15	Silty clay loam, clay loam	CL, ML	A-4, A-6, A-7	0-1	0-1	90-100	90-100	85-100	70-98	30-49	8-20
	15-45	Clay, silty clay, silty clay loam	MH, ML	A-7	0	0-1	95-100	95-100	90-100	75-98	41-85	15-45
	45-80	Silty clay loam, loam, silt loam, clay loam	CL, CL-ML, ML	A-4, A-6	0	0-5	90-100	90-100	65-100	51-95	10-30	NP-12
Urban land------	0-6	Variable			---	---	---	---	---	---	0-14	---
GoC, GoE:												
Goldston--------	0-7	Very channery silt loam	GM, ML, SM	A-1-b, A-2-4, A-4	0	20-50	40-80	30-80	25-80	20-70	20-40	NP-10
	7-11	Very channery silt loam, very channery very fine sandy loam	GM, ML, SM	A-4, A-1-b, A-2-4	0	20-50	40-80	30-80	25-80	20-60	20-40	NP-10
	11-23	Weathered bedrock			---	---	---	---	---	---	---	---
	23-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Badin-----------	0-2	Channery silt loam	GM, ML, SC-SM, SM	A-2-4, A-4, A-6	0-1	0-10	60-100	50-85	45-85	30-80	25-50	4-20
	2-9	Channery silt loam	GM, ML, SC-SM, SM	A-2-4, A-4, A-6	0-1	0-10	60-100	50-85	45-85	30-80	25-50	4-20
	9-21	Channery silty clay loam, silty clay, silty clay loam	CL, ML	A-6, A-7	0-1	0-10	60-100	50-85	50-85	40-80	30-50	8-18
	21-36	Silty clay, silty clay loam, channery silty clay loam	CH, CL, ML	A-7	0	0-5	65-100	55-100	55-100	40-80	45-65	15-35
	36-45	Weathered bedrock			---	---	---	---	---	---	---	---
	45-80	Unweathered bedrock			---	---	---	---	---	---	---	---
HeB, HeC:												
Helena----------	0-13	Loam, fine sandy loam, sandy loam	ML, SC, SC-SM, SM	A-2, A-4	0	0-5	90-100	90-100	51-95	26-75	15-35	NP-10
	13-30	Clay, sandy clay, clay loam	CH	A-7	0	0-5	95-100	95-100	73-97	56-86	50-85	24-50
	30-44	Fine sandy loam, sandy loam, loam, sandy clay loam	SC-SM, SM	A-2-4, A-4	0-1	0-3	80-100	70-100	60-90	25-50	10-28	NP-6
	44-80	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0-1	0-3	80-100	70-100	60-90	25-50	0-28	NP-6

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
HrB:												
Herndon---------	0-3	Silt loam, loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	90-100	80-98	60-90	10-36	NP-12
	3-9	Silt loam, loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	90-100	80-98	60-90	10-36	NP-12
	9-14	Silty clay loam, silty clay, clay	CL, MH, ML	A-7	0	0-1	95-100	95-100	80-98	60-95	32-59	10-35
	14-34	Silty clay, clay, silty clay loam	CL, MH, ML	A-7-6	0	0-1	98-100	90-100	80-99	70-98	41-70	13-40
	34-48	Silty clay loam, silt loam, loam	MH, ML	A-5, A-7-5	0	0-2	90-100	85-100	80-99	51-95	41-70	9-36
	48-80	Silt loam, loam	MH, ML	A-5, A-7-5	0	0-2	90-100	85-100	80-99	51-95	41-70	9-36
HrC:												
Herndon---------	0-3	Silt loam, loam	CL-ML, ML, CL	A-4, A-6	0	0	90-100	90-100	80-98	60-90	10-36	NP-12
	3-9	Silt loam, loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	90-100	80-98	60-90	10-36	NP-12
	9-14	Silty clay loam, silty clay, clay	CL, MH, ML	A-7	0	0-1	95-100	95-100	80-98	60-95	32-59	10-35
	14-34	Silty clay, clay, silty clay loam	CL, MH, ML	A-7-6	0	0-1	98-100	90-100	80-99	70-98	41-70	13-40
	34-48	Silty clay loam, silt loam, loam	MH, ML	A-5, A-7-5	0	0-2	90-100	85-100	80-99	51-95	41-70	9-36
	48-80	Silt loam, loam	MH, ML	A-5, A-7-5	0	0-2	90-100	85-100	80-99	51-95	41-70	9-36
IrB:												
Iredell---------	0-6	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-4	0-1	0-1	90-98	80-96	60-82	30-50	10-35	NP-9
	6-23	Clay	CH	A-7	0	0	99-100	60-100	60-100	55-95	54-115	29-85
	23-54	Sandy clay loam, loam, clay loam	CH, CL, SC	A-7	0-1	0-1	98-100	85-100	70-95	40-75	41-60	20-39
	54-80	Weathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
LsF:												
Louisa----------	0-4	Sandy loam	ML, SM	A-2, A-4	0	0	85-100	75-95	50-80	20-70	0-14	NP
	4-12	Gravelly loam, gravelly sandy loam	SM	A-2, A-4	0	0-5	80-95	60-80	50-70	20-45	0-14	NP
	12-18	Channery loam, very channery loam	GM, SM	A-1-b, A-2, A-4	0	25-40	70-90	60-70	40-60	20-40	0-14	NP
	18-80	Weathered bedrock			---	---	---	---	---	---	---	---
MaA, MaB:												
Mattaponi-------	0-6	Fine sandy loam, sandy loam, loam	SC-SM, SM	A-4	0	0	90-100	85-100	60-95	44-90	12-23	NP-6
	6-15	Fine sandy loam, sandy loam, loam	SC-SM, SM	A-4	0	0	90-100	85-100	60-95	44-90	12-23	NP-6
	15-23	Sandy clay loam, clay loam, clay	CH, CL, SC	A-6, A-7	0	0	85-100	85-100	62-100	44-95	35-70	15-40
	23-43	Clay, sandy clay, clay loam, gravelly sandy clay loam	MH, CH, CL, SC	A-7	0	0	85-100	85-100	62-100	44-95	38-66	14-30
	43-72	Clay, clay loam, sandy clay	MH, CH, CL, SC	A-7	0	0	85-100	85-100	60-100	44-95	38-66	14-30
	72-80	Clay loam, clay, sandy clay	MH, CH, CL, SC	A-7	0	0	85-100	85-100	60-100	44-95	38-66	14-30

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
McC:												
Mattaponi-------	0-6	Fine sandy loam, sandy loam, loam	SC-SM, SM	A-4	0	0	90-100	85-100	60-95	44-90	12-23	NP-6
	6-15	Fine sandy loam, sandy loam, loam	SC-SM, SM	A-4	0	0	90-100	85-100	60-95	44-90	12-23	NP-6
	15-23	Sandy clay loam, clay loam, clay	CH, CL, SC	A-6, A-7	0	0	85-100	85-100	62-100	44-95	35-70	15-40
	23-43	Clay, sandy clay, clay loam, gravelly sandy clay loam	MH, CH, CL, SC	A-7	0	0	85-100	85-100	62-100	44-95	38-66	14-30
	43-72	Clay, clay loam, sandy clay	MH, CH, CL, SC	A-7	0	0	85-100	85-100	60-100	44-95	38-66	14-30
	72-80	Clay loam, clay, sandy clay	MH, CH, CL, SC	A-7	0	0	85-100	85-100	60-100	44-95	38-66	14-30
Peawick---------	0-6	Fine sandy loam, sandy loam	CL-ML, SC, SM, ML	A-4	0	0	90-100	75-100	50-100	40-90	15-30	NP-8
	6-10	Loam, silt loam, silty clay loam	CL-ML, ML	A-4	0	0	90-100	75-100	55-100	45-93	18-34	1-10
	10-64	Clay, silty clay, silty clay loam	CH, CL	A-6, A-7	0	0	90-100	75-100	70-100	70-95	35-80	12-50
	64-80	Clay loam, silty clay, clay	CH, CL	A-7, A-6	0	0	90-100	75-100	70-100	70-95	35-80	12-50

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MdB, MdC:												
Mayodan---------	0-4	Fine sandy loam, sandy loam, gravelly sandy loam	ML, SM	A-2, A-4	0	0-5	92-100	83-100	49-98	30-70	15-36	NP-8
	4-10	Fine sandy loam, sandy loam, gravelly sandy loam	ML, SM	A-2, A-4	0	0-5	92-100	83-100	49-98	30-70	15-36	NP-8
	10-17	Loam, fine sandy loam, sandy clay loam	CL	A-4, A-6, A-7-6	0	0-2	95-100	95-100	90-100	50-98	25-50	7-26
	17-48	Clay, sandy clay, silty clay	CH, CL, MH, ML	A-7	0	0-2	95-100	90-100	80-100	50-98	41-80	15-45
	48-53	Clay loam, silty clay loam, sandy clay loam	CL	A-4, A-6, A-7-6	0	0-2	95-100	95-100	90-100	50-98	25-50	7-26
	53-80	Loam, sandy loam, silt loam	CL	A-4, A-6, A-7-6	0	0-2	95-100	95-100	90-100	50-98	22-45	5-22

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MgD:												
Mayodan---------	0-4	Gravelly sandy loam, gravelly fine sandy loam, gravelly loam	ML, SM	A-2, A-4	0	0-5	92-100	83-100	49-98	30-70	15-36	NP-8
	4-9	Gravelly sandy loam, gravelly fine sandy loam, gravelly loam	ML, SM	A-2, A-4	0	0-5	92-100	83-100	49-98	30-70	15-36	NP-8
	9-17	Loam, fine sandy loam, sandy clay loam	CL	A-4, A-6, A-7-6	0	0-2	95-100	95-100	90-100	50-98	25-50	7-26
	17-48	Clay, sandy clay, silty clay	CH, CL, MH, ML	A-7	0	0-2	95-100	90-100	80-100	50-98	41-80	15-45
	48-53	Clay loam, silty clay loam, sandy clay loam	CL	A-4, A-6, A-7-6	0	0-2	95-100	95-100	90-100	50-98	25-50	7-26
	53-80	Loam, sandy loam, silt loam	CL	A-4, A-6, A-7-6	0	0-2	95-100	95-100	90-100	50-98	22-45	5-22

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MhE:												
Mayodan---------	0-4	Gravelly sandy loam, sandy loam, fine sandy loam	ML, SM	A-2, A-4	0	0-5	92-100	83-100	49-98	30-70	15-36	NP-8
	4-9	Gravelly sandy loam, sandy loam, fine sandy loam	ML, SM	A-2, A-4	0	0-5	92-100	83-100	49-98	30-70	15-36	NP-8
	9-17	Loam, fine sandy loam, sandy clay loam	CL	A-4, A-6, A-7-6	0	0-2	95-100	95-100	90-100	50-98	25-50	7-26
	17-48	Clay, sandy clay, silty clay	CH, CL, MH, ML	A-7	0	0-2	95-100	90-100	80-100	50-98	41-80	15-45
	48-53	Clay loam, silty clay loam, sandy clay loam	CL	A-4, A-6, A-7-6	0	0-2	95-100	95-100	90-100	50-98	25-50	7-26
	53-80	Loam, sandy loam, silt loam	CL	A-4, A-6, A-7-6	0	0-2	95-100	95-100	90-100	50-98	22-45	5-22
Brickhaven------	0-3	Gravelly sandy loam, sandy loam, fine sandy loam	ML, SM	A-2, A-4	0	0-5	92-100	83-100	49-98	30-70	15-36	NP-8
	3-12	Gravelly sandy loam, sandy loam, fine sandy loam	ML, SM	A-2, A-4	0	0-5	92-100	83-100	49-98	30-70	15-36	NP-8
	12-36	Clay, silty clay, silty clay loam	CL, ML, MH, CH	A-7	0	0-1	95-100	90-100	80-100	50-98	41-80	15-45
	36-54	Loam, silt loam, silty clay loam	ML	A-4	0	0-1	90-100	88-100	80-95	70-90	16-40	NP-10
	54-80	Weathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
MrA:												
Merry Oaks------	0-5	Silt loam, loam, fine sandy loam	CL, CL-ML	A-4, A-6	0	0-1	98-100	95-100	85-95	70-80	25-35	5-12
	5-10	Silt loam, loam, fine sandy loam	CL, CL-ML	A-4, A-6	0	0-1	98-100	95-100	85-95	70-80	25-35	5-12
	10-22	Silt loam, silty clay loam, clay loam	CL	A-6	0	0-1	98-100	95-100	90-95	85-95	30-40	12-20
	22-43	Silty clay loam, silt loam, clay loam	CL	A-6	0	0-1	98-100	95-100	90-95	85-95	30-40	12-20
	43-51	Silt loam, loam	SC-SM, CL-ML	A-4	0	0-1	95-100	90-100	85-95	70-80	15-25	5-10
	51-80	Loam, silt loam	SC-SM, CL-ML	A-4	0	0-1	95-100	90-100	85-95	70-80	15-25	5-10
Moncure, undrained------	0-4	Silt loam, loam, fine sandy loam	CL, CL-ML	A-4, A-6	0	0-1	98-100	95-100	85-95	70-80	25-35	5-12
	4-12	Silt loam, loam, fine sandy loam	CL, CL-ML	A-4, A-6	0	0-1	98-100	95-100	85-95	70-80	25-35	5-12
	12-20	Silt loam, loam, silty clay loam	CL	A-6	0	0-1	98-100	95-100	90-95	85-95	30-40	12-20
	20-41	Silty clay loam, clay loam, silt loam	CL	A-6	0	0-1	98-100	95-100	90-95	85-95	30-40	12-20
	41-80	Silt loam, loam, sandy loam	SC-SM, CL-ML	A-4	0	0-1	95-100	90-100	85-95	70-80	15-25	5-10

