United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Virginia Polytechnic Institute and State University

Soil Survey of Halifax County and the City of South Boston, Virginia

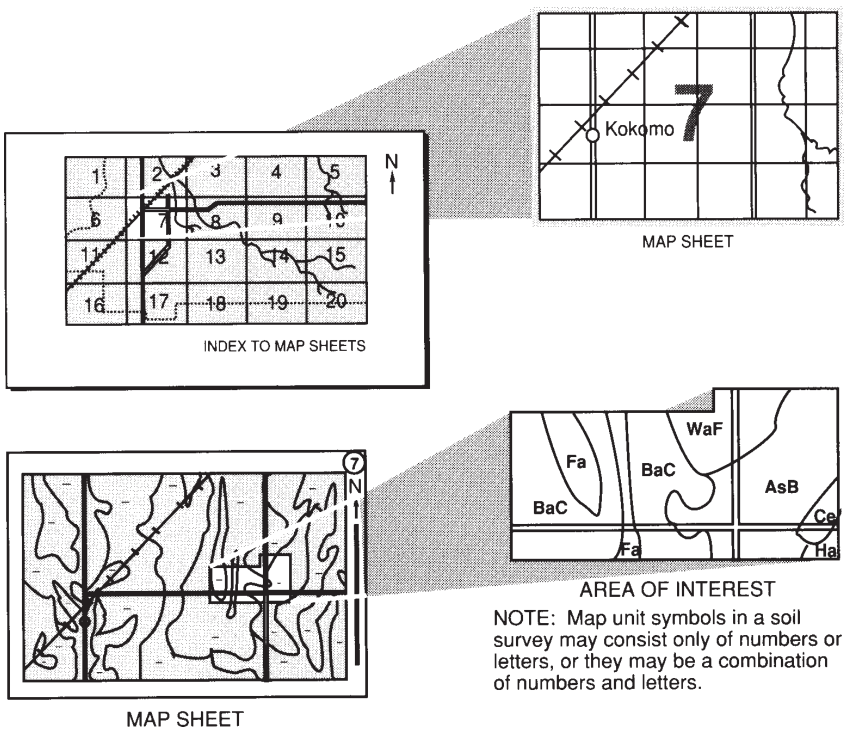
How To Use This Soil Survey

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 go to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Go 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 and the Virginia Polytechnic Institute and State University. The Virginia Department of Conservation and Recreation, the Halifax County Board of Supervisors, and the South Boston Town Council provided financial assistance. The survey is part of the technical assistance furnished to the Halifax Soil and Water Conservation District.

Major fieldwork for this soil survey was completed in 2002. Soil names and descriptions were approved in 2004. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2002. The most current official data are available at http://websoilsurvey.nrcs.usda.gov/app/.

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

Nondiscrimination Statement

Cover Caption

A field of tobacco in Halifax County. Photo courtesy of Raymond Cocke.

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

Contents

Issued 2009

Foreword

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

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

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

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

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

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State Conservationist
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Soil Survey of
Halifax County and the City of South Boston, Virginia

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United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
Virginia Polytechnic Institute and State University

HALIFAX COUNTY AND THE CITY OF SOUTH BOSTON are in south-central Virginia, about equidistant between Lynchburg, Virginia, and Greensboro, North Carolina (fig. 1). The survey area is bounded on the south by Caswell, Person, and Granville Counties, North Carolina. It is bounded on the north by Campbell County, Virginia, on the east by Mecklenburg County, and on the west by Pittsylvania County. Halifax County is the fourth largest county in Virginia, consisting of 819.3 square miles of land and 7.4 square miles of water.

This soil survey updates the survey of Halifax County published in 1938 *(17)*. It provides additional information and more detailed maps.

General Nature of the Survey Area

This section provides general information about the survey area. It discusses history; physiography, relief, and drainage; wildlife; local economy; and climate.

History

In 1752, Halifax County was created from part of Lunenburg County. It was named for George Montague Dunk, Second Earl of Halifax and the English First Lord Commissioner of Trade and Plantations at the time. The original Halifax County extended from the Staunton River westward to the Blue Ridge Mountains. The modern counties of Pittsylvania, Franklin, Henry, and Patrick were later carved from the original Halifax County.

Two historic military actions occurred in the county. The strategic “Retreat to the Dan” took place in 1781, during the American Revolution. During the Civil War, the “Battle of Staunton River Bridge” occurred on June 24, 1864, in northern Halifax County.

Physiography, Relief, and Drainage

The survey area is completely within the Piedmont physiographic province, which is located between the Blue Ridge province to the west and the Atlantic Coastal Plain to the east.

The county’s land features are those typical of a moderately high plateau dissected by numerous streams and rivers. Upland summits range from narrow to broad and

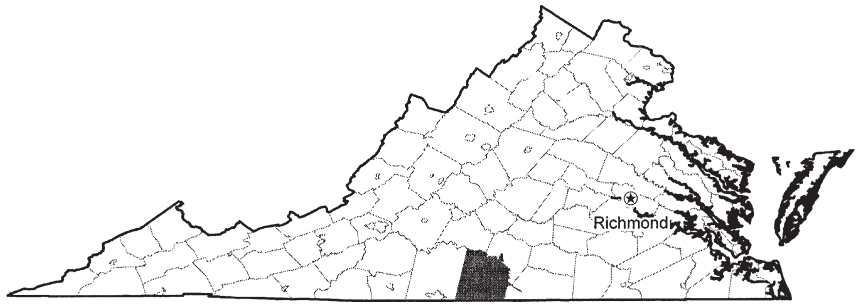

Figure 1.—Location of Halifax County in Virginia.

occur at elevations ranging from about 375 feet to as much as 600 feet above sea level. The base elevation of the major drainage systems is about 320 feet. The side slopes between the summits and drains are highly dissected and are moderately steep to very steep.

Major drainage systems include the Banister, Dan, Hyco, and Staunton Rivers. Broad flood plains and terraces are associated with the Banister and Dan Rivers, and much of the area is prime farmland. The confluence of the Dan and Staunton Rivers is in southeastern Halifax County near Staunton River State Park. The dam of Buggs Island Lake just south of the confluence created a large impoundment. It is controlled by the U.S. Army Corps of Engineers.

Wildlife

The woodland, cropland, and wetland habitats of Halifax County support a diverse population of fish and wildlife. Large wooded tracts are mainly on the upland soils, such as Clifford and Nathalie. These areas and wooded margins of open fields support large numbers of white-tailed deer, wild turkey, red fox, gray fox, squirrel, skunk, and opossum. The cropland throughout the county provides habitat for cottontail, groundhog, quail, mourning dove, and many other species of birds. Areas adjacent to intermittent and perennial streams provide habitat for beaver, raccoon, muskrat, snakes, turtles, and numerous species of waterfowl. Codorus, Hatboro, Comus, and Dan River soils occur on these riparian landscapes.

Local Economy

Halifax County has a diverse economic sector. Manufacturing industries include wood, furniture, electronics, metalworking, plastics, pet food, and technology companies.

Agriculture has been a major contributor to the local economy since the county was created more than 250 years ago. Halifax County is the second largest tobacco-producing county in Virginia, and many farmers depend on this crop for a livelihood. Tobacco production is regulated by the quota system of the U.S. Department of Agriculture. Recently, the poundage or acreage that farmers can commit to tobacco production has been drastically reduced and some farmers are looking for other crops to include in their crop rotations. Several farmers are varying their farming operations by producing and marketing specialty crops, such as melons, pumpkins, strawberries, and vegetables.