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
NaB, NaC, NaD:												
Nanford---------	0-3	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	80-100	75-100	55-95	50-85	15-35	NP-15
	3-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	80-100	75-100	55-95	50-85	15-35	NP-15
	7-12	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0-5	80-100	75-100	70-95	65-90	40-60	15-30
	12-27	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0-5	80-100	75-100	70-95	65-90	40-60	15-30
	27-38	Silty clay loam, silt loam, loam	CH, GC-GM	A-2, A-4, A-6	0	0-5	80-100	75-100	70-95	65-90	40-60	15-30
	38-57	Loam, silt loam, silty clay loam	CL-ML, ML, CL	A-4, A-6	0	0-5	80-100	75-100	65-100	51-95	10-30	NP-12
	57-80	Weathered bedrock			---	---	---	---	---	---	---	---
Badin-----------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	85-100	75-95	65-90	60-85	25-40	5-15
	6-24	Clay, silty clay, channery silty clay loam	CH, CL, ML	A-7	0	0-5	65-100	60-100	55-100	50-98	45-65	15-35
	24-32	Silty clay, channery silty clay loam, clay loam	CH, CL, ML	A-7	0	0-5	65-100	60-100	55-100	50-98	45-65	15-35
	32-80	Weathered bedrock			---	---	---	---	---	---	---	---
PaE:												
Pacolet---------	0-3	Gravelly sandy loam	SM	A-2	0-2	0-3	75-90	70-85	55-75	15-30	10-30	NP-3
	3-7	Fine sandy loam, loam, loamy sand, gravelly sandy loam	SM	A-2	0-2	0-3	75-90	70-85	55-75	15-30	10-30	NP-3
	7-25	Sandy clay, clay loam, clay	MH, ML	A-6, A-7	0-1	0-1	80-100	80-100	60-95	51-75	38-65	11-30
	25-80	Loam, clay loam, sandy loam, sandy clay loam	SC-SM, SC, CL, CL-ML	A-2-4, A-4, A-6	0-1	0-2	80-100	80-100	60-85	30-60	20-35	5-15

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
PcA:												
Peawick---------	0-6	Fine sandy loam, sandy loam	CL-ML, SC, SM, ML	A-4	0	0	90-100	75-100	50-100	40-90	15-30	NP-8
	6-10	Loam, silt loam, silty clay loam	CL-ML, ML	A-4	0	0	90-100	75-100	55-100	45-93	18-34	1-10
	10-64	Clay, silty clay, silty clay loam	CH, CL	A-6, A-7	0	0	90-100	75-100	70-100	70-95	35-80	12-50
	64-80	Clay loam, silty clay, clay	CH, CL	A-7, A-6	0	0	90-100	75-100	70-100	70-95	35-80	12-50
PeA, PeB:												
Peawick---------	0-6	Fine sandy loam, sandy loam	CL-ML, SC, SM, ML	A-4	0	0	90-100	75-100	50-100	40-90	15-30	NP-8
	6-10	Loam, silt loam, silty clay loam	CL-ML, ML	A-4	0	0	90-100	75-100	55-100	45-93	18-34	1-10
	10-64	Clay, silty clay, silty clay loam	CH, CL	A-6, A-7	0	0	90-100	75-100	70-100	70-95	35-80	12-50
	64-80	Clay loam, silty clay, clay	CH, CL	A-7, A-6	0	0	90-100	75-100	70-100	70-95	35-80	12-50
PsB:												
Pittsboro, stony	0-9	Gravelly sandy loam	CL, CL-ML, ML, SM	A-4	0-2	0-4	80-100	50-75	40-70	35-65	20-34	2-10
	9-16	Loam, sandy loam, sandy clay loam	CL	A-7	0	0	95-100	90-100	80-100	80-95	30-45	20-30
	16-33	Clay, silty clay, sandy clay	CH, CL	A-7	0	0	95-100	90-100	80-100	80-95	41-80	20-50
	33-38	Clay loam, sandy loam, loam	GC, SC	A-7	0-2	0-20	55-95	45-95	40-90	36-85	30-45	20-30
	38-43	Weathered bedrock			---	---	---	---	---	---	---	---
	43-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Iredell, stony--	0-5	Fine sandy loam, sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0-1	0-1	90-98	80-96	60-82	30-50	0-35	NP-9
	5-8	Fine sandy loam, sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0-1	0-1	90-98	80-96	60-82	30-50	0-35	NP-9
	8-27	Clay, silty clay	CH	A-7	0	0	99-100	60-100	60-100	55-95	54-115	29-85
	27-35	Sandy clay loam, clay loam, loam	CH, CL, SC	A-7	0-1	0-1	98-100	85-100	70-95	40-75	29-53	10-22
	35-74	Loam, sandy clay loam, sandy loam, gravelly sandy loam	ML, SM, SC-SM	A-2, A-4, A-6, A-7	0-5	0-3	90-100	45-100	30-95	22-75	25-48	3-15
	74-80	Weathered bedrock			---	---	---	---	---	---	---	---
Qr:												
Pits, quarry----	0-80	Bedrock			---	---	---	---	---	---	0-0	NP
RvA:												
Riverview-------	0-18	Silt loam, loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	60-80	15-30	3-14
	18-46	Loam, silty clay loam, sandy clay loam	CL	A-6	0	0	100	100	90-100	60-95	20-40	3-20
	46-55	Sandy loam, clay loam, sandy clay loam	SC-SM, SM, CL-ML, CL, ML	A-4, A-6	0	0	100	100	75-100	45-80	15-30	3-14
	55-72	Clay loam, sandy loam, sandy clay loam	SC-SM, SM, CL-ML, CL, ML	A-4, A-6	0	0	100	100	75-100	45-80	15-30	3-14
	72-80	Loam, silty clay loam, sandy clay loam	CL	A-6	0	0	100	100	90-100	60-95	20-40	3-20

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
StB:												
State-----------	0-11	Sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	95-100	45-85	25-55	0-28	NP-7
	11-45	Loam, clay loam, sandy clay loam	CL, SC	A-4, A-6	0	0	95-100	95-100	75-100	35-80	24-40	8-22
	45-80	Fine sandy loam, stratified sand to fine sandy loam	SC-SM, SM, SP-SM	A-1, A-2, A-3, A-4	0	0	85-100	60-100	40-90	5-50	0-25	NP-7
TuA:												
Turbeville------	0-9	Fine sandy loam, loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0-3	90-100	80-100	55-95	30-75	17-33	2-12
	9-16	Clay loam, sandy clay loam	CL, SC	A-6, A-7	0	0-3	90-100	80-100	65-100	30-80	33-49	17-28
	16-80	Clay, clay loam	CH, CL	A-7	0	0-3	90-100	80-100	70-100	55-95	43-67	25-44
UdC:												
Udorthents, loamy----------	0-80	Sandy loam, sandy clay loam, clay loam	SC-SM, CL, CL-ML, SC	A-7, A-2, A-4, A-6	0	0-3	95-100	90-100	70-98	30-90	20-45	4-25
VaB:												
Vance-----------	0-8	Sandy loam, coarse sandy loam	SC-SM, SM	A-2-4, A-4	0	0-5	90-100	80-100	55-80	15-40	15-27	NP-7
	8-30	Clay, sandy clay, clay loam	CH	A-7	0	0-5	95-100	90-100	75-95	65-80	51-80	25-48
	30-39	Sandy clay, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	0-3	80-100	70-100	60-90	25-50	10-28	NP-6
	39-72	Sandy clay loam, loam, sandy loam	SC-SM, SM	A-2-4, A-4	0	0-5	80-100	70-100	55-85	15-40	15-27	NP-7
	72-80	Sandy loam, loam, sandy clay loam	SC-SM, SM	A-2-4, A-4	0	0-5	80-100	70-100	55-85	15-40	15-27	NP-7

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
WdC, WdE: Wedowee, bouldery-------	0-4	Sandy loam, coarse sandy loam	SC-SM, SM	A-2-4	0	0-5	86-100	80-100	55-91	15-35	15-35	NP-7
	4-7	Sandy loam, coarse sandy loam	SC-SM, SM	A-2-4	0	0-5	86-100	80-100	55-91	15-35	15-35	NP-7
	7-23	Clay, clay loam, sandy clay	MH, ML	A-7-5, A-7	0	0-5	95-100	85-100	70-95	55-90	41-74	15-30
	23-35	Clay loam, sandy clay loam, sandy clay	CL, SC	A-4, A-6, A-7	0	0-5	90-100	85-100	70-90	40-75	30-50	8-22
	35-80	Sandy clay loam, sandy loam, fine sandy loam, loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4	0-1	0-2	80-100	75-100	60-90	30-55	0-28	NP-6
WeB: Wedowee---------	0-4	Sandy loam, coarse sandy loam	SC-SM, SM	A-2-4	0	0-5	86-100	80-100	55-91	15-35	15-35	NP-7
	4-7	Sandy loam, coarse sandy loam	SC-SM, SM	A-2-4	0	0-5	86-100	80-100	55-91	15-35	15-35	NP-7
	7-23	Clay, clay loam, sandy clay	MH, ML	A-7-5, A-7	0	0-5	95-100	85-100	70-95	55-90	41-74	15-30
	23-35	Clay loam, sandy clay loam, sandy clay	CL, SC	A-4, A-6, A-7	0	0-5	90-100	85-100	70-90	40-75	30-50	8-22
	35-80	Sandy clay loam, sandy loam, fine sandy loam, loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4	0-1	0-2	80-100	75-100	60-90	30-55	0-28	NP-6

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
WeC, WeD, WeE:												
Wedowee---------	0-4	Sandy loam, coarse sandy loam	SC-SM, SM	A-2-4	0	0-5	86-100	80-100	55-91	15-35	15-35	NP-7
	4-7	Sandy loam, coarse sandy loam	SC-SM, SM	A-2-4	0	0-5	86-100	80-100	55-91	15-35	15-35	NP-7
	7-23	Clay, clay loam, sandy clay	MH, ML	A-7, A-7-5	0	0-5	95-100	85-100	70-95	55-90	41-74	15-30
	23-35	Clay loam, sandy clay loam, sandy clay	CL, SC	A-4, A-6, A-7	0	0-5	90-100	85-100	70-90	40-75	30-50	8-22
	35-80	Sandy clay loam, sandy loam, fine sandy loam, loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4	0-1	0-2	80-100	75-100	60-90	30-55	0-28	NP-6
WhB, WhC, WhD:												
White Store-----	0-8	Loam	ML	A-4	0	0-3	90-100	80-100	75-96	51-80	20-35	NP-7
	8-33	Clay, silty clay, sandy clay	CH	A-7	0	0-3	95-100	90-100	85-99	80-98	70-92	45-65
	33-37	Clay loam, sandy clay loam, sandy loam	CH, CL	A-7	0	0-3	97-100	95-100	80-99	70-85	45-70	25-45
	37-42	Sandy loam, loam	CL-ML, ML	A-4	0	0-3	95-100	95-100	75-96	56-76	15-25	NP-7
	42-80	Weathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Polkton---------	0-4	Silt loam	ML	A-4	0	0-3	90-100	80-100	75-96	51-80	20-35	NP-7
	4-8	Silt loam	ML	A-4	0	0-3	90-100	80-100	75-96	51-80	20-35	NP-7
	8-15	Sandy clay loam, clay loam, silty clay loam	CH, CL	A-7	0	0-3	95-100	95-100	80-99	70-85	45-60	25-35
	15-27	Clay, sandy clay, silty clay	CH	A-7	0	0-3	95-100	95-100	80-100	70-98	70-92	45-65
	27-30	Silty clay loam, clay loam, sandy clay loam	CH, CL	A-7	0	0-3	95-100	95-100	80-99	70-85	45-70	25-45
	30-33	Silt loam, silty clay loam, clay loam	ML	A-4	0	0-3	90-100	80-100	75-96	51-80	20-35	NP-7
	33-80	Weathered bedrock			---	---	---	---	---	---	---	---
WtB:												
Wynott----------	0-4	Loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-95	51-80	20-40	3-20
	4-14	Loam, sandy loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-95	51-80	20-40	3-20
	14-24	Clay, clay loam, silty clay	CH, CL	A-7	0	0-5	85-100	85-100	80-100	65-95	40-90	25-65
	24-28	Sandy clay, sandy clay loam, clay loam	CL, SC	A-6	0	0-5	85-100	85-100	70-95	35-85	25-50	7-25
	28-80	Weathered bedrock			---	---	---	---	---	---	---	---
Enon------------	0-8	Loam, silt loam	CL, ML	A-4, A-6	0	0-5	95-100	90-100	75-95	51-80	30-40	3-20
	8-35	Clay loam, clay	CH, CL	A-7	0	0-5	85-100	80-100	75-98	65-95	40-90	25-65
	35-80	Loam, sandy clay loam, sandy loam, gravelly sandy loam	ML, SM	A-2, A-4, A-6, A-7	0-5	0-3	90-100	45-100	30-95	22-75	25-48	3-15

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
WtC:												
Wynott----------	0-4	Loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-95	51-80	20-40	3-20
	4-14	Loam, sandy loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-95	51-80	20-40	3-20
	14-24	Clay, clay loam, silty clay	CH, CL	A-7	0	0-5	85-100	85-100	80-100	65-95	40-90	25-65
	24-28	Sandy clay, sandy clay loam, clay loam	CL, SC	A-6	0	0-5	85-100	85-100	70-95	35-85	25-50	7-25
	28-80	Weathered bedrock			---	---	---	---	---	---	---	---
Enon------------	0-8	Loam	CL, ML	A-4, A-6	0	0-5	95-100	90-100	75-95	51-80	30-40	3-20
	8-35	Clay loam, clay	CH, CL	A-7	0	0-5	85-100	80-100	75-98	65-95	40-90	25-65
	35-80	Loam, sandy clay loam, sandy loam, gravelly sandy loam	ML, SM	A-2, A-4, A-6, A-7	0-5	0-3	90-100	45-100	30-95	22-75	25-48	3-15
WyB2, WyC2:												
Wynott, moderately eroded---------	0-8	Sandy clay loam, clay loam	CL, CL-ML	A-4, A-6	0	0-5	85-100	85-100	70-90	50-80	20-50	4-25
	8-22	Clay, clay loam, silty clay	CL, CH	A-7	0	0-5	85-100	85-100	80-100	65-95	40-90	25-65
	22-35	Sandy clay, sandy clay loam, clay loam	CL, SC	A-6	0	0-5	85-100	85-100	70-95	35-85	25-50	7-25
	35-80	Weathered bedrock			---	---	---	---	---	---	---	---

Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Enon, moderately eroded---------	0-8	Sandy clay loam, clay loam	CL, CL-ML	A-4, A-6	0	0-5	80-100	80-100	70-90	50-80	25-40	4-20
	8-35	Clay loam, clay	CH, CL	A-7	0	0-5	85-100	80-100	75-98	65-95	40-90	25-65
	35-80	Loam, sandy clay loam, sandy loam, gravelly sandy loam	ML, SM	A-2, A-4, A-6, A-7	0-5	0-3	90-100	45-100	30-95	22-75	25-48	3-15

Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
BaE:												
Badin----------------	0-6	10-27	1.20-1.45	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.28	.37	3	5	56
	6-24	35-55	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.15	.20			
	24-32	35-55	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.17	.32			
	32-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
Nanford--------------	0-3	10-27	1.25-1.55	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.24	.37	4	5	56
	3-7	10-27	1.25-1.55	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.32	.49			
	7-12	28-40	1.30-1.60	0.6-2	0.12-0.19	0.0-2.9	0.0-0.2	.24	.37			
	12-27	35-50	1.30-1.60	0.6-2	0.12-0.19	0.0-2.9	0.0-0.2	.20	.32			
	27-38	28-40	1.25-1.55	0.6-2	0.15-0.20	0.0-2.9	0.0-0.2	.24	.37			
	38-57	28-40	1.25-1.55	0.6-2	0.15-0.20	0.0-2.9	0.0-0.2	.24	.32			
	57-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
BdB:												
Badin----------------	0-6	10-27	1.20-1.45	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.32	.37	3	6	48
	6-24	35-55	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.17	.20			
	24-32	30-50	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.24	.32			
	32-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
Tarrus---------------	0-6	5-27	1.10-1.40	0.6-2	0.15-0.20	0.0-2.9	0.5-2.0	.28	.43	4	5	56
	6-20	35-65	1.40-1.60	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.15	.20			
	20-44	35-65	1.40-1.60	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.10	.17			
	44-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
BdC:												
Badin----------------	0-6	10-27	1.20-1.45	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.28	.37	3	6	48
	6-24	35-55	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.17	.20			
	24-32	30-50	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.24	.32			
	32-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
Tarrus---------------	0-6	5-27	1.10-1.40	0.6-2	0.15-0.20	0.0-2.9	0.5-2.0	.28	.43	4	5	56
	6-20	35-65	1.40-1.60	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.15	.20			
	20-44	35-65	1.40-1.60	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.10	.17			
	44-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
BeB2, BeC2:												
Badin, moderately eroded--------------	0-8	27-40	1.20-1.45	0.6-2	0.14-0.19	0.0-2.9	0.5-2.0	.24	.32	3	6	48
	8-27	30-55	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.24	.32			
	27-37	25-55	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.32	.43			
	37-80	---	---	0.00-2	0.00-0.01	---	---	---	---			

Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Tarrus, moderately eroded-------------	0-10	27-40	1.30-1.50	0.6-2	0.13-0.18	0.0-2.9	0.0-2.0	.20	.28	4	7	38
	10-32	35-60	1.40-1.60	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.17	.24			
	32-47	18-55	1.30-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.32	.43			
	47-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
CaB:												
Callison------------	0-5	4-20	1.20-1.40	0.6-2	0.15-0.22	0.0-2.9	0.5-2.0	.43	.49	3	5	56
	5-34	18-35	1.20-1.40	0.2-0.6	0.12-0.18	0.0-2.9	0.0-0.5	.43	.49			
	34-37	18-45	1.20-1.40	0.2-0.6	0.11-0.18	3.0-5.9	0.0-0.5	.49	.55			
	37-45	---	---	0.00-2	0.00-0.01	---	---	---	---			
	45-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
Lignum--------------	0-2	10-25	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	1.0-2.0	.37	.43	4	3	86
	2-12	10-25	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.1-1.5	.43	.55			
	12-39	35-55	1.25-1.55	0.00-0.06	0.10-0.18	3.0-5.9	0.0-0.5	.24	.37			
	39-56	20-40	1.25-1.55	0.2-0.6	0.10-0.18	0.0-2.9	0.0-0.5	.24	.32			
	56-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
CbC:												
Callison------------	0-5	4-20	1.20-1.40	0.6-2	0.15-0.22	0.0-2.9	0.5-2.0	.43	.49	3	5	56
	5-34	18-35	1.20-1.40	0.2-0.6	0.12-0.18	0.0-2.9	0.0-0.5	.43	.49			
	34-37	18-45	1.20-1.40	0.2-0.6	0.11-0.18	3.0-5.9	0.0-0.5	.49	.55			
	37-45	---	---	0.00-2	0.00-0.01	---	---	---	---			
	45-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
Misenheimer---------	0-2	7-27	1.40-1.60	0.6-6	0.12-0.18	0.0-2.9	0.5-2.0	.20	.43	2	5	56
	2-7	7-27	1.40-1.60	0.6-6	0.12-0.18	0.0-2.9	0.1-1.0	.24	.49			
	7-14	7-35	1.40-1.60	0.6-6	0.12-0.18	0.0-2.9	0.0-0.5	.24	.43			
	14-25	---	---	0.00-2	0.00-0.01	---	---	---	---			
	25-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
CcB, CcC, CcD:												
Carbonton-----------	0-8	4-20	1.20-1.40	0.6-2	0.15-0.22	0.0-2.9	0.5-2.0	.43	.49	3	2	56
	8-12	18-35	1.20-1.40	0.2-0.6	0.15-0.22	0.0-2.9	0.0-1.0	.43	.49			
	12-28	35-60	1.25-1.55	0.06-0.2	0.12-0.17	3.0-5.9	0.0-0.2	.24	.32			
	28-34	18-35	1.20-1.40	0.2-0.6	0.15-0.22	0.0-2.9	0.0-0.2	.43	.49			
	34-80	---	---	0.00-0.2	0.00-0.01	---	---	---	---			
Brickhaven----------	0-4	4-20	1.20-1.40	0.6-2	0.15-0.22	0.0-2.9	0.5-2.0	.43	.49	3	2	56
	4-7	4-20	1.20-1.40	0.6-2	0.15-0.22	0.0-2.9	0.5-1.0	.49	.64			
	7-12	28-45	1.25-1.55	0.06-0.2	0.12-0.17	3.0-5.9	0.0-0.2	.32	.43			
	12-37	35-60	1.25-1.55	0.06-0.2	0.12-0.17	3.0-5.9	0.0-0.2	.24	.28			
	37-51	18-35	1.20-1.40	0.2-0.6	0.15-0.22	0.0-2.9	0.0-0.2	.43	.49			
	51-80	---	---	0.00-0.2	0.00-0.01	---	---	---	---			

Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
CeB, CeC, CeD:												
Cecil----------------	0-7	5-20	1.30-1.55	0.6-6	0.08-0.12	0.0-2.9	1.0-2.0	.15	.24	5	3	86
	7-14	5-20	1.30-1.55	0.6-6	0.08-0.12	0.0-2.9	0.5-1.0	.15	.28			
	14-35	35-70	1.30-1.50	0.6-2	0.13-0.15	0.0-2.9	0.0-0.5	.15	.17			
	35-44	20-35	1.30-1.50	0.6-2	0.13-0.15	0.0-2.9	0.0-0.5	.32	.32			
	44-80	10-25	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-0.5	.24	.28			
ChA:												
Chewacla------------	0-4	10-35	1.30-1.60	0.6-2	0.15-0.24	0.0-2.9	1.0-4.0	.28	.28	5	6	48
	4-26	18-35	1.30-1.50	0.6-2	0.15-0.24	0.0-2.9	0.5-2.0	.37	.37			
	26-38	18-35	1.30-1.60	0.6-2	0.12-0.20	0.0-2.9	0.5-2.0	.37	.37			
	38-60	18-35	1.30-1.50	0.6-2	0.15-0.24	0.0-2.9	0.5-2.0	.24	.28			
	60-80	5-40	1.30-1.50	0.6-6	0.11-0.13	0.0-2.9	1.0-3.0	.28	.28			
Wehadkee, undrained-	0-8	5-27	1.35-1.60	2-6	0.10-0.15	0.0-2.9	2.0-5.0	.28	.28	5	3	86
	8-43	18-35	1.30-1.50	0.6-2	0.16-0.20	0.0-2.9	0.0-1.0	.20	.20			
	43-80	5-30	1.35-1.60	0.6-6	0.10-0.20	0.0-2.9	0.0-0.5	.20	.20			
Wehadkee, drained---	0-8	5-27	1.35-1.60	2-6	0.10-0.15	0.0-2.9	2.0-5.0	.28	.28	5	3	86
	8-43	18-35	1.30-1.50	0.6-2	0.16-0.20	0.0-2.9	0.0-1.0	.20	.20			
	43-80	5-30	1.35-1.60	0.6-6	0.10-0.20	0.0-2.9	0.0-0.5	.20	.20			
CkC:												
Cid------------------	0-2	10-25	1.35-1.60	0.6-2	0.11-0.17	0.0-2.9	0.5-2.0	.37	.49	2	5	56
	2-5	10-25	1.35-1.60	0.6-2	0.11-0.17	0.0-2.9	0.5-2.0	.37	.49			
	5-14	28-50	1.25-1.55	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.32	.43			
	14-24	35-60	1.25-1.55	0.06-0.2	0.12-0.18	3.0-5.9	0.0-0.5	.24	.28			
	24-28	28-50	1.25-1.55	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.32	.43			
	28-35	---	---	0.00-2	0.00-0.01	---	---	---	---			
	35-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
CmB:												
Cid------------------	0-2	10-25	1.35-1.60	0.6-2	0.11-0.17	0.0-2.9	0.5-2.0	.43	.49	2	5	56
	2-5	10-25	1.35-1.60	0.6-2	0.11-0.17	0.0-2.9	0.5-2.0	.43	.49			
	5-14	28-50	1.25-1.55	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.32	.43			
	14-24	35-60	1.25-1.55	0.06-0.2	0.12-0.18	3.0-5.9	0.0-0.5	.24	.28			
	24-28	28-50	1.25-1.55	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.32	.43			
	28-35	---	---	0.00-2	0.00-0.01	---	---	---	---			
	35-80	---	---	0.00-2	0.00-0.01	---	---	---	---			

Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Lignum--------------	0-6	10-25	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.5-2.0	.32	.43	4	3	86
	6-11	10-25	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.43	.55			
	11-22	28-45	1.25-1.55	0.2-0.6	0.10-0.18	3.0-5.9	0.0-0.5	.32	.37			
	22-29	35-55	1.25-1.55	0.00-0.06	0.10-0.18	3.0-5.9	0.0-0.5	.32	.37			
	29-47	10-45	1.25-1.55	0.6-2	0.10-0.18	3.0-5.9	0.0-0.5	.28	.32			
	47-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
CrB, CrC, CrD:												
Creedmoor-----------	0-5	7-20	1.55-1.70	2-6	0.10-0.14	0.0-2.9	0.5-2.0	.28	.28	4	3	86
	5-10	7-20	1.55-1.70	2-6	0.10-0.14	0.0-2.9	0.5-1.0	.32	.32			
	10-15	20-35	1.45-1.65	0.2-0.6	0.13-0.15	3.0-5.9	0.0-0.2	.28	.28			
	15-45	35-60	1.30-1.50	0.00-0.06	0.13-0.15	6.0-8.9	0.0-0.2	.28	.28			
	45-80	5-35	1.60-1.95	0.00-0.06	0.10-0.14	0.0-2.9	0.0-0.2	.32	.32			
Green Level---------	0-7	7-20	1.30-1.65	0.6-2	0.14-0.16	0.0-2.9	0.5-2.0	.28	.28	5	5	56
	7-10	7-20	1.30-1.65	0.6-2	0.14-0.16	0.0-2.9	0.5-1.0	.28	.32			
	10-13	18-35	1.15-1.35	0.06-0.2	0.15-0.17	3.0-5.9	0.0-0.5	.24	.28			
	13-51	35-60	1.15-1.35	0.00-0.06	0.13-0.17	9.0-25.0	0.0-0.5	.24	.28			
	51-65	25-45	1.15-1.35	0.06-0.2	0.15-0.17	3.0-5.9	0.0-0.0	.28	.32			
	65-80	7-20	1.30-1.65	0.6-2	0.14-0.16	0.0-2.9	0.0-0.0	.24	.28			
DAM:												
Dam-----------------	---	---	---	---	---	---	---	---	---	--	---	---
GaB, GaC:												
Georgeville---------	0-7	5-27	1.20-1.40	0.6-2	0.15-0.20	0.0-2.9	0.5-2.0	.32	.43	5	5	56
	7-10	27-35	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.37	.43			
	10-44	35-65	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.17	.17			
	44-53	27-35	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.37	.43			
	53-80	15-40	1.20-1.40	0.6-2	0.05-0.10	0.0-2.9	0.0-0.5	.32	.37			
GbB:												
Georgeville---------	0-5	5-27	1.20-1.40	0.6-2	0.15-0.20	0.0-2.9	0.5-2.0	.32	.43	5	6	48
	5-50	27-60	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.24	.28			
	50-65	20-35	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.37	.43			
	65-80	15-40	1.20-1.40	0.6-2	0.05-0.10	0.0-2.9	0.0-0.5	.32	.37			
GbC:												
Georgeville---------	0-5	5-27	1.20-1.40	0.6-2	0.15-0.20	0.0-2.9	0.5-2.0	.32	.43	5	6	48
	5-50	27-60	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.24	.28			
	50-65	20-35	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.37	.43			
	65-80	15-40	1.20-1.40	0.6-2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.55			

Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
GeB2, GeC2:												
Georgeville,												
moderately eroded--	0-7	27-35	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.32	.37	5	6	48
	7-44	35-65	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.17	.17			
	44-52	27-45	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.37	.37			
	52-80	15-40	1.20-1.40	0.6-2	0.05-0.10	0.0-2.9	0.0-0.5	.37	.43			
GhB2, GhC2:												
Georgeville,												
moderately eroded--	0-7	27-35	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.32	.37	5	7	38
	7-60	35-65	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.17	.17			
	60-80	15-40	1.20-1.40	0.6-2	0.05-0.10	0.0-2.9	0.0-0.5	.37	.43			
GkD, GkE:												
Georgeville----------	0-7	5-27	1.20-1.40	0.6-2	0.15-0.20	0.0-2.9	0.5-2.0	.32	.43	5	5	56
	7-10	27-35	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.37	.43			
	10-44	35-65	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.17	.17			
	44-53	27-35	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.37	.43			
	53-80	15-40	1.20-1.40	0.6-2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.55			
Badin----------------	0-6	10-27	1.20-1.45	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.28	.37	3	5	56
	6-24	35-55	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.15	.20			
	24-32	35-55	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.20	.28			
	32-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
GnC:												
Georgeville----------	0-8	5-27	1.20-1.40	0.6-2	0.15-0.20	0.0-2.9	0.5-2.0	.32	.43	5	6	48
	8-15	27-35	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.24	.28			
	15-45	35-65	1.20-1.40	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.17	.17			
	45-80	15-40	1.20-1.40	0.6-2	0.05-0.10	0.0-2.9	0.0-0.5	.32	.37			
Urban land-----------	---	---	---	---	---	---	---	---	---	--	---	---
GoC, GoE:												
Goldston-------------	0-7	10-15	1.40-1.60	2-6	0.07-0.18	0.0-2.9	0.5-2.0	.10	.49	2	6	48
	7-11	10-27	1.40-1.60	2-6	0.06-0.14	0.0-2.9	0.0-0.5	.10	.49			
	11-23	---	---	0.00-2	0.00-0.01	---	---	---	---			
	23-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
Badin----------------	0-2	10-27	1.40-1.60	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.17	.37	3	6	48
	2-9	10-27	1.40-1.60	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.24	.49			
	9-21	18-42	1.30-1.50	0.6-2	0.14-0.19	0.0-2.9	0.0-0.2	.20	.43			
	21-36	25-55	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.24	.32			
	36-45	---	---	0.00-2	0.00-0.01	---	---	---	---			
	45-80	---	---	0.00-2	0.00-0.01	---	---	---	---			

Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
HeB, HeC:												
Helena--------------	0-13	5-20	1.58-1.62	2-6	0.10-0.12	0.0-2.9	0.5-2.0	.20	.28	5	5	56
	13-30	35-60	1.44-1.55	0.06-0.2	0.13-0.15	6.0-8.9	0.0-0.5	.20	.24			
	30-44	10-35	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-0.2	.17	.24			
	44-80	10-35	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-0.2	.15	.20			
HrB, HrC:												
Herndon-------------	0-3	5-27	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	0.5-2.0	.37	.43	5	5	56
	3-9	5-27	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.43	.49			
	9-14	28-45	1.30-1.45	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.28	.32			
	14-34	35-60	1.30-1.60	0.6-2	0.13-0.18	0.0-2.9	0.0-0.5	.24	.24			
	34-48	18-35	1.20-1.40	0.6-2	0.05-0.08	0.0-2.9	0.0-0.5	.37	.43			
	48-80	10-27	1.20-1.40	0.6-2	0.05-0.08	0.0-2.9	0.0-0.5	.43	.49			
IrB:												
Iredell-------------	0-6	10-20	1.30-1.70	2-6	0.12-0.15	0.0-2.9	0.5-2.0	.24	.28	4	3	86
	6-23	40-60	1.20-1.45	0.06-0.2	0.16-0.22	9.0-25.0	0.0-0.2	.17	.24			
	23-54	15-35	1.30-1.60	0.06-0.2	0.14-0.18	6.0-8.9	0.0-0.2	.24	.28			
	54-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
LsF:												
Louisa--------------	0-4	10-25	1.25-1.55	2-6	0.12-0.16	0.0-2.9	0.5-2.0	.10	.15	2	3	86
	4-12	12-27	1.35-1.55	2-6	0.10-0.15	0.0-2.9	0.0-0.5	.24	.37			
	12-18	10-25	1.40-1.60	2-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.43			
	18-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
M-W:												
Water---------------	---	---	---	---	---	---	---	---	---	--	---	---
MaA, MaB:												
Mattaponi-----------	0-6	5-18	1.30-1.55	0.6-6	0.08-0.15	0.0-2.9	0.5-2.0	.24	.28	5	3	86
	6-15	5-18	1.30-1.55	0.6-6	0.08-0.15	0.0-2.9	0.5-1.0	.32	.37			
	15-23	20-45	1.40-1.65	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.24	.24			
	23-43	35-60	1.40-1.65	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.17	.17			
	43-72	30-55	1.40-1.65	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.20	.24			
	72-80	30-55	1.40-1.65	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.20	.24			
McC:												
Mattaponi-----------	0-6	5-18	1.30-1.55	0.6-6	0.08-0.15	0.0-2.9	0.5-2.0	.24	.28	5	3	86
	6-15	5-18	1.30-1.55	0.6-6	0.08-0.15	0.0-2.9	0.5-1.0	.32	.37			
	15-23	20-45	1.40-1.65	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.24	.24			
	23-43	35-60	1.40-1.65	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.17	.17			
	43-72	30-55	1.40-1.65	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.20	.24			
	72-80	30-55	1.40-1.65	0.2-0.6	0.12-0.18	3.0-5.9	0.0-0.5	.20	.24			

Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Peawick-------------	0-6	10-25	1.20-1.30	0.6-2	0.10-0.17	0.0-2.9	0.5-2.0	.20	.28	5	3	86
	6-10	15-30	1.25-1.35	0.6-2	0.13-0.18	0.0-2.9	0.2-1.0	.32	.43			
	10-64	35-60	1.30-1.50	0.00-0.06	0.10-0.17	6.0-8.9	0.0-0.5	.20	.28			
	64-80	25-45	1.30-1.50	0.00-0.06	0.10-0.17	6.0-8.9	0.0-0.5	.24	.32			
MdB, MdC:												
Mayodan-------------	0-4	5-20	1.40-1.65	2-6	0.11-0.17	0.0-2.9	0.5-2.0	.17	.24	5	3	86
	4-10	5-20	1.40-1.65	2-6	0.11-0.17	0.0-2.9	0.5-1.0	.24	.28			
	10-17	20-35	1.30-1.40	0.6-2	0.12-0.22	0.0-2.9	0.0-0.2	.20	.24			
	17-48	35-60	1.25-1.55	0.6-2	0.12-0.18	3.0-5.9	0.0-0.2	.17	.20			
	48-53	18-35	1.35-1.50	0.6-2	0.12-0.17	3.0-5.9	0.0-0.2	.32	.37			
	53-80	15-30	1.30-1.40	0.6-2	0.12-0.22	0.0-2.9	0.0-0.2	.37	.37			
MgD:												
Mayodan-------------	0-4	5-20	1.40-1.65	2-6	0.11-0.17	0.0-2.9	0.5-2.0	.10	.17	5	3	86
	4-9	5-20	1.40-1.65	2-6	0.11-0.17	0.0-2.9	0.5-1.0	.10	.24			
	9-17	20-35	1.30-1.40	0.6-2	0.12-0.22	0.0-2.9	0.0-0.2	.20	.24			
	17-48	35-60	1.25-1.55	0.6-2	0.12-0.18	3.0-5.9	0.0-0.2	.17	.20			
	48-53	18-35	1.35-1.50	0.6-2	0.12-0.17	3.0-5.9	0.0-0.2	.32	.37			
	53-80	15-30	1.30-1.40	0.6-2	0.12-0.22	0.0-2.9	0.0-0.2	.37	.37			
MhE:												
Mayodan-------------	0-4	5-20	1.40-1.65	2-6	0.11-0.17	0.0-2.9	0.5-2.0	.10	.17	5	3	86
	4-9	5-20	1.40-1.65	2-6	0.11-0.17	0.0-2.9	0.5-1.0	.10	.24			
	9-17	20-35	1.30-1.40	0.6-2	0.12-0.22	0.0-2.9	0.0-0.2	.20	.24			
	17-48	35-60	1.25-1.55	0.6-2	0.12-0.18	3.0-5.9	0.0-0.2	.17	.20			
	48-53	18-35	1.35-1.50	0.6-2	0.12-0.17	3.0-5.9	0.0-0.2	.32	.37			
	53-80	15-30	1.30-1.40	0.6-2	0.12-0.22	0.0-2.9	0.0-0.2	.37	.37			
Brickhaven----------	0-3	5-20	1.40-1.65	2-6	0.11-0.17	0.0-2.9	0.5-2.0	.10	.24	3	2	56
	3-12	5-20	1.40-1.65	2-6	0.11-0.17	0.0-2.9	0.5-1.0	.15	.32			
	12-36	35-60	1.25-1.55	0.06-0.2	0.12-0.17	3.0-5.9	0.0-0.2	.24	.28			
	36-54	18-35	1.20-1.40	0.2-0.6	0.15-0.22	0.0-2.9	0.0-0.2	.37	.49			
	54-80	---	---	0.00-0.2	0.00-0.01	---	---	---	---			
MrA:												
Merry Oaks----------	0-5	7-20	1.20-1.40	0.6-2	0.10-0.15	0.0-2.9	0.5-2.0	.55	.55	5	5	56
	5-10	7-20	1.20-1.40	0.6-2	0.10-0.15	0.0-2.9	0.5-1.0	.64	.64			
	10-22	18-35	1.20-1.40	0.06-0.2	0.12-0.18	3.0-5.9	0.1-0.5	.55	.55			
	22-43	18-35	1.20-1.40	0.06-0.2	0.12-0.18	3.0-5.9	0.0-0.5	.49	.49			
	43-51	2-20	1.20-1.40	0.6-2	0.05-0.14	0.0-2.9	0.0-0.5	.43	.64			
	51-80	2-20	1.20-1.40	0.2-0.6	0.05-0.14	0.0-2.9	0.0-0.5	.49	.64			

Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Moncure, undrained--	0-4	7-20	1.20-1.40	0.6-2	0.10-0.15	0.0-2.9	0.5-2.0	.49	.49	5	5	56
	4-12	7-20	1.20-1.40	0.6-2	0.10-0.15	0.0-2.9	0.5-1.0	.64	.64			
	12-20	18-35	1.20-1.40	0.06-0.2	0.12-0.18	3.0-5.9	0.1-0.5	.55	.55			
	20-41	18-35	1.20-1.40	0.06-0.2	0.12-0.18	3.0-5.9	0.0-0.5	.49	.49			
	41-80	2-20	1.20-1.40	2-6	0.05-0.14	0.0-2.9	0.0-0.5	.43	.55			
NaB, NaC, NaD:												
Nanford-------------	0-3	10-27	1.25-1.55	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.24	.37	4	5	56
	3-7	10-27	1.25-1.55	0.6-2	0.14-0.20	0.0-2.9	0.5-1.0	.32	.49			
	7-12	28-40	1.30-1.60	0.6-2	0.12-0.19	0.0-2.9	0.0-0.2	.24	.37			
	12-27	35-50	1.30-1.60	0.6-2	0.12-0.19	0.0-2.9	0.0-0.2	.20	.32			
	27-38	35-50	1.25-1.55	0.6-2	0.15-0.20	0.0-2.9	0.0-0.2	.17	.24			
	38-57	15-40	1.20-1.40	0.6-2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.55			
	57-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
Badin---------------	0-6	10-27	1.20-1.45	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.28	.37	3	5	56
	6-24	35-55	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.15	.20			
	24-32	35-55	1.30-1.50	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.17	.32			
	32-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
PaE:												
Pacolet-------------	0-3	8-20	1.00-1.50	2-6	0.06-0.10	0.0-2.9	0.5-1.0	.15	.20	5	3	86
	3-7	6-18	1.00-1.50	2-6	0.06-0.10	0.0-2.9	0.5-1.0	.17	.24			
	7-25	35-65	1.30-1.50	0.6-2	0.12-0.15	0.0-2.9	0.0-0.2	.05	.10			
	25-80	10-35	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-0.2	.15	.20			
PcA:												
Peawick-------------	0-6	10-25	1.20-1.30	0.6-2	0.10-0.17	0.0-2.9	0.5-2.0	.20	.28	5	3	86
	6-10	15-30	1.25-1.35	0.6-2	0.13-0.18	0.0-2.9	0.2-1.0	.32	.43			
	10-64	35-60	1.30-1.50	0.00-0.06	0.10-0.17	6.0-8.9	0.0-0.5	.20	.28			
	64-80	25-45	1.30-1.50	0.00-0.06	0.10-0.17	6.0-8.9	0.0-0.5	.24	.32			
PeA, PeB:												
Peawick-------------	0-6	10-25	1.20-1.30	0.6-2	0.10-0.17	0.0-2.9	0.5-2.0	.20	.28	5	3	86
	6-10	15-30	1.25-1.35	0.6-2	0.13-0.18	0.0-2.9	0.2-1.0	.32	.43			
	10-64	35-60	1.30-1.50	0.00-0.06	0.10-0.17	6.0-8.9	0.0-0.5	.20	.28			
	64-80	25-45	1.30-1.50	0.00-0.06	0.10-0.17	6.0-8.9	0.0-0.5	.24	.32			
PsB:												
Pittsboro, stony----	0-9	5-20	1.20-1.50	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.10	.20	3	5	56
	9-16	15-30	1.20-1.50	0.00-0.6	0.10-0.19	6.0-8.9	0.2-1.0	.32	.37			
	16-33	35-65	1.20-1.50	0.00-0.6	0.10-0.19	6.0-8.9	0.0-0.5	.20	.20			
	33-38	18-35	1.30-1.60	0.06-0.6	0.07-0.15	3.0-5.9	0.0-0.5	.28	.43			
	38-43	---	---	0.00-0.06	---	---	---	---	---			
	43-80	---	---	0.00-0.06	---	---	---	---	---			

Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Iredell, stony------	0-5	10-20	1.30-1.70	2-6	0.12-0.15	0.0-2.9	0.5-2.0	.24	.32	5	3	86
	5-8	10-20	1.30-1.70	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.28	.37			
	8-27	40-60	1.20-1.45	0.00-0.06	0.16-0.22	9.0-25.0	0.0-0.5	.17	.24			
	27-35	15-35	1.30-1.60	0.06-0.2	0.14-0.18	6.0-8.9	0.0-0.5	.24	.28			
	35-74	13-28	1.30-1.60	0.2-2	0.12-0.15	0.0-2.9	0.0-0.5	.20	.28			
	74-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
Qr:												
Pits, quarry--------	0-80	---	---	0.00-0.01	0.00-0.01	---	---	---	---	--	8	0
RvA:												
Riverview-----------	0-18	10-27	1.30-1.60	0.6-2	0.16-0.24	0.0-2.9	0.5-2.0	.37	.37	5	5	56
	18-46	18-35	1.20-1.40	0.6-2	0.15-0.22	0.0-2.9	0.5-1.0	.32	.32			
	46-55	10-30	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-0.5	.20	.20			
	55-72	10-35	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-0.5	.28	.32			
	72-80	18-35	1.20-1.40	0.6-2	0.15-0.22	0.0-2.9	0.5-1.0	.32	.32			
StB:												
State---------------	0-11	5-15	1.25-1.40	0.6-6	0.08-0.15	0.0-2.9	0.5-2.0	.20	.20	5	3	86
	11-45	18-34	1.35-1.50	0.6-2	0.14-0.19	0.0-2.9	0.0-0.5	.32	.32			
	45-80	2-15	1.35-1.50	2-20	0.02-0.10	0.0-2.9	0.0-0.5	.20	.32			
TuA:												
Turbeville----------	0-9	5-18	1.35-1.55	2-6	0.08-0.15	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	9-16	25-40	1.30-1.45	0.6-2	0.12-0.18	0.0-2.9	0.0-0.5	.24	.28			
	16-80	35-60	1.35-1.50	0.6-2	0.13-0.16	3.0-5.9	0.0-0.2	.17	.20			
UdC:												
Udorthents, loamy---	0-80	10-50	1.30-1.65	0.00-2	0.10-0.17	3.0-5.9	0.0-1.0	.10	.10	5	5	56
VaB:												
Vance---------------	0-8	8-20	1.45-1.70	2-6	0.10-0.14	0.0-2.9	0.5-2.0	.20	.24	5	3	86
	8-30	35-60	1.25-1.40	0.06-0.2	0.12-0.15	3.0-5.9	0.0-0.5	.20	.24			
	30-39	28-45	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-0.2	.10	.17			
	39-72	8-25	1.45-1.70	2-6	0.10-0.14	0.0-2.9	0.0-0.2	.24	.24			
	72-80	8-25	1.45-1.70	2-6	0.10-0.14	0.0-2.9	0.0-0.2	.20	.20			
W:												
Water---------------	---	---	---	---	---	---	---	---	---	--	---	---

Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
WdC, WdE:												
Wedowee, bouldery---	0-4	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	0.5-2.0	.15	.17	5	3	86
	4-7	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	0.2-1.0	.15	.20			
	7-23	35-70	1.25-1.45	0.6-2	0.15-0.17	0.0-2.9	0.0-0.5	.10	.15			
	23-35	20-45	1.25-1.45	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	35-80	10-30	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-0.5	.15	.20			
WeB, WeC:												
Wedowee-------------	0-4	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	0.5-2.0	.15	.17	5	3	86
	4-7	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	0.2-1.0	.15	.20			
	7-23	35-70	1.25-1.45	0.6-2	0.15-0.17	0.0-2.9	0.0-0.5	.10	.15			
	23-35	20-45	1.25-1.45	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	35-80	10-30	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-0.5	.15	.20			
WeD, WeE:												
Wedowee-------------	0-4	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	0.5-2.0	.15	.17	5	3	86
	4-7	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	0.2-1.0	.15	.20			
	7-23	35-70	1.25-1.45	0.6-2	0.15-0.17	0.0-2.9	0.0-0.5	.17	.20			
	23-35	20-45	1.25-1.45	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	35-80	10-30	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	0.0-0.5	.15	.20			
WhB, WhC, WhD:												
White Store---------	0-8	5-27	1.30-1.55	0.6-2	0.14-0.16	0.0-2.9	0.5-2.0	.32	.43	4	5	56
	8-33	45-70	1.15-1.35	0.00-0.06	0.15-0.17	9.0-25.0	0.0-0.5	.20	.24			
	33-37	18-45	1.25-1.50	0.06-0.6	0.15-0.20	6.0-8.9	0.0-0.5	.32	.32			
	37-42	5-20	1.30-1.65	0.6-2	0.14-0.16	0.0-2.9	0.0-0.5	.28	.32			
	42-80	---	---	0.00-0.2	0.00-0.01	---	---	---	---			
Polkton-------------	0-4	5-27	1.30-1.55	0.6-2	0.14-0.16	0.0-2.9	0.5-2.0	.37	.49	3	5	56
	4-8	5-27	1.30-1.55	0.6-2	0.14-0.16	0.0-2.9	0.5-1.0	.37	.49			
	8-15	20-40	1.25-1.50	0.2-0.6	0.15-0.20	3.0-5.9	0.1-0.8	.24	.24			
	15-27	35-60	1.15-1.35	0.00-0.06	0.15-0.17	9.0-25.0	0.0-0.2	.24	.28			
	27-30	20-40	1.25-1.50	0.06-0.6	0.15-0.20	6.0-8.9	0.0-0.2	.43	.49			
	30-33	5-30	1.30-1.55	0.6-2	0.14-0.16	0.0-2.9	0.0-0.2	.37	.49			
	33-80	---	---	0.00-0.2	0.00-0.01	---	---	---	---			
WtB:												
Wynott--------------	0-4	5-20	1.30-1.65	2-6	0.11-0.18	0.0-2.9	0.5-2.0	.24	.28	3	5	56
	4-14	5-20	1.30-1.65	2-6	0.11-0.16	0.0-2.9	0.0-0.5	.24	.32			
	14-24	35-65	1.20-1.50	0.06-0.2	0.15-0.17	6.0-8.9	0.0-0.5	.17	.24			
	24-28	20-45	1.30-1.50	0.2-0.6	0.15-0.20	0.0-2.9	0.0-0.5	.15	.20			
	28-80	---	---	0.00-2	0.00-0.01	---	---	---	---			

Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Enon	0-3	7-27	1.25-1.45	0.6-2	0.15-0.20	0.0-2.9	0.5-2.0	.32	.37	5	5	56
	3-8	7-27	1.25-1.45	0.6-2	0.15-0.20	0.0-2.9	0.2-1.2	.37	.43			
	8-11	20-35	1.30-1.50	0.6-2	0.12-0.15	0.0-2.9	0.0-0.5	.28	.37			
	11-33	35-60	1.20-1.40	0.06-0.2	0.12-0.16	6.0-8.9	0.0-0.5	.17	.24			
	33-80	15-35	1.30-1.60	0.2-2	0.15-0.20	0.0-2.9	0.0-0.5	.24	.32			
WtC:												
Wynott	0-4	10-27	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.5-2.0	.37	.43	3	5	56
	4-7	10-27	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.2-1.5	.37	.43			
	7-14	10-27	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.0-0.8	.37	.43			
	14-24	35-65	1.20-1.50	0.06-0.2	0.15-0.17	6.0-8.9	0.0-0.5	.17	.24			
	24-28	20-45	1.30-1.50	0.2-0.6	0.15-0.20	0.0-2.9	0.0-0.5	.15	.20			
	28-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
Enon	0-3	7-27	1.25-1.45	0.6-2	0.15-0.20	0.0-2.9	0.5-2.0	.32	.37	5	5	86
	3-8	7-27	1.25-1.45	0.6-2	0.15-0.20	0.0-2.9	0.2-1.2	.37	.43			
	8-11	20-35	1.30-1.50	0.6-2	0.12-0.15	0.0-2.9	0.0-0.5	.28	.37			
	11-33	35-60	1.20-1.40	0.06-0.2	0.12-0.16	6.0-8.9	0.0-0.5	.17	.24			
	33-80	15-35	1.30-1.60	0.2-2	0.15-0.20	0.0-2.9	0.0-0.5	.24	.32			
WyB2, WyC2:												
Wynott, moderately eroded	0-8	20-35	1.25-1.50	0.6-2	0.15-0.20	0.0-2.9	0.5-1.0	.20	.24	3	5	56
	8-22	35-65	1.20-1.50	0.06-0.2	0.15-0.17	6.0-8.9	0.0-0.5	.17	.24			
	22-35	20-45	1.30-1.50	0.2-0.6	0.15-0.20	0.0-2.9	0.0-0.5	.15	.20			
	35-80	---	---	0.00-2	0.00-0.01	---	---	---	---			
Enon, moderately eroded	0-8	20-35	1.30-1.50	0.6-2	0.12-0.15	0.0-2.9	0.5-1.0	.24	.32	5	6	48
	8-11	20-35	1.30-1.50	0.6-2	0.12-0.15	0.0-2.9	0.0-0.5	.28	.37			
	11-33	35-60	1.20-1.40	0.06-0.2	0.12-0.16	6.0-8.9	0.0-0.5	.17	.24			
	33-80	15-35	1.30-1.60	0.2-2	0.15-0.20	0.0-2.9	0.0-0.5	.20	.32			

Chemical Soil Properties

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
BaE:								
Badin	0-6	3.2-9.4	2.4-7.1	3.5-6.5	0	0	0	0
	6-24	3.5-6.6	2.6-5.0	3.5-5.5	0	0	0	0
	24-32	3.5-6.6	2.6-5.0	3.5-5.5	0	0	0	0
	32-80	---	---	---	---	---	---	---
Nanford	0-3	3.0-9.5	2.5-7.0	4.5-6.5	0	0	0	0
	3-7	3.0-9.5	2.5-7.0	4.5-6.5	0	0	0	0
	7-12	3.5-5.5	2.5-4.0	4.5-5.5	0	0	0	0
	12-27	3.5-5.5	2.5-4.0	4.5-5.5	0	0	0	0
	27-38	1.5-3.5	1.5-2.5	4.5-5.5	0	0	0	0
	38-57	1.0-3.0	1.0-2.0	4.5-5.5	0	0	0	0
	57-80	---	---	---	---	---	---	---
BdB:								
Badin	0-6	3.0-8.0	2.4-7.1	3.5-6.5	0	0	0	0
	6-24	7.0-12	2.6-5.0	3.5-5.5	0	0	0	0
	24-32	7.0-12	2.6-5.0	3.5-5.5	0	0	0	0
	32-80	---	---	---	---	---	---	---
Tarrus	0-6	8.0-16	1.7-5.4	4.5-5.5	0	0	0	0
	6-20	9.0-15	2.6-5.3	4.5-5.5	0	0	0	0
	20-44	9.0-15	2.6-5.3	4.5-5.5	0	0	0	0
	44-80	---	---	---	---	---	---	---
BdC:								
Badin	0-6	3.2-9.4	2.4-7.1	3.5-6.5	0	0	0	0
	6-24	3.5-6.6	2.6-5.0	3.5-5.5	0	0	0	0
	24-32	3.5-6.6	2.6-5.0	3.5-5.5	0	0	0	0
	32-80	---	---	---	---	---	---	---
Tarrus	0-6	8.0-16	1.7-5.4	4.5-5.5	0	0	0	0
	6-20	9.0-15	2.6-5.3	4.5-5.5	0	0	0	0
	20-44	9.0-15	2.6-5.3	4.5-5.5	0	0	0	0
	44-80	---	---	---	---	---	---	---
BeB2:								
Badin, moderately eroded	0-8	6.0-10	2.9-6.4	3.5-6.5	0	0	0	0
	8-27	7.0-12	2.6-5.0	3.5-5.5	0	0	0	0
	27-37	7.0-12	1.9-5.0	3.5-5.5	0	0	0	0
	37-80	---	---	---	---	---	---	---
Tarrus, moderately eroded	0-10	8.0-16	2.0-6.4	4.5-5.5	0	0	0	0
	10-32	9.0-15	2.6-5.3	4.5-5.5	0	0	0	0
	32-47	7.0-15	1.4-5.0	4.5-5.5	0	0	0	0
	47-80	---	---	---	---	---	---	---
BeC2:								
Badin, moderately eroded	0-8	6.0-10	2.9-6.4	3.5-6.5	0	0	0	0
	8-27	7.0-12	2.6-5.0	3.5-5.5	0	0	0	0
	27-37	7.0-12	1.9-5.0	3.5-5.5	0	0	0	0
	37-80	---	---	---	---	---	---	---

Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Tarrus, moderately eroded	0-10	8.0-16	2.0-6.4	4.5-5.5	0	0	0	0
	10-32	9.0-15	2.6-5.3	4.5-5.5	0	0	0	0
	32-47	7.0-15	1.4-5.0	4.5-5.5	0	0	0	0
	47-80	---	---	---	---	---	---	---
CaB:								
Callison	0-5	4.0-7.0	1.6-7.1	5.1-6.0	0	0	0	0
	5-34	6.0-22	3.4-7.4	3.6-6.0	0	0	0	0
	34-37	6.0-22	3.4-9.3	3.6-6.0	0	0	0	0
	37-45	---	---	---	---	---	---	---
	45-80	---	---	---	---	---	---	---
Lignum	0-2	4.8-11	3.6-8.1	4.5-5.5	0	0	0	0
	2-12	3.6-11	2.7-9.6	4.5-5.5	0	0	0	0
	12-39	8.8-15	6.6-11	4.5-5.5	0	0	0	0
	39-56	5.0-11	3.8-8.3	4.5-5.5	0	0	0	0
	56-80	---	---	---	0	0	0	0
CbC:								
Callison	0-5	4.0-7.0	1.6-7.1	5.1-6.0	0	0	0	0
	5-34	6.0-22	3.4-7.4	3.6-6.0	0	0	0	0
	34-37	6.0-22	3.4-9.3	3.6-6.0	0	0	0	0
	37-45	---	---	---	---	---	---	---
	45-80	---	---	---	---	---	---	---
Misenheimer	0-2	2.0-6.0	2.0-8.5	3.5-5.5	0	0	0	0
	2-7	1.0-7.0	1.5-7.0	3.5-5.5	0	0	0	0
	7-14	1.0-7.0	1.5-7.5	3.5-5.5	0	0	0	0
	14-25	---	---	---	---	---	---	---
	25-80	---	---	---	---	---	---	---
CcB, CcC:								
Carbonton	0-8	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-1
	8-12	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-1
	12-28	18-30	10-25	3.5-5.0	0	0	0	0-7
	28-34	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-7
	34-80	---	---	---	---	---	---	---
Brickhaven	0-4	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-1
	4-7	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-1
	7-12	18-30	10-25	3.5-5.0	0	0	0	0-7
	12-37	18-30	10-25	3.5-5.0	0	0	0	0-7
	37-51	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-7
	51-80	---	---	---	---	---	---	---
CcD:								
Carbonton	0-8	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-1
	8-12	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-1
	12-28	18-30	10-25	3.5-5.0	0	0	0	0-7
	28-34	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-7
	34-80	---	---	---	---	---	---	---
Brickhaven	0-4	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-1
	4-7	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-1
	7-12	18-30	10-25	3.5-5.0	0	0	0	0-7
	12-37	18-30	10-25	3.5-5.0	0	0	0	0-7
	37-51	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-7
	51-80	---	---	---	---	---	---	---

Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
CeB, CeC, CeD:								
Cecil----------------	0-7	1.0-5.0	1.0-5.0	3.6-6.0	0	0	0	0
	7-14	1.0-5.0	1.0-5.0	3.6-6.0	0	0	0	0
	14-35	5.0-10	3.0-10	4.5-5.5	0	0	0	0
	35-44	5.0-10	3.0-10	4.5-5.5	0	0	0	0
	44-80	1.0-3.5	1.0-2.5	4.5-6.0	0	0	0	0
ChA:								
Chewacla-------------	0-4	4.8-18	3.6-13	4.5-6.5	0	0	0	0
	4-26	5.6-13	4.2-9.9	4.5-6.5	0	0	0	0
	26-38	5.6-13	4.2-9.9	4.5-6.5	0	0	0	0
	38-60	5.6-13	4.2-9.9	4.5-7.8	0	0	0	0
	60-80	3.5-17	2.6-13	4.5-7.8	0	0	0	0
Wehadkee-------------	0-7	5.0-20	5.8-16	4.5-6.5	0	0	0	0
	7-58	5.0-25	4.5-13	4.5-6.5	0	0	0	0
	58-84	1.2-9.5	1.0-9.5	4.5-6.5	0	0	0	0
CkC:								
Cid------------------	0-2	3.6-11	2.0-7.0	3.5-5.5	0	0	0	0
	2-5	3.6-11	2.0-7.0	3.5-5.5	0	0	0	0
	5-14	8.8-16	7.0-13	3.5-5.5	0	0	0	0
	14-24	8.8-16	7.0-13	3.5-5.5	0	0	0	0
	24-28	8.8-16	7.0-13	3.5-5.5	0	0	0	0
	28-35	---	---	---	0	0	0	0
	35-80	---	---	---	0	0	0	0
CmB:								
Cid------------------	0-2	3.6-11	2.0-7.0	3.5-5.5	0	0	0	0
	2-5	3.6-11	2.0-7.0	3.5-5.5	0	0	0	0
	5-14	8.8-16	7.0-13	3.5-5.5	0	0	0	0
	14-24	8.8-16	7.0-13	3.5-5.5	0	0	0	0
	24-28	8.8-16	7.0-13	3.5-5.5	0	0	0	0
	28-35	---	---	---	0	0	0	0
	35-80	---	---	---	0	0	0	0
Lignum---------------	0-6	3.6-11	2.7-8.1	4.5-5.5	0	0	0	0
	6-11	3.6-11	2.7-8.1	4.5-5.5	0	0	0	0
	11-22	8.8-15	6.6-11	4.5-5.5	0	0	0	0
	22-29	8.8-15	6.6-11	4.5-5.5	0	0	0	0
	29-47	8.8-15	6.6-11	4.5-5.5	0	0	0	0
	47-80	---	---	---	0	0	0	0
CrB, CrC, CrD:								
Creedmoor------------	0-5	3.0-9.5	2.0-6.0	3.5-5.5	0	0	0	0-1
	5-10	3.0-9.5	2.0-6.0	3.5-5.5	0	0	0	0-1
	10-15	5.0-9.0	4.0-8.0	3.5-5.5	0	0	0	0-1
	15-45	9.0-16	7.0-13	3.5-5.5	0	0	0	0-7
	45-80	1.0-9.0	1.0-8.0	3.5-5.5	0	0	0	0-13
Green Level----------	0-7	5.0-15	2.9-9.5	3.5-6.0	0	0	0	0-1
	7-10	5.0-15	2.9-9.5	3.5-6.0	0	0	0	0-1
	10-13	6.3-13	4.7-10	3.5-5.5	0	0	0	0-7
	13-51	20-40	12-22	3.5-5.5	0	0	0	0-20
	51-65	8.8-16	6.6-12	3.5-5.5	0	0	0	0-2
	65-80	2.5-7.0	1.8-5.2	3.5-5.5	0	0	0	0-2
DAM:								
Dam------------------	---	---	---	---	---	---	---	---

Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
GaB, GaC:								
Georgeville----------	0-7	1.6-7.2	1.2-5.4	4.5-7.3	0	0	0	0
	7-10	2.7-4.6	2.0-3.5	4.5-7.3	0	0	0	0
	10-44	3.5-7.6	2.6-5.7	4.5-5.5	0	0	0	0
	44-53	2.7-4.6	2.0-3.5	4.5-7.3	0	0	0	0
	53-80	1.5-5.1	1.1-3.8	4.5-5.5	0	0	0	0
GbB, GbC:								
Georgeville----------	0-5	8.0-16	1.6-7.2	4.5-7.3	0	0	0	0
	5-50	6.0-10	2.7-7.1	4.5-5.5	0	0	0	0
	50-65	9.0-15	2.0-4.6	4.5-5.5	0	0	0	0
	65-80	1.5-5.1	1.1-3.8	4.5-5.5	0	0	0	0
GeB2, GeC2:								
Georgeville, moderately eroded---	0-7	2.7-4.6	2.0-3.5	4.5-7.3	0	0	0	0
	7-44	3.5-7.6	2.6-5.7	4.5-5.5	0	0	0	0
	44-52	2.7-4.6	2.0-3.5	4.5-7.3	0	0	0	0
	52-80	1.5-5.1	1.1-3.8	4.5-5.5	0	0	0	0
GhB2, GhC2:								
Georgeville, moderately eroded---	0-7	8.0-16	6.8-9.9	4.5-7.3	0	0	0	0
	7-60	9.0-15	8.8-17	4.5-5.5	0	0	0	0
	60-80	7.0-15	3.8-11	4.5-5.5	0	0	0	0
GkD, GkE:								
Georgeville----------	0-7	1.6-7.2	1.2-5.4	4.5-7.3	0	0	0	0
	7-10	2.7-4.6	2.0-3.5	4.5-7.3	0	0	0	0
	10-44	3.5-7.6	2.6-5.7	4.5-5.5	0	0	0	0
	44-53	2.7-4.6	2.0-3.5	4.5-7.3	0	0	0	0
	53-80	1.5-5.1	1.1-3.8	4.5-5.5	0	0	0	0
Badin----------------	0-6	3.2-9.4	2.4-7.1	3.5-6.5	0	0	0	0
	6-24	3.5-6.6	2.6-5.0	3.5-5.5	0	0	0	0
	24-32	3.5-6.6	2.6-5.0	3.5-5.5	0	0	0	0
	32-80	---	---	---	---	---	---	---
GnC:								
Georgeville----------	0-8	8.0-16	1.2-5.4	4.5-7.3	0	0	0	0
	8-15	6.0-10	2.0-3.5	4.5-5.5	0	0	0	0
	15-45	9.0-15	2.6-5.7	4.5-5.5	0	0	0	0
	45-80	7.0-15	1.1-3.8	4.5-5.5	0	0	0	0
Urban land-----------	0-6	---	---	---	---	---	0	---
GoC, GoE:								
Goldston-------------	0-7	3.6-8.2	1.0-5.0	3.5-5.5	0	0	0	0
	7-11	2.5-7.9	1.0-6.0	3.5-5.5	0	0	0	0
	11-23	---	---	---	0	0	0	0
	23-80	---	---	---	0	0	0	0
Badin----------------	0-2	4.8-14	3.0-8.0	3.5-5.5	0	0	0	0
	2-9	4.8-14	3.0-8.0	3.5-5.5	0	0	0	0
	9-21	2.0-4.5	1.0-7.0	3.5-5.5	0	0	0	0
	21-36	6.2-15	7.0-12	3.5-5.5	0	0	0	0
	36-45	---	---	---	0	0	0	0
	45-80	---	---	---	0	0	0	0

Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
HeB, HeC:								
Helena---------------	0-13	1.0-6.0	1.8-7.1	3.5-6.5	0	0	0	0
	13-30	7.0-13	6.6-12	3.5-5.5	0	0	0	0
	30-44	2.5-9.2	1.9-6.9	3.5-5.5	0	0	0	0
	44-80	2.5-6.5	2.0-5.0	4.5-5.5	0	0	0	0
HrB, HrC:								
Herndon--------------	0-3	1.6-5.0	1.2-3.7	4.5-6.5	0	0	0	0
	3-9	1.6-5.0	1.2-3.7	4.5-6.5	0	0	0	0
	9-14	3.5-7.1	2.6-5.3	3.5-5.5	0	0	0	0
	14-34	3.5-7.1	2.6-5.3	3.5-5.5	0	0	0	0
	34-48	1.0-3.8	0.8-2.9	3.5-5.5	0	0	0	0
	48-80	1.0-3.8	0.8-2.9	3.5-5.5	0	0	0	0
IrB:								
Iredell--------------	0-6	8.0-12	4.5-11	5.1-7.3	0	0	0	0
	6-23	26-30	15-23	5.6-7.3	0	0	0	0
	23-54	15-30	5.5-14	6.1-7.8	0	0	0	0
	54-80	---	---	---	---	---	---	---
LsF:								
Louisa---------------	0-4	3.6-11	2.5-10	4.5-6.0	0	0	0	0
	4-12	3.0-7.9	1.1-7.3	4.5-6.0	0	0	0	0
	12-18	2.5-7.4	1.0-7.0	4.5-6.0	0	0	0	0
	18-80	---	---	---	0	0	0	0
MaA, MaB:								
Mattaponi------------	0-6	2.4-9.0	1.8-6.8	4.5-5.5	0	0	0	0
	6-15	2.4-9.0	1.8-6.8	4.5-5.5	0	0	0	0
	15-23	8.8-17	6.6-13	4.5-5.5	0	0	0	0
	23-43	8.8-17	6.6-13	4.5-5.5	0	0	0	0
	43-72	8.8-17	6.6-13	4.5-5.5	0	0	0	0
	72-80	8.8-17	6.6-13	4.5-5.5	0	0	0	0
McC:								
Mattaponi------------	0-6	2.4-9.0	1.8-6.8	4.5-5.5	0	0	0	0
	6-15	2.4-9.0	1.8-6.8	4.5-5.5	0	0	0	0
	15-23	8.8-17	6.6-13	4.5-5.5	0	0	0	0
	23-43	8.8-17	6.6-13	4.5-5.5	0	0	0	0
	43-72	8.8-17	6.6-13	4.5-5.5	0	0	0	0
	72-80	8.8-17	6.6-13	4.5-5.5	0	0	0	0
Peawick--------------	0-6	3.6-11	2.7-8.1	3.5-5.5	0	0	0	0
	6-10	4.3-9.8	3.2-7.3	3.5-5.5	0	0	0	0
	10-64	8.8-16	6.6-12	3.5-5.5	0	0	0	0
	64-80	6.2-12	4.7-9.3	3.5-5.5	0	0	0	0
MdB, MdC:								
Mayodan--------------	0-4	2.5-9.5	1.0-6.0	3.5-6.0	0	0	0	0-1
	4-10	2.5-9.5	1.0-6.0	3.5-6.0	0	0	0	0-1
	10-17	5.0-10	4.0-9.0	4.5-6.0	0	0	0	0-1
	17-48	9.0-16	7.0-13	4.5-5.5	0	0	0	0-7
	48-53	4.5-9.0	4.0-9.0	4.5-5.5	0	0	0	0-1
	53-80	5.0-10	4.0-8.0	4.5-6.0	0	0	0	0-1

Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
MgD:								
Mayodan--------------	0-4	2.5-9.5	1.0-6.0	3.5-6.0	0	0	0	0-1
	4-9	2.5-9.5	1.0-6.0	3.5-6.0	0	0	0	0-1
	9-17	5.0-10	4.0-9.0	4.5-6.0	0	0	0	0-1
	17-48	9.0-16	7.0-13	4.5-5.5	0	0	0	0-7
	48-53	4.5-9.0	4.0-9.0	4.5-5.5	0	0	0	0-1
	53-80	5.0-10	4.0-8.0	4.5-6.0	0	0	0	0-1
MhE:								
Mayodan--------------	0-4	2.5-9.5	1.0-6.0	3.5-6.0	0	0	0	0-1
	4-9	2.5-9.5	1.0-6.0	3.5-6.0	0	0	0	0-1
	9-17	5.0-10	4.0-9.0	4.5-6.0	0	0	0	0-1
	17-48	9.0-16	7.0-13	4.5-5.5	0	0	0	0-7
	48-53	4.5-9.0	4.0-9.0	4.5-5.5	0	0	0	0-1
	53-80	5.0-10	4.0-8.0	4.5-6.0	0	0	0	0-1
Brickhaven-----------	0-3	2.5-9.5	1.0-6.0	3.5-6.0	0	0	0	0-1
	3-12	2.5-9.5	1.0-6.0	3.5-6.0	0	0	0	0-1
	12-36	18-30	10-25	3.5-5.0	0	0	0	0-7
	36-54	2.1-9.5	1.6-7.1	3.5-5.5	0	0	0	0-7
	54-80	---	---	---	---	---	---	---
MrA:								
Merry Oaks-----------	0-5	4.6-21	3.5-16	4.5-6.0	0	0	0	0
	5-10	4.6-21	3.5-16	4.5-6.0	0	0	0	0
	10-22	12-26	9.2-19	4.5-6.0	0	0	0	0
	22-43	12-26	9.2-19	4.5-6.0	0	0	0	0
	43-51	4.6-21	3.5-16	4.5-6.0	0	0	0	0
	51-80	4.6-21	3.5-16	4.5-6.0	0	0	0	0
Moncure, undrained---	0-4	4.6-21	3.5-16	4.5-6.0	0	0	0	0
	4-12	4.6-21	3.5-16	4.5-6.0	0	0	0	0
	12-20	12-26	9.2-19	4.5-6.0	0	0	0	0
	20-41	12-26	9.2-19	4.5-6.0	0	0	0	0
	41-80	4.6-21	3.5-16	4.5-6.0	0	0	0	0
NaB, NaC, NaD:								
Nanford--------------	0-3	3.0-9.5	2.5-7.0	4.5-6.5	0	0	0	0
	3-7	3.0-9.5	2.5-7.0	4.5-6.5	0	0	0	0
	7-12	3.5-5.5	2.5-4.0	4.5-5.5	0	0	0	0
	12-27	3.5-5.5	2.5-4.0	4.5-5.5	0	0	0	0
	27-38	1.5-3.5	1.5-2.5	4.5-5.5	0	0	0	0
	38-57	1.5-5.1	1.1-3.8	4.5-5.5	0	0	0	0
	57-80	---	---	---	---	---	---	---
Badin----------------	0-6	3.2-9.4	2.4-7.1	3.5-6.5	0	0	0	0
	6-24	3.5-6.6	2.6-5.0	3.5-5.5	0	0	0	0
	24-32	3.5-6.6	2.6-5.0	3.5-5.5	0	0	0	0
	32-80	---	---	---	---	---	---	---
PaE:								
Pacolet--------------	0-3	2.0-6.5	1.5-5.0	4.5-6.5	0	0	0	0
	3-7	2.0-6.5	1.5-5.0	4.5-6.5	---	0	0	0
	7-25	3.5-7.0	2.5-5.0	4.5-6.0	0	0	0	0
	25-80	1.0-3.0	1.0-2.0	4.5-6.0	0	0	0	0

Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
PcA:								
Peawick--------------	0-6	3.6-11	2.7-8.1	3.5-5.5	0	0	0	0
	6-10	4.3-9.8	3.2-7.3	3.5-5.5	0	0	0	0
	10-64	8.8-16	6.6-12	3.5-5.5	0	0	0	0
	64-80	6.2-12	4.7-9.3	3.5-5.5	0	0	0	0
PeA, PeB:								
Peawick--------------	0-6	3.6-11	2.7-8.1	3.5-5.5	0	0	0	0
	6-10	4.3-9.8	3.2-7.3	3.5-5.5	0	0	0	0
	10-64	8.8-16	6.6-12	3.5-5.5	0	0	0	0
	64-80	6.2-12	4.7-9.3	3.5-5.5	0	0	0	0
PsB:								
Pittsboro, stony-----	0-9	5.0-15	2.4-9.5	4.5-7.8	0	0	0	0
	9-16	20-40	---	4.5-7.8	0	0	0	0
	16-33	20-40	---	4.5-7.8	0	0	0	0
	33-38	20-40	---	5.1-8.0	0	0	0	0
	38-43	---	---	---	---	---	---	---
	43-80	---	---	---	---	---	---	---
Iredell, stony-------	0-5	8.0-12	3.6-9.5	5.1-7.3	0	0	0	0
	5-8	8.0-12	3.6-7.2	5.1-7.3	0	0	0	0
	8-27	26-30	10-16	5.6-7.3	0	0	0	0
	27-35	15-30	5.5-14	6.1-7.8	0	0	0	0
	35-74	10-22	5.5-14	6.6-8.4	0	0	0	0
	74-80	---	---	---	---	---	---	---
Qr:								
Pits, quarry---------	0-80	---	---	---	0	0	0	0
RvA:								
Riverview------------	0-18	3.5-11	2.5-8.4	4.5-6.5	0	0	0	0
	18-46	5.5-13	4.0-10	4.5-6.0	0	0	0	0
	46-55	3.5-11	2.5-8.0	4.5-6.0	0	0	0	0
	55-72	3.5-11	2.5-8.0	4.5-6.0	0	0	0	0
	72-80	5.5-13	4.0-10	4.5-6.0	0	0	0	0
StB:								
State----------------	0-11	2.4-8.2	1.0-4.0	3.6-5.5	0	0	0	0
	11-45	4.5-9.6	3.4-5.3	3.6-5.5	0	0	0	0
	45-80	0.5-4.9	0.4-2.0	3.6-6.5	0	0	0	0
TuA:								
Turbeville-----------	0-9	1.6-6.3	1.2-4.7	4.5-5.5	0	0	0	0
	9-16	2.5-5.1	1.9-3.8	4.5-5.5	0	0	0	0
	16-80	3.5-6.5	2.6-4.8	4.5-5.5	0	0	0	0
UdC:								
Udorthents, loamy----	0-80	2.5-15	1.9-11	4.5-7.8	0	0	0	0
VaB:								
Vance----------------	0-8	3.1-9.5	2.0-6.0	4.5-6.0	0	0	0	0
	8-30	8.8-16	7.0-13	4.5-5.5	0	0	0	0
	30-39	2.5-6.5	2.0-5.0	4.5-5.5	0	0	0	0
	39-72	2.5-6.5	2.0-5.0	4.5-5.5	0	0	0	0
	72-80	2.5-6.5	2.0-5.0	4.5-5.5	0	0	0	0

Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
WdC, WdE:								
Wedowee, bouldery----	0-4	1.6-6.5	1.2-4.9	4.5-5.5	0	0	0	0
	4-7	1.1-4.2	0.8-3.2	4.5-5.5	0	0	0	0
	7-23	3.5-8.1	2.6-6.1	4.5-5.5	0	0	0	0
	23-35	2.0-5.6	1.5-4.2	4.5-5.5	0	0	0	0
	35-80	1.0-4.1	0.8-3.1	4.5-5.5	0	0	0	0
WeB, WeC, WeD, WeE:								
Wedowee--------------	0-4	1.6-6.5	1.2-4.9	4.5-5.5	0	0	0	0
	4-7	1.1-4.2	0.8-3.2	4.5-5.5	0	0	0	0
	7-23	3.5-8.1	2.6-6.1	4.5-5.5	0	0	0	0
	23-35	2.0-5.6	1.5-4.2	4.5-5.5	0	0	0	0
	35-80	1.0-4.1	0.8-3.1	4.5-5.5	0	0	0	0
WhB, WhC, WhD:								
White Store----------	0-8	5.0-15	2.7-14	4.5-5.5	0	0	0	0-1
	8-33	22-40	20-36	4.5-5.5	0	0	0	0-7
	33-37	5.0-17	5.0-15	4.5-5.5	0	0	0	0-1
	37-42	3.5-14	2.7-11	5.6-6.0	0	0	0	0-1
	42-80	---	---	---	0	0	0	0
Polkton--------------	0-4	5.0-15	2.2-10	4.5-5.5	0	0	0	0-1
	4-8	5.0-15	2.2-10	4.5-5.5	0	0	0	0-1
	8-15	14-22	10-16	4.5-5.5	0	0	0	0
	15-27	18-36	13-26	4.5-5.5	0	0	0	0
	27-30	10-20	7.5-15	4.5-5.5	0	0	0	0
	30-33	5.0-15	2.2-10	4.5-5.5	0	0	0	0-2
	33-80	---	---	---	---	---	---	---
WtB, WtC:								
Wynott---------------	0-4	5.0-15	3.5-10	4.5-6.5	0	0	0	0
	4-14	5.0-15	3.0-9.6	4.5-6.5	0	0	0	0
	14-24	20-40	9.2-18	4.5-6.5	0	0	0	0
	24-28	10-25	5.2-13	4.5-6.5	0	0	0	0
	28-80	---	---	---	---	---	---	---
Enon-----------------	0-8	4.0-20	2.7-10	5.1-6.5	0	0	0	0
	8-35	15-35	9.2-17	5.1-7.8	0	0	0	0
	35-80	5.2-13	3.9-10	6.1-7.8	0	0	0	0
WyB2, WyC2:								
Wynott, moderately eroded--------------	0-8	5.0-15	6.1-11	4.5-6.5	0	0	0	0
	8-22	20-40	9.2-18	4.5-6.5	0	0	0	0
	22-35	10-25	5.2-13	4.5-6.5	0	0	0	0
	35-80	---	---	---	---	---	---	---
Enon, moderately eroded--------------	0-8	10-25	6.1-11	5.1-6.5	0	0	0	0
	8-35	15-35	9.2-17	5.1-7.8	0	0	0	0
	35-80	5.2-13	3.9-10	6.1-7.8	0	0	0	0

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: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
BaE:									
Badin	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	High
Nanford	Bedrock (paralithic)	40-60	---	Weakly cemented	0	---	None	Moderate	High
BdB, BdC:									
Badin	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	High
Tarrus	Bedrock (paralithic)	40-60	---	Weakly cemented	0	---	None	High	High
BeB2, BeC2:									
Badin, moderately eroded	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	High
Tarrus, moderately eroded	Bedrock (paralithic)	40-60	---	Weakly cemented	0	---	None	High	High
CaB:									
Callison	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	Moderate	High
Lignum	Bedrock (paralithic)	40-60	---	Weakly cemented	0	---	None	High	High
CbC:									
Callison	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	Moderate	High
Misenheimer	Bedrock (paralithic)	10-20	---	Weakly cemented	0	---	None	High	High
CcB, CcC, CcD:									
Carbonton	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	Low	High
Brickhaven	Bedrock (paralithic)	40-60	---	Weakly cemented	0	---	None	Low	High

Soil Features—Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
CeB, CeC, CeD:									
Cecil	---	---	---	---	0	---	None	High	High
ChA:									
Chewacla	---	---	---	---	0	---	None	High	Moderate
Wehadkee	---	---	---	---	0	---	None	High	Moderate
CkC:									
Cid	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	High
	Bedrock (lithic)	20-40	---	Strongly cemented					
CmB:									
Cid	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	High
	Bedrock (lithic)	20-40	---	Strongly cemented					
Lignum	Bedrock (paralithic)	40-60	---	Weakly cemented	0	---	None	High	High
CrB, CrC, CrD:									
Creedmoor	---	---	---	---	0	---	None	High	High
Green Level	---	---	---	---	0	---	None	High	High
DAM:									
Dam	---	---	---	---	0	0	Low	---	---
GaB, GaC:									
Georgeville	---	---	---	---	0	---	None	High	High
GbB, GbC:									
Georgeville	---	---	---	---	0	---	None	High	High
GeB2, GeC2:									
Georgeville, moderately eroded	---	---	---	---	0	---	None	High	High
GhB2, GhC2:									
Georgeville, moderately eroded	---	---	---	---	0	---	None	High	High

Soil Features—Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
GkD, GkE:									
Georgeville------------	---	---	---	---	0	---	None	High	High
Badin------------------	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	High
GnC:									
Georgeville------------	---	---	---	---	0	---	None	High	High
Urban land-------------	---	---	---	---	0	---	None	---	---
GoC, GoE:									
Goldston---------------	Bedrock (paralithic)	10-20	---	Weakly cemented	0	---	None	Moderate	High
Badin------------------	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	High
HeB, HeC:									
Helena-----------------	---	---	---	---	0	---	None	High	High
HrB, HrC:									
Herndon----------------	---	---	---	---	0	---	None	High	High
IrB:									
Iredell----------------	---	---	---	---	0	---	None	High	Low
LsF:									
Louisa-----------------	Bedrock (paralithic)	10-20	---	Weakly cemented	0	---	None	Low	Moderate
MaA, MaB:									
Mattaponi--------------	---	---	---	---	0	---	None	High	High
McC:									
Mattaponi--------------	---	---	---	---	0	---	None	High	High
Peawick----------------	---	---	---	---	0	---	None	High	High
MdB, MdC:									
Mayodan----------------	---	---	---	---	0	---	None	High	Moderate
MgD:									
Mayodan----------------	---	---	---	---	0	---	None	High	Moderate

Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
MhE:									
Mayodan	---	---	---	---	0	---	None	High	Moderate
Brickhaven	Bedrock (paralithic)	40-60	---	Weakly cemented	0	---	None	Low	High
MrA:									
Merry Oaks	---	---	---	---	0	---	None	High	High
Moncure, undrained	---	---	---	---	0	---	None	High	High
NaB, NaC, NaD:									
Nanford	Bedrock (paralithic)	40-60	---	Weakly cemented	0	---	None	Moderate	High
Badin	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	High
PaE:									
Pacolet	---	---	---	---	0	---	None	High	High
PcA:									
Peawick	---	---	---	---	0	---	None	High	High
PeA, PeB:									
Peawick	---	---	---	---	0	---	None	High	High
PsB:									
Pittsboro, stony	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	Moderate
	Bedrock (lithic)	40-80	---	Weakly cemented					
Iredell, stony	---	---	---	---	0	---	None	High	Low
Qr:									
Pits, quarry	Bedrock (lithic)	0-0	---	Indurated	0	---	Low	---	---
RvA:									
Riverview	---	---	---	---	0	---	None	Low	Moderate
StB:									
State	---	---	---	---	0	---	None	Moderate	High

Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
TuA:									
Turbeville	---	---	---	---	0	---	None	High	High
UdC:									
Udorthents, loamy	---	---	---	---	0	---	None	Moderate	High
VaB:									
Vance	---	---	---	---	0	---	None	High	High
WdC, WdE:									
Wedowee, bouldery	---	---	---	---	0	---	None	Moderate	High
WeB, WeC, WeD, WeE:									
Wedowee	---	---	---	---	0	---	None	Moderate	High
WhB, WhC, WhD:									
White Store	Bedrock (paralithic)	40-60	---	Weakly cemented	0	---	None	High	High
Polkton	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	High
WtB, WtC:									
Wynott	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	Moderate
Enon	---	---	---	---	0	---	None	High	Moderate
WyB2, WyC2:									
Wynott, moderately eroded	Bedrock (paralithic)	20-40	---	Weakly cemented	0	---	None	High	Moderate
Enon, moderately eroded	---	---	---	---	0	---	None	High	Moderate

Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
BaE:										
Badin	B	High								
			Jan-Dec	---	---	---	---	None	---	None
Nanford	C	High								
			Jan-Dec	---	---	---	---	None	---	None
BdB, BdC										
Badin	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Tarrus	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
BeB2, BeC2:										
Badin, moderately eroded	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Tarrus, moderately eroded	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
CaB:										
Callison	C	Low								
			Dec-Mar	1.0-3.0	2.5-3.5	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
Lignum	C	Medium								
			Dec-Apr	1.0-2.5	2.5-3.5	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
CbC:										
Callison	C	Medium								
			Dec-Mar	1.0-3.0	2.5-3.5	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
Misenheimer	C	Very high								
			Dec-Apr	1.0-1.5	1.5-2.5	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None

Water Features—Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
CcB:										
Carbonton-----------------	C	Very high								
			Nov-May	1.0-2.0	1.5-3.5	---	---	None	---	None
			Jun-Oct	---	---	---	---	None	---	None
Brickhaven----------------	C	Low								
			Nov-Apr	1.5-3.0	2.5-4.0	---	---	None	---	None
			May-Oct	---	---	---	---	None	---	None
CcC:										
Carbonton-----------------	C	Very high								
			Nov-May	1.0-2.0	1.5-3.5	---	---	None	---	None
			Jun-Oct	---	---	---	---	None	---	None
Brickhaven----------------	C	Medium								
			Nov-May	1.5-3.0	2.5-4.0	---	---	None	---	None
			Jun-Oct	---	---	---	---	None	---	None
CcD:										
Carbonton-----------------	C	Very high								
			Nov-May	1.0-2.0	1.5-3.5	---	---	None	---	None
			Jun-Oct	---	---	---	---	None	---	None
Brickhaven----------------	C	Medium								
			Nov-Apr	1.5-3.0	2.5-4.0	---	---	None	---	None
			May-Oct	---	---	---	---	None	---	None
CeB:										
Cecil---------------------	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
CeC, CeD:										
Cecil---------------------	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
ChA:										
Chewacla------------------	C	Very high								
			Dec-Mar	0.5-2.0	>6.0	---	---	None	Brief	Frequent
			April	1.0-2.7	>6.0	---	---	None	Brief	Frequent
			May	1.5-4.0	>6.0	---	---	None	Brief	Frequent
			June	4.0-5.0	>6.0	---	---	None	Brief	Frequent
			October	4.0-5.0	>6.0	---	---	None	---	---
			November	1.0-2.7	>6.0	---	---	None	Brief	Frequent

Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
Wehadkee------------------	D	Very high								
			Dec-Apr	0.0-1.0	>6.0	---	---	None	Long	Frequent
			May	1.0-2.7	>6.0	---	---	None	Long	Frequent
			June	1.5-4.0	>6.0	---	---	None	Long	Frequent
			Jul-Oct	4.0-5.0	>6.0	---	---	None	---	---
			November	1.0-2.7	>6.0	---	---	None	Long	Frequent
CkC:										
Cid-----------------------	C	Very high								
			Dec-May	1.0-2.0	1.0-3.5	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
CmB:										
Cid-----------------------	C	Very high								
			Dec-May	1.0-2.0	1.0-3.5	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
Lignum--------------------	C	Medium								
			Jan-May	1.0-2.5	2.5-3.5	---	---	None	---	None
			Jun-Nov	---	---	---	---	None	---	None
CrB:										
Creedmoor-----------------	C	Medium								
			Dec-Apr	1.5-2.0	2.5-3.0	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
Green Level---------------	D	Very high								
			Dec-Mar	1.0-1.5	2.0-2.5	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
CrC, CrD:										
Creedmoor-----------------	C	High								
			Dec-Apr	1.5-2.0	2.5-3.0	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
Green Level---------------	D	Very high								
			Dec-Mar	1.0-1.5	2.0-2.5	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
DAM:										
Dam-----------------------	---	---								
			Jan-Dec	---	---	---	---	None	---	None

Water Features—Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
GaB:										
Georgeville	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
GaC:										
Georgeville	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
GbB, GbC:										
Georgeville	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
GeB2:										
Georgeville, moderately eroded	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
GeC2:										
Georgeville, moderately eroded	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
GhB2, GhC2:										
Georgeville, moderately eroded	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
GkD:										
Georgeville	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Badin	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None

Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
GkE:										
Georgeville	B	High								
			Jan-Dec	---	---	---	---	None	---	None
Badin	B	High								
			Jan-Dec	---	---	---	---	None	---	None
GnC:										
Georgeville	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Urban land	---	---								
			Jan-Dec	---	---	---	---	None	---	None
GoC:										
Goldston	C	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Badin	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
GoE:										
Goldston	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Badin	B	High								
			Jan-Dec	---	---	---	---	None	---	None
HeB:										
Helena	C	Low								
			Dec-Apr	1.5-2.5	2.5-3.5	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
HeC:										
Helena	C	Medium								
			Jan-Apr	1.5-2.5	2.5-3.5	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
HrB:										
Herndon	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
HrC:										
Herndon	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None

Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
IrB:										
Iredell	C/D	Very high								
			Dec-Apr	1.0-2.0	1.0-2.0	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
LsF:										
Louisa	B	High								
			Jan-Dec	---	---	---	---	None	---	None
MaA:										
Mattaponi	C	Low								
			Dec-Mar	3.0-5.2	4.0-6.0	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
MaB:										
Mattaponi	C	Medium								
			Dec-Mar	3.0-5.2	4.0-6.0	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
McC:										
Mattaponi	C	Medium								
			Dec-Mar	3.0-5.2	4.0-6.0	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
Peawick	D	High								
			Nov-Mar	1.5-3.0	1.5-3.0	---	---	None	---	None
			Apr-Oct	---	---	---	---	None	---	None
MdB:										
Mayodan	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
MdC:										
Mayodan	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
MgD:										
Mayodan	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
MhE:										
Mayodan	B	High								
			Jan-Dec	---	---	---	---	None	---	None

Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Brickhaven----------------	C	High								
			Nov-May	1.5-3.0	2.5-4.0	---	---	None	---	None
			Jun-Oct	---	---	---	---	None	---	None
MrA:										
Merry Oaks----------------	D	Very high								
			Jan-Mar	0.5-1.5	2.0-4.0	---	---	None	Brief	Occasional
			Nov-Dec	0.5-1.5	2.0-4.0	---	---	None	Brief	Occasional
Moncure, undrained--------	D	Negligible								
			Jan-May	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Brief	Occasional
			Nov-Dec	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	Brief	Occasional
NaB:										
Nanford-------------------	C	Low								
			Jan-Dec	---	---	---	---	None	---	None
Badin---------------------	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
NaC, NaD:										
Nanford-------------------	C	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Badin---------------------	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
PaE:										
Pacolet-------------------	B	High								
			Jan-Dec	---	---	---	---	None	---	None
PcA:										
Peawick-------------------	D	Medium								
			Nov-Mar	1.5-3.0	1.5-3.0	---	---	None	---	Rare
			Apr-Oct	---	---	---	---	None	---	Rare
PeA:										
Peawick-------------------	D	Medium								
			Nov-Mar	1.5-3.0	1.5-3.0	---	---	None	---	None
			Apr-Oct	---	---	---	---	None	---	None
PeB:										
Peawick-------------------	D	High								
			Nov-Mar	1.5-3.0	1.5-3.0	---	---	None	---	None
			Apr-Oct	---	---	---	---	None	---	None

Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
PsB:										
Pittsboro, stony----------	D	Very high								
			Nov-Apr	1.0-2.0	2.0-3.0	---	---	None	---	None
			May-Oct	---	---	---	---	None	---	None
Iredell, stony------------	C/D	Very high								
			Dec-Apr	1.0-2.0	2.0-3.0	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
Qr:										
Pits, quarry--------------	---	Very high								
			Jan-Dec	---	---	---	---	None	---	None
RvA:										
Riverview-----------------	B	Low								
			Jan-Mar	3.3-5.0	>6.0	---	---	None	Brief	Frequent
			Dec	3.3-5.0	>6.0	---	---	None	Brief	Frequent
StB:										
State---------------------	B	Low								
			Dec-Jun	4.0-6.0	>6.0	---	---	None	---	None
			Jul-Nov	---	---	---	---	None	---	None
TuA:										
Turbeville----------------	C	Low								
			Jan-Dec	---	---	---	---	None	---	None
UdC:										
Udorthents, loamy---------	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
VaB:										
Vance---------------------	C	Low								
			Jan-Dec	---	---	---	---	None	---	None
WdC:										
Wedowee, bouldery---------	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
WdE:										
Wedowee, bouldery---------	B	High								
			Jan-Dec	---	---	---	---	None	---	None
WeB:										
Wedowee-------------------	B	Low								
			Jan-Dec	---	---	---	---	None	---	None

Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
WeC, WeD, WeE:										
Wedowee-------------------	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
WhB:										
White Store---------------	D	Very high								
			Dec-Mar	1.0-1.5	2.0-2.5	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
Polkton-------------------	D	Medium								
			Dec-Mar	1.5-2.5	1.5-2.5	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
WhC, WhD:										
White Store---------------	D	Very high								
			Dec-Mar	1.0-1.5	2.0-2.5	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
Polkton-------------------	D	High								
			Dec-Mar	1.5-2.5	1.5-2.5	---	---	None	---	None
			Apr-Nov	---	---	---	---	None	---	None
WtB, WtC:										
Wynott--------------------	C	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Enon----------------------	C	Medium								
			Jan-Dec	---	---	---	---	None	---	None
WyB2, WyC2:										
Wynott, moderately eroded-	C	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Enon, moderately eroded---	C	Medium								
			Jan-Dec	---	---	---	---	None	---	None

Taxonomic Classification of the Soils

Soil name	Family or higher taxonomic class
Badin	Fine, mixed, semiactive, thermic Typic Hapludults
Brickhaven	Fine, mixed, semiactive, thermic Oxyaquic Hapludalfs
Callison	Fine-silty, siliceous, semiactive, thermic Aquic Hapludults
Carbonton	Fine, mixed, semiactive, thermic Oxyaquic Hapludalfs
Cecil	Fine, kaolinitic, thermic Typic Kanhapludults
Chewacla	Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts
Cid	Fine, mixed, semiactive, thermic Aquic Hapludults
Creedmoor	Fine, mixed, semiactive, thermic Aquic Hapludults
Enon	Fine, mixed, active, thermic Ultic Hapludalfs
Georgeville	Fine, kaolinitic, thermic Typic Kanhapludults
Goldston	Loamy-skeletal, siliceous, semiactive, thermic, shallow Typic Dystrudepts
Green Level	Fine, mixed, active, thermic Aquic Hapludults
Helena	Fine, mixed, semiactive, thermic Aquic Hapludults
Herndon	Fine, kaolinitic, thermic Typic Kanhapludults
Iredell	Fine, mixed, active, thermic Oxyaquic Vertic Hapludalfs
Lignum	Fine, mixed, semiactive, thermic Aquic Hapludults
Louisa	Loamy, micaceous, thermic, shallow Typic Dystrudepts
Mattaponi	Fine, mixed, subactive, thermic Typic Hapludults
Mayodan	Fine, mixed, semiactive, thermic Typic Hapludults
Merry Oaks	Fine-silty, mixed, semiactive, thermic Aeric Epiaquults
Misenheimer	Loamy, siliceous, semiactive, thermic, shallow Aquic Dystrudepts
Moncure	Fine-silty, mixed, semiactive, thermic Typic Endoaquults
Nanford	Fine, kaolinitic, thermic Typic Kanhapludults
Pacolet	Fine, kaolinitic, thermic Typic Kanhapludults
Peawick	Fine, mixed, active, thermic Aquic Hapludults
Pittsboro	Fine, mixed, active, thermic Oxyaquic Hapludalfs
Polkton	Fine, mixed, active, thermic Oxyaquic Vertic Hapludalfs
Riverview	Fine-loamy, mixed, active, thermic Fluventic Dystrudepts
State	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Tarrus	Fine, kaolinitic, thermic Typic Kanhapludults
Turbeville	Fine, kaolinitic, thermic Typic Kandiudults
Udorthents	Udorthents
Vance	Fine, mixed, semiactive, thermic Typic Hapludults
Wedowee	Fine, kaolinitic, thermic Typic Kanhapludults
Wehadkee	Fine-loamy, mixed, active, nonacid, thermic Fluvaquentic Endoaquepts
White Store	Fine, mixed, active, thermic Oxyaquic Vertic Hapludalfs
Wynott	Fine, mixed, active, thermic Typic Hapludalfs

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