In addition to tobacco, the major row crops are corn, soybeans, and small grain. Numerous farms are involved in cattle production but there are only a few dairy operators in the county.

About two-thirds of the county, or about 350,000 acres, is in woodland. Private ownership accounts for about 85 percent of the commercial forestland, and the other 15 percent is owned by industries or the government. Mixed hardwoods and pine is the dominant forest type. Loblolly pine is frequently planted after harvesting areas of hardwood. Much of the harvested timber is used by local plants and sawmills to produce fiber board and dimensional lumber, and some is exported to other processors.

Climate

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

In winter, the average temperature is 39.5 degrees F and the average daily minimum temperature is 27.6 degrees. The lowest temperature on record, which occurred at Chase City on January 21, 1985, was -12 degrees. In summer, the average temperature is 76.1 degrees and the average daily maximum temperature is 87.9 degrees. The highest recorded temperature, which occurred at Chase City on July 14, 1954, was 107 degrees.

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

The average annual total precipitation is 55.71 inches. Of this, 38.12 inches, or about 68 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 4.30 inches, recorded at Chase City on June 17, 1966. Thunderstorms occur on about 44 days each year, and most occur between May and August.

The average seasonal snowfall is 6.6 inches. The greatest snow depth at any one time during the period of record was 20 inches, recorded on January 30, 1966. On average, about 3 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 12.0 inches, recorded on January 8, 1996.

The average relative humidity in mid-afternoon is about 54 percent. Humidity is higher at night, and the average at dawn is about 85 percent. The sun shines 60 percent of the time possible in summer and 55 percent in winter. The prevailing wind is from the southwest; it is from the northeast from August to October. Average windspeed 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.

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

Detailed Soil Map Units

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

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Clifford sandy loam, 2 to 8 percent slopes, is a phase of the Clifford 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. Devotion-Rhodhiss complex, 15 to 25 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. Urban land is an example.

Table 4 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.

1B3—Appomattox clay loam, 2 to 8 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 325 to 449 feet

Map Unit Composition

Major components:
Appomattox and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Turbeville, Oak Level, and Minnieville soils

Typical Profile

Surface layer:
0 to 8 inches—red clay loam

Subsoil:
8 to 14 inches—red clay
14 to 36 inches—red clay; reddish yellow masses of oxidized iron
36 to 42 inches—red clay loam; brownish yellow masses of oxidized iron and light gray iron depletions
42 to 54 inches—red clay loam; light gray iron depletions and brownish yellow masses of oxidized iron
54 to 64 inches—red loam; reddish yellow masses of oxidized iron

Substratum:
64 to 79 inches—yellowish red loam

Soil Properties and Qualities

Available water capacity: High (about 9.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.21 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: About 36 to 40 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: About 0.00 to 0.10 percent well rounded cobbles and about 0.00 to 0.10 percent coarse well rounded gravel
Parent material: Clayey, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, tobacco, and grass-legume hay; poorly suited to soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The high clay content restricts the rooting depth of crops.
- Clods may form if the soil is tilled when wet.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems, which may result in pollution of the water table.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: O
Hydric soil: No

1C3—Appomattox clay loam, 8 to 15 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 325 to 449 feet

Map Unit Composition

Major components:
Appomattox and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Oak Level and Minnieville soils

Typical Profile

Surface layer:
0 to 8 inches—red clay loam

Subsoil:
8 to 14 inches—red clay
14 to 36 inches—red clay; reddish yellow masses of oxidized iron
36 to 42 inches—red clay loam; brownish yellow masses of oxidized iron and light gray iron depletions
42 to 54 inches—red clay loam; light gray iron depletions and brownish yellow masses of oxidized iron
54 to 64 inches—red loam; reddish yellow masses of oxidized iron

Substratum:
64 to 79 inches—yellowish red loam

Soil Properties and Qualities

Available water capacity: High (about 9.2 inches)

Slowest saturated hydraulic conductivity: Moderately high (about 0.21 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: About 36 to 40 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: About 0.00 to 0.05 percent coarse well rounded gravel and about 0.00 to 0.05 percent well rounded cobbles
Parent material: Clayey, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The high clay content restricts the rooting depth of crops.
- Clods may form if the soil is tilled when wet.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: O
Hydric soil: No

2B—Banister-Kinkora complex, 0 to 4 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Stream terrace on piedmont
Position on the landform: Shoulder and backslope
Elevation: 325 to 410 feet

Map Unit Composition

Major components:
Banister and similar soils: Typically 85 percent, ranging from about 80 to 90 percent
Kinkora and similar soils: Typically 10 percent, ranging from about 10 to 20 percent

Minor components: Danripple soils

Typical Profile

Banister

Surface layer:
0 to 8 inches—olive brown loam (light olive brown, dry)

Subsoil:
8 to 14 inches—olive brown loam
14 to 18 inches—yellowish brown clay loam
18 to 50 inches—yellowish brown clay; gray iron depletions and strong brown masses of oxidized iron
50 to 58 inches—light gray clay; red masses of oxidized iron

Substratum:
58 to 65 inches—light gray clay loam

Kinkora

Surface layer:
0 to 4 inches—dark grayish brown silt loam (grayish brown, dry); yellowish brown iron-manganese masses

Subsoil:
4 to 9 inches—grayish brown silty clay loam; strong brown iron-manganese masses
9 to 38 inches—gray silty clay; strong brown iron-manganese masses

Substratum:
38 to 62 inches—gray sandy loam; strong brown iron-manganese masses

Soil Properties and Qualities

Available water capacity: Banister—moderate (about 7.6 inches); Kinkora—moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Banister—moderately high (about 0.20 in/hr); Kinkora—moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Banister—moderately well drained; Kinkora—poorly drained
Depth to seasonal water saturation: Banister—about 18 to 30 inches; Kinkora—about 0 to 12 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Banister—low; Kinkora—medium
Surface fragments: Banister—about 0.00 to 0.10 percent coarse well rounded gravel and about 0.00 to 0.10 percent well rounded cobbles; Kinkora—none
Parent material: Clayey, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, tobacco, and grass-legume hay
- The high clay content restricts the rooting depth of crops.

Pastureland

- These soils are well suited to pastureland.

Woodland

Suitability: Well suited to loblolly pine and southern red oak; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- Flooding is a limitation affecting building site development.

- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems, which may result in pollution of the water table.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability classification: Banister—2e; Kinkora—4w
Virginia soil management group: Banister—K; Kinkora—NN
Hydric soils: Banister—no; Kinkora—yes

3B—Bentley loamy sand, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Bentley and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Minor components: Nathalie soils

Typical Profile

Surface layer:
0 to 17 inches—brown loamy sand (light yellowish brown, dry)

Subsoil:
17 to 23 inches—yellowish brown sandy loam
23 to 35 inches—yellowish brown sandy clay loam
35 to 48 inches—yellowish brown clay; pale brown iron depletions and red masses of oxidized iron
48 to 61 inches—red, pale brown, and yellowish brown sandy clay; light gray iron depletions

Substratum:
61 to 80 inches—yellowish brown, light gray, and dark yellowish brown sandy clay

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.21 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: About 30 to 42 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: About 0.00 to 0.10 percent coarse well rounded gravel and about 0.00 to 0.10 percent well rounded cobbles
Parent material: Clayey, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to soybeans, tobacco, and grass-legume hay; moderately suited to corn
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- Coarse textured soil layers increase the maintenance of haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: R
Hydric soil: No

3C—Bentley loamy sand, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Bentley and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Minor components: Nathalie soils

Typical Profile

Surface layer:
0 to 17 inches—brown loamy sand (light yellowish brown, dry)

Subsoil:
17 to 23 inches—yellowish brown sandy loam
23 to 35 inches—yellowish brown sandy clay loam
35 to 48 inches—yellowish brown clay; pale brown iron depletions and red masses of oxidized iron
48 to 61 inches—red, pale brown, and yellowish brown sandy clay; light gray iron depletions

Substratum:
61 to 80 inches—yellowish brown, light gray, and dark yellowish brown sandy clay

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.21 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: About 30 to 42 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium

Surface fragments: About 0.00 to 0.05 percent coarse well rounded gravel and about 0.00 to 0.05 percent well rounded cobbles
Parent material: Clayey, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, tobacco, and grass-legume hay; poorly suited to soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- Coarse textured soil layers increase the maintenance of haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: R
Hydric soil: No

4A—Chewacla silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plain on piedmont
Position on the landform: Treads
Elevation: 325 to 351 feet

Map Unit Composition

Major components:
Chewacla and similar soils: Typically 85 percent, ranging from about 80 to 95 percent

Minor components: Riverview and Toccoa soils

Typical Profile

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

Subsurface layer:
8 to 15 inches—yellowish brown silt loam; yellowish brown mottles

Subsoil:
15 to 30 inches—yellowish brown silt loam; strong brown masses of oxidized iron and light brownish gray iron depletions
30 to 36 inches—brown silt loam; light brownish gray clay depletions and strong brown masses of oxidized iron
36 to 42 inches—light yellowish brown silty clay loam; strong brown masses of oxidized iron and light brownish gray clay depletions
42 to 48 inches—light yellowish brown silty clay loam; light brownish gray clay depletions and strong brown masses of oxidized iron
48 to 55 inches—light brownish gray silty clay loam; yellowish brown mottles and strong brown masses of oxidized iron

Substratum:
55 to 60 inches—dark reddish gray silt loam; strong brown masses of oxidized iron

Soil Properties and Qualities

Available water capacity: High (about 10.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal water saturation: About 6 to 18 inches
Water table kind: Apparent
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low

Runoff class: Low
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn and grass-legume hay; moderately suited to soybeans
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- Flooding may damage crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability classification: 4w

Virginia soil management group: I
Hydric soil: No

5A—Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plain on piedmont
Position on the landform: Treads
Elevation: 298 to 351 feet

Map Unit Composition

Major components:
Chewacla and similar soils: Typically 75 percent, ranging from about 65 to 90 percent
Wehadkee and similar soils: Typically 20 percent, ranging from about 10 to 35 percent

Typical Profile

Chewacla

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

Subsurface layer:
8 to 15 inches—yellowish brown silt loam; yellowish brown mottles

Subsoil:
15 to 30 inches—yellowish brown silt loam; strong brown masses of oxidized iron and light brownish gray iron depletions
30 to 36 inches—brown silt loam; light brownish gray clay depletions and strong brown masses of oxidized iron
36 to 42 inches—light yellowish brown silty clay loam; strong brown masses of oxidized iron and light brownish gray clay depletions
42 to 48 inches—light yellowish brown silty clay loam; light brownish gray clay depletions and strong brown masses of oxidized iron
48 to 55 inches—light brownish gray silty clay loam; yellowish brown mottles and strong brown masses of oxidized iron

Substratum:
55 to 60 inches—dark reddish gray silt loam; strong brown masses of oxidized iron

Wehadkee

Surface layer:
0 to 4 inches—brown silt loam (yellowish brown, dry)

Subsoil:
4 to 16 inches—gray loam
16 to 26 inches—gray sandy clay loam
26 to 62 inches—gray clay loam

Substratum:
62 to 72 inches—gray sandy clay loam

Soil Properties and Qualities

Available water capacity: High (about 10.8 inches)

Slowest saturated hydraulic conductivity: Chewacla—moderately high (about 0.64 in/hr); Wehadkee—moderately high (about 0.58 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Chewacla—somewhat poorly drained; Wehadkee—poorly drained
Depth to seasonal water saturation: Chewacla—about 6 to 18 inches; Wehadkee—about 0 to 12 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: Chewacla—none; Wehadkee—frequent
Depth of ponding: Chewacla—not applicable; Wehadkee—0.0 to 0.5 foot
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Compaction may occur when the soil is wet.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads
- Flooding and ponding restrict the safe use of log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Flooding and ponding are limitations affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding and ponding are limitations affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.

- Ponding affects the ease of excavation and grading and limits the bearing capacity of the soil.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 6w
Virginia soil management group: Chewacla—I; Wehadkee—MM
Hydric soils: Chewacla—no; Wehadkee—yes

6C—Cid silt loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Upland ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 325 to 459 feet

Map Unit Composition

Major components:
Cid and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Badin and Nanford soils

Typical Profile

Surface layer:
0 to 6 inches—yellowish brown silt loam (light yellowish brown, dry)

Subsoil:
6 to 18 inches—yellowish brown silty clay; yellowish red masses of oxidized iron
18 to 26 inches—yellowish brown silty clay; gray iron depletions and strong brown masses of oxidized iron
26 to 31 inches—brownish yellow silty clay loam; gray iron depletions and strong brown masses of oxidized iron

Soft bedrock:
31 to 35 inches—weathered slate bedrock

Hard bedrock:
35 to 45 inches—unweathered slate bedrock

Soil Properties and Qualities

Available water capacity: Low (about 4.8 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.07 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 31 inches to bedrock (paralithic); 20 to 40 inches to bedrock (lithic)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high

Surface fragments: None
Parent material: Slate residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn, soybeans, and tobacco
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: KK
Hydric soil: No

7B—Cid-Lignum complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Upland ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 325 to 459 feet

Map Unit Composition

Major components:
Cid and similar soils: Typically 70 percent, ranging from about 50 to 80 percent
Lignum and similar soils: Typically 25 percent, ranging from about 20 to 50 percent

Minor components: Badin and Nanford soils

Typical Profile

Cid

Surface layer:
0 to 6 inches—yellowish brown silt loam (light yellowish brown, dry)

Subsoil:
6 to 18 inches—yellowish brown silty clay; yellowish red masses of oxidized iron
18 to 26 inches—yellowish brown silty clay; gray iron depletions and strong brown masses of oxidized iron
26 to 31 inches—brownish yellow silty clay loam; gray iron depletions and strong brown masses of oxidized iron

Soft bedrock:
31 to 35 inches—weathered slate bedrock

Hard bedrock:
35 to 45 inches—unweathered slate bedrock

Lignum

Surface layer:
0 to 6 inches—light olive brown loam (light yellowish brown, dry)

Subsoil:
6 to 14 inches—yellowish brown clay; strong brown and red masses of oxidized iron and gray iron depletions
14 to 28 inches—yellowish brown clay; gray iron depletions and strong brown and red masses of oxidized iron
28 to 35 inches—gray clay; strong brown masses of oxidized iron

Substratum:
35 to 56 inches—yellowish brown silt loam

Soft bedrock:
56 to 66 inches—weathered slate bedrock

Soil Properties and Qualities

Available water capacity: Cid—low (about 4.8 inches); Lignum—moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Cid—moderately low (about 0.07 in/hr); Lignum—low (about 0.00 in/hr)
Depth class: Cid—moderately deep (20 to 40 inches); Lignum—deep (40 to 60 inches)
Depth to root-restrictive feature: Cid—20 to 31 inches to bedrock (paralithic) and 20 to 40 inches to bedrock (lithic); Lignum—40 to 60 inches to bedrock (paralithic)
Drainage class: Cid—moderately well drained; Lignum—somewhat poorly drained
Depth to seasonal water saturation: Cid—about 18 to 30 inches; Lignum—about 12 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Cid—high; Lignum—very high
Surface fragments: None
Parent material: Slate residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn, soybeans, and tobacco
- The rate of surface runoff, erosion hazard, and amount rof nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.

- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: Cid—2e; Lignum—4w
Virginia soil management group: KK
Hydric soils: No

8B—Clifford sandy loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont (fig. 2)
Position on the landform: Summit and shoulder
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Clifford and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Minor components: Halifax and Nathalie soils

Figure 2.—A hayfield in an area of Clifford sandy loam, 2 to 8 percent slopes, and an of area Halifax sandy loam, 2 to 8 percent slopes.

Typical Profile

Surface layer:
0 to 6 inches—brown sandy loam (brown, dry)

Subsoil:
6 to 35 inches—red clay
35 to 55 inches—red clay loam

Substratum:
55 to 65 inches—red loam

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco; moderately suited to corn, soybeans, and grass-legume hay

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak; moderately suited to loblolly pine, southern red oak, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: X
Hydric soil: No

8C—Clifford sandy loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Clifford and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Minor components: Nathalie and Halifax soils

Typical Profile

Surface layer:
0 to 6 inches—brown sandy loam (brown, dry)

Subsoil:
6 to 35 inches—red clay
35 to 55 inches—red clay loam

Substratum:
55 to 65 inches—red loam

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak; moderately suited to loblolly pine, southern red oak, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Figure 3.—Tobacco on Clifford clay loam, 2 to 8 percent slopes, severely eroded.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: X
Hydric soil: No

9B3—Clifford clay loam, 2 to 8 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Upland ridge on piedmont (fig. 3)
Position on the landform: Shoulder, backslope, and summit
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Clifford and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Minor components: Halifax and Nathalie soils

Typical Profile

Surface layer:
0 to 5 inches—red clay loam (red, dry)

Subsoil:
5 to 48 inches—red clay
48 to 58 inches—red sandy clay loam

Substratum:
58 to 62 inches—yellowish red loam

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco; poorly suited to corn, soybeans, and grass-legume hay

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited

- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak; moderately suited to loblolly pine, southern red oak, yellow-poplar, and sweetgum

- Proper planning for timber harvesting is essential in minimizing the potential negative

impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: X
Hydric soil: No

9C3—Clifford clay loam, 8 to 15 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Clifford and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Minor components: Halifax and Nathalie soils

Typical Profile

Surface layer:
0 to 5 inches—red clay loam (red, dry)

Subsoil:
5 to 48 inches—red clay
48 to 58 inches—red sandy clay loam

Substratum:
58 to 62 inches—yellowish red loam

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches

Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco; poorly suited to corn, soybeans, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to northern red oak; moderately suited to loblolly pine, southern red oak, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: X
Hydric soil: No

10B—Clifford-Urban land complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Upland ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Clifford and similar soils: Typically 75 percent, ranging from about 70 to 85 percent
Urban land: Typically 20 percent, ranging from about 15 to 25 percent

Minor components: Nathalie and Halifax soils

Typical Profile

Clifford

Surface layer:
0 to 6 inches—brown sandy loam (brown, dry)

Subsoil:
6 to 28 inches—red clay
28 to 35 inches—red clay
35 to 55 inches—red clay loam

Substratum:
55 to 65 inches—red loam

Urban land

This part of the map unit consists of areas covered by asphalt roadways or parking lots, concrete structures, buildings, and other impervious surfaces.

Properties and Qualities of the Clifford Soil

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations for the Clifford soil

Cropland

- This soil is well suited to tobacco and moderately suited to corn, soybeans, and grass-legume hay

Pastureland

- This soil is well suited to pasture.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: Clifford—2e; Urban land—8s
Virginia soil management group: Clifford—X; Urban land—none assigned
Hydric soils: No

10D—Clifford-Urban land complex, 8 to 20 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Clifford and similar soils: Typically 75 percent, ranging from about 70 to 85 percent
Urban land: Typically 20 percent, ranging from about 15 to 25 percent

Minor components: Nathalie and Halifax soils

Typical Profile

Clifford

Surface layer:
0 to 6 inches—brown sandy loam (brown, dry)

Subsoil:
6 to 28 inches—red clay
28 to 35 inches—red clay
35 to 55 inches—red clay loam

Substratum:
55 to 65 inches—red loam

Urban land

This part of the map unit consists of areas covered by asphalt roadways or parking lots, concrete structures, buildings, and other impervious surfaces.

Properties and Qualities of the Clifford Soil

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations for the Clifford Soil

Cropland

- This soil is moderately suited to tobacco and grass-legume hay and poorly suited to corn and soybeans.

Pastureland

- This soil is well suited to pasture.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: Clifford—3e; Urban land—8s
Virginia soil management group: Clifford—X; Urban land—none assigned
Hydric soils: No

11C—Clover fine sandy loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Upland ridge on piedmont

Position on the landform: Shoulder, backslope, and summit
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Clover and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Stoneville soils

Typical Profile

Surface layer:
0 to 9 inches—brown fine sandy loam (light brown, dry)

Subsoil:
9 to 18 inches—yellowish red clay; few yellowish red and few reddish yellow mottles
18 to 32 inches—red clay; common yellowish brown mottles
32 to 42 inches—red silty clay loam; common brown and common yellowish brown mottles

Substratum:
42 to 65 inches—pale brown and reddish brown silt loam

Soil Properties and Qualities

Available water capacity: Moderate (about 7.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Triassic sedimentary residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.

- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: V
Hydric soil: No

11D—Clover fine sandy loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep side slopes
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Clover and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Pinkston soils

Typical Profile

Surface layer:
0 to 9 inches—brown fine sandy loam (light brown, dry)

Subsoil:
9 to 18 inches—yellowish red clay; few yellowish red and few reddish yellow mottles
18 to 32 inches—red clay; common yellowish brown mottles
32 to 42 inches—red silty clay loam; common brown and common yellowish brown mottles

Substratum:
42 to 65 inches—pale brown and reddish brown silt loam

Soil Properties and Qualities

Available water capacity: Moderate (about 7.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: None
Parent material: Triassic sedimentary residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: V
Hydric soil: No

12B—Clover-Bentley complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Clover and similar soils: Typically 80 percent, ranging from about 70 to 90 percent
Bentley and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Minor components: Straightstone soils

Typical Profile

Clover

Surface layer:
0 to 9 inches—brown fine sandy loam (light brown, dry)

Subsoil:
9 to 18 inches—yellowish red clay; few yellowish red and few reddish yellow mottles
18 to 32 inches—red clay; common yellowish brown mottles
32 to 42 inches—red silty clay loam; common brown and common yellowish brown mottles

Substratum:
42 to 65 inches—pale brown and reddish brown silt loam

Bentley

Surface layer:
0 to 17 inches—brown loamy sand (light yellowish brown, dry)

Subsoil:
17 to 23 inches—yellowish brown sandy loam
23 to 35 inches—yellowish brown sandy clay loam

35 to 48 inches—yellowish brown clay; pale brown iron depletions and red masses of oxidized iron
48 to 61 inches—red, pale brown, and yellowish brown sandy clay; light gray iron depletions

Substratum:
61 to 80 inches—yellowish brown, light gray, and dark yellowish brown sandy clay

Soil Properties and Qualities

Available water capacity: Clover—moderate (about 7.3 inches); Bentley—moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Clover—moderately high (about 0.64 in/hr); Bentley—moderately high (about 0.21 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: Clover—more than 6 feet; Bentley—about 30 to 42 inches
Water table kind: Clover—not applicable; Bentley—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: Clover—none; Bentley—about 0.00 to 0.10 percent coarse well rounded gravel and cobbles
Parent material: Clover—Triassic sedimentary residuum; Bentley—clayey, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- Coarse textured soil layers increase the maintenance of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: Clover—V; Bentley—R
Hydric soils: No

13A—Codorus loam, 0 to 2 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plain on piedmont
Position on the landform: Treads
Elevation: 200 to 351 feet

Map Unit Composition

Major components:
Codorus and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Dan River, Banister, and Hatboro soils

Typical Profile

Surface layer:
0 to 8 inches—brown loam (pale brown, dry); yellowish red masses of oxidized iron

Subsoil:
8 to 17 inches—brown and yellowish brown loam; yellowish red iron-manganese concretions
17 to 23 inches—grayish brown clay loam; strong brown masses of oxidized iron
23 to 33 inches—light brownish gray clay loam; iron-manganese nodules and strong brown masses of oxidized iron

Substratum:
33 to 62 inches—light brownish gray clay loam

Soil Properties and Qualities

Available water capacity: High (about 10.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal water saturation: About 6 to 18 inches
Water table kind: Apparent
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Loamy, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, wheat, and grass-legume hay
- Flooding may damage crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads
- Flooding restricts the safe use of log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability classification: 4w
Virginia soil management group: I
Hydric soil: No

14A—Codorus and Hatboro soils, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plain on piedmont
Position on the landform: Treads
Elevation: 298 to 351 feet

Map Unit Composition

Major components:
Codorus and similar soils: Typically 80 percent, ranging from about 75 to 90 percent
Hatboro and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Minor components: Banister soils

Typical Profile

Codorus

Surface layer:
0 to 8 inches—brown loam (pale brown, dry); yellowish red masses of oxidized iron

Subsoil:
8 to 17 inches—brown and yellowish brown loam; yellowish red iron-manganese concretions
17 to 23 inches—grayish brown clay loam; strong brown masses of oxidized iron
23 to 33 inches—light brownish gray clay loam; iron-manganese nodules and strong brown masses of oxidized iron

Substratum:
33 to 62 inches—light brownish gray clay loam

Hatboro

Surface layer:
0 to 4 inches—very dark grayish brown loam (brown, dry); brown masses of oxidized iron

Subsoil:
4 to 35 inches—grayish brown clay loam; brown masses of oxidized iron

Substratum:
35 to 65 inches—grayish brown sandy loam; brown masses of oxidized iron

Soil Properties and Qualities

Available water capacity: Codorus—high (about 10.8 inches); Hatboro—high (about 9.3 inches)

Slowest saturated hydraulic conductivity: Codorus—moderately high (about 0.64 in/hr); Hatboro—moderately high (about 0.58 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Codorus—somewhat poorly drained; Hatboro—poorly drained
Depth to seasonal water saturation: Codorus—about 6 to 18 inches; Hatboro—about 0 to 12 inches
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: Codorus—none; Hatboro—frequent
Depth of ponding: Codorus—not applicable; Hatboro—0.0 to 0.5 foot
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Loamy, mixed alluvium

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding and ponding restrict the safe use of log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- Flooding and ponding are limitations affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding and ponding are limitations affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.

- Ponding affects the ease of excavation and grading and limits the bearing capacity of the soil.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 6w
Virginia soil management group: Codorus—I; Hatboro—MM
Hydric soils: Codorus—no; Hatboro—yes

15A—Comus fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plain on piedmont
Position the landform: Treads
Elevation: 298 to 351 feet

Map Unit Composition

Major components:
Comus and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Dan River and Codorus soils

Typical Profile

Surface layer:
0 to 10 inches—yellowish brown fine sandy loam (light yellowish brown, dry)

Subsoil:
10 to 39 inches—dark yellowish brown fine sandy loam

Substratum:
39 to 65 inches—yellowish brown loamy sand

Soil Properties and Qualities

Available water capacity: High (about 9.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: About 0.00 to 0.50 percent coarse well rounded gravel
Parent material: Recent alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay

- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.
- Flooding may damage crops.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.

Woodland

Suitability: Well suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of log trucks.

Building sites

- Flooding is a limitation affecting building site development.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.

Local roads and streets

- Flooding may damage local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 1
Virginia soil management group: A
Hydric soil: No

16A—Dan River loam, 0 to 2 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plain on piedmont (fig. 4)
Position on the landform: Treads
Elevation: 298 to 351 feet

Map Unit Composition

Major components:
Dan River and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Comus and Codorus soils

Typical Profile

Surface layer:
0 to 9 inches—dark yellowish brown loam (yellowish brown, dry)

Subsoil:
9 to 30 inches—dark yellowish brown loam

Figure 4.—A young corn crop in an area of Dan River loam, 0 to 2 percent slopes, occasionally flooded, is in the foreground. An area of Codorus loam, 0 to 2 percent slopes, occasionally flooded, is in the background.

30 to 41 inches—yellowish brown sandy clay loam; strong brown masses of oxidized iron and pale brown iron depletions
41 to 56 inches—yellowish brown sandy clay loam; strong brown masses of oxidized iron and light brownish gray iron depletions

Substratum:
56 to 62 inches—yellowish brown sandy loam; strong brown masses of oxidized iron and light brownish gray iron depletions

Soil Properties and Qualities

Available water capacity: Moderate (about 8.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: About 30 to 39 inches
Water table kind: Apparent
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: About 0.00 to 0.50 percent coarse well rounded gravel
Parent material: Loamy, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay
• Flooding may damage crops.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.

Woodland

Suitability: Well suited to loblolly pine, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.
- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2w
Virginia soil management group: G
Hydric soil: No

17B—Danripple sandy loam, 2 to 8 percent slopes, very rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Stream terrace on piedmont
Position on the landform: Treads
Elevation: 325 to 377 feet

Map Unit Composition

Major components:
Danripple and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Banister soils

Typical Profile

Surface layer:
0 to 10 inches—reddish brown sandy loam (reddish brown, dry)

Subsoil:
10 to 28 inches—yellowish red clay
28 to 40 inches—strong brown clay loam
40 to 48 inches—strong brown clay loam; red masses of oxidized iron and pale brown iron depletions

Substratum:
48 to 72 inches—reddish yellow sandy clay loam; red masses of oxidized iron and light gray iron depletions

Soil Properties and Qualities

Available water capacity: Moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.21 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: About 39 to 60 inches
Water table kind: Apparent
Flooding hazard: Very rare
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Low
Surface fragments: About 0.00 to 0.10 percent coarse well rounded gravel and cobbles
Parent material: Clayey, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay; moderately suited to alfalfa hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: L
Hydric soil: No

18B—Delila sandy loam, 0 to 4 percent

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Upland swale on piedmont
Position on the landform: Toeslope
Elevation: 325 to 492 feet

Map Unit Composition

Major components:
Delila and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Minor components: Halifax and Orange soils

Typical Profile

Surface layer:
0 to 8 inches—grayish brown sandy loam (pale brown, dry)

Subsoil:
8 to 21 inches—gray clay; yellowish brown masses of oxidized iron
21 to 38 inches—gray clay; yellowish brown masses of oxidized iron

Substratum:
38 to 65 inches—gray sandy loam; yellowish brown masses of oxidized iron

Soil Properties and Qualities

Available water capacity: Moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal water saturation: About 0 to 12 inches
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Alluvium and/or colluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn; poorly suited to soybeans and grass-legume hay
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.
- This soil is well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4w
Virginia soil management group: HH
Hydric soil: Yes

19C—Devotion-Rhodhiss complex, 4 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont

Position on the landform: Shoulder and backslope
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Devotion and similar soils: Typically 60 percent, ranging from about 50 to 75 percent
Rhodhiss and similar soils: Typically 30 percent, ranging from about 25 to 50 percent

Minor components: Rock outcrop

Typical Profile

Devotion

Surface layer:
0 to 10 inches—brown sandy loam (light yellowish brown, dry)

Subsoil:
10 to 25 inches—yellowish brown sandy loam

Substratum:
25 to 30 inches—light yellowish brown sandy loam

Soft bedrock:
30 to 52 inches—weathered granite gneiss bedrock

Hard bedrock:
52 to 62 inches—unweathered granite gneiss bedrock

Rhodhiss

Surface layer:
0 to 2 inches—brown sandy loam (brown, dry)

Subsurface layer:
2 to 14 inches—yellowish brown sandy loam

Subsoil:
14 to 40 inches—strong brown sandy clay loam

Substratum:
40 to 62 inches—strong brown gravelly sandy loam

Soil Properties and Qualities

Available water capacity: Devotion—low (about 3.5 inches); Rhodhiss—moderate (about 6.1 inches)
Slowest saturated hydraulic conductivity: Devotion—high (about 1.98 in/hr); Rhodhiss—moderately high (about 0.64 in/hr)
Depth class: Devotion—moderately deep (20 to 40 inches); Rhodhiss—very deep
Depth to root-restrictive feature: Devotion—20 to 40 inches to bedrock (paralithic) and 40 to 60 inches to bedrock (lithic); Rhodhiss—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Poorly suited to corn, soybeans, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to northern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: Devotion—FF; Rhodhiss—X
Hydric soils: No

19D—Devotion-Rhodhiss complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep side slopes
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Devotion and similar soils: Typically 60 percent, ranging from about 50 to 75 percent
Rhodhiss and similar soils: Typically 30 percent, ranging from about 25 to 50 percent

Minor components: Toast soils and Rock outcrop

Typical Profile

Devotion

Surface layer:
0 to 10 inches—brown sandy loam (light yellowish brown, dry)

Subsoil:
10 to 25 inches—yellowish brown sandy loam

Substratum:
25 to 30 inches—light yellowish brown sandy loam

Soft bedrock:
30 to 52 inches—weathered granite gneiss bedrock

Hard bedrock:
52 to 62 inches—unweathered granite gneiss bedrock

Rhodhiss

Surface layer:
0 to 2 inches—brown sandy loam (brown, dry)

Subsurface layer:
2 to 14 inches—yellowish brown sandy loam

Subsoil:
14 to 40 inches—strong brown sandy clay loam

Substratum:
40 to 62 inches—strong brown gravelly sandy loam

Soil Properties and Qualities

Available water capacity: Devotion—low (about 3.5 inches); Rhodhiss—moderate (about 6.1 inches)
Slowest saturated hydraulic conductivity: Devotion—high (about 1.98 in/hr); Rhodhiss—moderately high (about 0.64 in/hr)
Depth class: Devotion—moderately deep (20 to 40 inches); Rhodhiss—very deep
Depth to root-restrictive feature: Devotion—20 to 40 inches to bedrock (paralithic) and 40 to 60 inches to bedrock (lithic); Rhodhiss—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Poorly suited to corn, soybeans, and grass-legume hay

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to northern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: Devotion—FF; Rhodhiss—X
Hydric soils: No

20B—Dogue silt loam, 2 to 8 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Stream terrace on piedmont
Position on the landform: Treads
Elevation: 298 to 351 feet

Map Unit Composition

Major components:
Dogue and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Minor components: Masada soils

Typical Profile

Surface layer:
0 to 11 inches—brown silt loam (brown, dry)

Subsoil:
11 to 17 inches—light yellowish brown silty clay loam; strong brown masses of oxidized iron
17 to 30 inches—yellowish brown and light yellowish brown silty clay; strong brown masses of oxidized iron and grayish brown iron depletions
30 to 51 inches—yellowish brown clay; strong brown masses of oxidized iron and gray iron depletions
51 to 62 inches—brownish yellow clay loam; strong brown masses of oxidized iron and gray iron depletions

Substratum:
62 to 80 inches—strong brown loam; reddish yellow masses of oxidized iron

Soil Properties and Qualities

Available water capacity: Moderate (about 7.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 36 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: About 0.00 to 0.10 percent coarse well rounded gravel and cobbles
Parent material: Clayey, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, tobacco, and grass-legume hay
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

- This soil is well suited to pasture.

Woodland

Suitability: Well suited to loblolly pine and southern red oak; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative

impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems, which may result in pollution of the water table.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: K
Hydric soil: No

21D—Fairview sandy loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Backslope
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Fairview and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Devotion, Rhodhiss, and Toast soils and Rock outcrop

Typical Profile

Surface layer:
0 to 1 inch—brown sandy loam (yellowish brown, dry)

Subsurface layer:
1 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 20 inches—red clay
20 to 23 inches—red sandy clay loam
23 to 38 inches—strong brown and yellowish red sandy loam

Substratum:
38 to 62 inches—strong brown sandy loam

Soil Properties and Qualities

Available water capacity: Moderate (about 7.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Residuum weathered from gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: X
Hydric soil: No

21E—Fairview sandy loam, 25 to 45 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Backslope
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Fairview and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Rhodhiss and Devotion soils and Rock outcrop

Typical Profile

Surface layer:
0 to 1 inch—brown sandy loam (yellowish brown, dry)

Subsurface layer:
1 to 6 inches—yellowish brown sandy loam

Subsoil:
6 to 20 inches—red clay
20 to 23 inches—red sandy clay loam
23 to 38 inches—strong brown and yellowish red sandy loam

Substratum:
38 to 62 inches—strong brown sandy loam

Soil Properties and Qualities

Available water capacity: Moderate (about 7.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low

Runoff class: High
Surface fragments: None
Parent material: Residuum weathered from gneiss

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

- This soil is unsuited to pasture.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality, especially in the steeper areas. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 7e
Virginia soil management group: X
Hydric soil: No

22B—Georgeville silt loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 325 to 492 feet

Map Unit Composition

Major components:
Georgeville and similar soils: Typically 85 percent, ranging from about 80 to 95 percent

Minor components: Tarrus and Herndon soils

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown silt loam (brownish yellow, dry)

Subsoil:
5 to 8 inches—yellowish red silty clay loam
8 to 42 inches—red clay
42 to 54 inches—red silty clay loam

Substratum:
54 to 65 inches—brownish yellow, yellowish red, and red silt loam; strong brown mottles

Soil Properties and Qualities

Available water capacity: High (about 9.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from phyllite

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco; moderately suited to corn, soybeans, grass-legume hay, and alfalfa hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and southern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.

- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: V
Hydric soil: No

22C—Georgeville silt loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 325 to 492 feet

Map Unit Composition

Major components:
Georgeville and similar soils: Typically 85 percent, ranging from about 80 to 95 percent

Minor components: Herndon and Tarrus soils

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown silt loam (brownish yellow, dry)

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

Subsoil:
8 to 42 inches—red clay
42 to 54 inches—red silty clay loam

Substratum:
54 to 65 inches—brownish yellow, yellowish red, and red silt loam; strong brown mottles

Soil Properties and Qualities

Available water capacity: High (about 9.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches

Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from phyllite

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and southern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e

Virginia soil management group: V
Hydric soil: No

23D—Goldston-Montonia complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep side slopes
Elevation: 325 to 459 feet

Map Unit Composition

Major components:
Goldston and similar soils: Typically 55 percent, ranging from about 50 to 65 percent
Montonia and similar soils: Typically 35 percent, ranging from about 30 to 45 percent

Minor components: Badin soils

Typical Profile

Goldston

Surface layer:
0 to 3 inches—yellowish brown channery silt loam

Subsoil:
3 to 16 inches—brownish yellow very channery silt loam

Soft bedrock:
16 to 41 inches—weathered serecite schist bedrock

Hard bedrock:
41 to 51 inches—unweathered serecite schist bedrock

Montonia

Surface layer:
0 to 8 inches—strong brown channery silt loam (reddish yellow, dry)

Subsoil:
8 to 30 inches—yellowish red channery clay loam

Soft bedrock:
30 to 41 inches—weathered serecite schist bedrock

Hard bedrock:
41 to 51 inches—unweathered serecite schist bedrock

Soil Properties and Qualities

Available water capacity: Goldston—very low (about 2.5 inches); Montonia—low (about 4.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Goldston—shallow (10 to 20 inches); Montonia—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Goldston—10 to 20 inches to bedrock (paralithic) and 20 to 41 inches to bedrock (lithic); Montonia—20 to 40 inches to bedrock (paralithic) and 40 to 60 inches to bedrock (lithic)

Drainage class: Goldston—somewhat excessively drained; Montonia—well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Goldston—very high; Montonia—high
Surface fragments: None
Parent material: Serecite schist residuum

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pasture.

Woodland

Suitability: Moderately suited to loblolly pine and southern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: Goldston—7s; Montonia—4e
Virginia soil management group: Goldston—JJ; Montonia—FF
Hydric soils: No

23E—Goldston-Montonia complex, 25 to 45 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Backslope
Elevation: 325 to 459 feet

Map Unit Composition

Major components:
Goldston and similar soils: Typically 70 percent, ranging from about 65 to 85 percent
Montonia and similar soils: Typically 20 percent, ranging from about 15 to 30 percent

Minor components: Badin soils

Typical Profile

Goldston

Surface layer:
0 to 3 inches—yellowish brown channery silt loam

Subsoil:
3 to 16 inches—brownish yellow very channery silt loam

Soft bedrock:
16 to 41 inches—weathered serecite schist bedrock

Hard bedrock:
41 to 51 inches—unweathered serecite schist bedrock

Montonia

Surface layer:
0 to 8 inches—strong brown channery silt loam (reddish yellow, dry)

Subsoil:
8 to 30 inches—yellowish red channery clay loam

Soft bedrock:
30 to 41 inches—weathered serecite schist bedrock

Hard bedrock:
41 to 51 inches—unweathered serecite schist bedrock

Soil Properties and Qualities

Available water capacity: Goldston—very low (about 2.5 inches); Montonia—low (about 4.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Goldston—shallow (10 to 20 inches); Montonia—moderately deep (20 to 40 inches)

Depth to root-restrictive feature: Goldston—10 to 20 inches to bedrock (paralithic) and 20 to 41 inches to bedrock (lithic); Montonia—20 to 40 inches to bedrock (paralithic) and 40 to 60 inches to bedrock (lithic)
Drainage class: Goldston—somewhat excessively drained; Montonia—well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Goldston—very high; Montonia—high
Surface fragments: None
Parent material: Serecite schist residuum

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pastureland

- These soils are unsuited to pasture.

Woodland

Suitability: Moderately suited to loblolly pine and southern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality, especially in the steeper areas. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: Goldston—7s; Montonia—7e
Virginia soil management group: Goldston—JJ; Montonia—FF
Hydric soils: No

24B—Halifax sandy loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Halifax and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Clifford, Nathalie, and Orange soils

Typical Profile

Surface layer:
0 to 13 inches—light olive brown sandy loam (light yellowish brown, dry)

Subsoil:
13 to 25 inches—brownish yellow clay; red masses of oxidized iron
25 to 39 inches—brownish yellow clay; red masses of oxidized iron and light gray iron depletions
39 to 58 inches—gray clay; brownish yellow and olive yellow masses of oxidized iron

Substratum:
58 to 65 inches—pale yellow, yellowish brown, and pale yellow clay loam; olive yellow masses of oxidized iron

Soil Properties and Qualities

Available water capacity: Moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Very high
Surface fragments: None
Parent material: Mixed gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn and soybeans

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited

- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings and to equipment operations.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: KK
Hydric soil: No

24C—Halifax sandy loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder, summit, and backslope
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Halifax and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Nathalie and Toast soils

Typical Profile

Surface layer:
0 to 13 inches—light olive brown sandy loam (light yellowish brown, dry)

Subsoil:
13 to 25 inches—brownish yellow clay; red masses of oxidized iron
25 to 39 inches—brownish yellow clay; red masses of oxidized iron and light gray iron depletions
39 to 58 inches—gray clay; brownish yellow and olive yellow masses of oxidized iron

Substratum:
58 to 65 inches—pale yellow, yellowish brown, and pale yellow clay loam; olive yellow masses of oxidized iron

Soil Properties and Qualities

Available water capacity: Moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Very high
Surface fragments: None
Parent material: Mixed gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.

- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope affects the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: KK
Hydric soil: No

25B—Herndon silt loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder and summit
Elevation: 325 to 492 feet

Map Unit Composition

Major components:
Herndon and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Minor components: Georgeville and Nanford soils

Typical Profile

Surface layer:
0 to 8 inches—yellowish brown silt loam (light yellowish brown, dry)

Subsoil:
8 to 11 inches—strong brown silty clay loam
11 to 40 inches—yellowish red clay
40 to 57 inches—yellowish red silty clay loam

Substratum:
57 to 65 inches—light brown silt loam

Soil Properties and Qualities

Available water capacity: High (about 9.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.65 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from phyllite

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco; moderately suited to corn, soybeans, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and southern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: V
Hydric soil: No

25C—Herndon silt loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 325 to 492 feet

Map Unit Composition

Major components:
Herndon and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Georgeville and Nanford soils

Typical Profile

Surface layer:
0 to 8 inches—yellowish brown silt loam (light yellowish brown, dry)

Subsoil:
8 to 11 inches—strong brown silty clay loam
11 to 40 inches—yellowish red clay
40 to 57 inches—yellowish red silty clay loam

Substratum:
57 to 65 inches—light brown silt loam

Soil Properties and Qualities

Available water capacity: High (about 9.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.65 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from phyllite

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, tobacco, and grass-legume hay

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: V
Hydric soil: No

26B—Jackland-Orange complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 351 to 492 feet

Map Unit Composition

Major components:
Jackland and similar soils: Typically 70 percent, ranging from about 65 to 85 percent
Orange and similar soils: Typically 20 percent, ranging from about 15 to 35 percent

Minor components: Rasalo and Oak Level soils

Typical Profile

Jackland

Surface layer:
0 to 8 inches—dark yellowish brown sandy loam (yellowish brown, dry)

Subsoil:
8 to 30 inches—yellowish brown clay; light gray iron depletions

Substratum:
30 to 65 inches—yellowish brown and olive sandy loam

Orange

Surface layer:
0 to 6 inches—light olive brown loam (light yellowish brown, dry)

Subsurface layer:
6 to 18 inches—light yellowish brown clay loam; yellowish brown masses of oxidized iron and black iron-manganese concretions

Subsoil:
18 to 35 inches—yellowish brown clay; light gray iron depletions and black concretions

Substratum:
35 to 54 inches—yellowish brown loam; gray iron depletions

Soft bedrock:
54 to 64 inches—weathered horneblende gneiss bedrock; dark concretions

Soil Properties and Qualities

Available water capacity: Jackland—moderate (about 7.3 inches); Orange—moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Jackland—low (about 0.00 in/hr); Orange—moderately low (about 0.06 in/hr)
Depth class: Jackland—very deep (more than 60 inches); Orange—deep (40 to 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Somewhat poorly drained
Depth to seasonal water saturation: About 12 to 18 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Jackland—very high; Orange—high
Runoff class: Jackland—very high; Orange—high
Surface fragments: None
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn, soybeans, and tobacco

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited

- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine and yellow-poplar

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4w

Virginia soil management group: KK
Hydric soils: No

27B—Lackstown fine sandy loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Low hill on piedmont
Position on the landform: Shoulder and summit
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Lackstown and similar soils: Typically 85 percent, ranging from about 80 to 95 percent

Minor components: Easthamlet, Wolftrap, and Clover soils

Typical Profile

Surface layer:
0 to 9 inches—yellowish brown fine sandy loam (light yellowish brown, dry)

Subsurface layer:
9 to 14 inches—yellowish brown sandy loam

Subsoil:
14 to 28 inches—yellowish brown clay loam; yellowish red masses of oxidized iron
28 to 40 inches—yellowish brown clay; light brownish gray iron depletions
40 to 46 inches—light brownish gray clay; yellowish brown masses of oxidized iron
46 to 54 inches—light brownish gray clay

Substratum:
54 to 65 inches—yellowish brown, pale brown, and dark reddish brown loam

Soil Properties and Qualities

Available water capacity: Moderate (about 8.1 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 12 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Triassic sedimentary residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.

- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- This soil is well suited to haul roads and log landings and to equipment operations.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 2e
Virginia soil management group: KK
Hydric soil: No

27C—Lackstown fine sandy loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Low hill on piedmont
Position on the landform: Summit, shoulder, and backslope
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Lackstown and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Clover soils

Typical Profile

Surface layer:
0 to 9 inches—yellowish brown fine sandy loam (light yellowish brown, dry)

Subsurface layer:
9 to 14 inches—yellowish brown sandy loam

Subsoil:
14 to 28 inches—yellowish brown clay loam; yellowish red masses of oxidized iron
28 to 40 inches—yellowish brown clay; light brownish gray iron depletions
40 to 46 inches—light brownish gray clay; yellowish brown masses of oxidized iron
46 to 54 inches—light brownish gray clay

Substratum:
54 to 65 inches—yellowish brown, pale brown, and dark reddish brown loam

Soil Properties and Qualities

Available water capacity: Moderate (about 8.1 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 12 to 30 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Very high
Surface fragments: None
Parent material: Triassic sedimentary residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.

- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: KK
Hydric soil: No

28B—Masada sandy loam, 2 to 8 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Stream terrace on piedmont
Position on the landform: Summit and shoulder
Elevation: 325 to 361 feet

Map Unit Composition

Major components:
Masada and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Minor components: Dogue soils

Typical Profile

Surface layer:
0 to 8 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsoil:
8 to 11 inches—yellowish brown sandy clay loam

11 to 17 inches—strong brown clay
17 to 23 inches—brownish yellow and yellowish red clay
23 to 41 inches—brownish yellow, red, and yellowish red clay loam; red masses of oxidized iron and pale brown iron depletions
41 to 58 inches—red clay loam; brownish yellow masses of oxidized iron and very pale brown iron depletions

Substratum:
58 to 62 inches—red loam; brownish yellow masses of oxidized iron and very pale brown iron depletions

Soil Properties and Qualities

Available water capacity: Moderate (about 8.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: About 40 to 79 inches
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Low
Surface fragments: About 0.00 to 0.10 percent coarse well rounded gravel and cobbles
Parent material: Clayey old alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.
- This soil is well suited to haul roads and log landings.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: L
Hydric soil: No

29B—Mattaponi sandy loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Uplands on piedmont
Position on the landform: Shoulder and summit
Elevation: 298 to 361 feet

Map Unit Composition

Major components:
Mattaponi and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Typical Profile

Surface layer:
0 to 10 inches—brown sandy loam (light yellowish brown, dry)

Subsurface layer:
10 to 14 inches—light yellowish brown sandy loam

Subsoil:
14 to 19 inches—brownish yellow clay
19 to 25 inches—brownish yellow clay; common strong brown mottles
25 to 35 inches—strong brown clay; common yellowish red mottles
35 to 60 inches—strong brown clay loam; red masses of oxidized iron and light gray iron depletions

Soil Properties and Qualities

Available water capacity: Moderate (about 8.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.21 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 30 to 40 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium

Surface fragments: About 0.00 to 0.10 percent coarse well rounded gravel and about 0.00 to 0.10 percent well rounded cobbles
Parent material: Clayey alluvium capping

Use and Management Considerations

Cropland

Suitability: Well suited to soybeans, tobacco, and grass-legume hay; moderately suited to corn
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings and to equipment operations.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: R
Hydric soil: No

30B—Meadows gravelly loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont

Position on the landform: Summit and shoulder
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Meadows and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 4 inches—dark reddish brown gravelly loam (reddish brown, dry)

Subsoil:
4 to 9 inches—dark reddish brown gravelly loam

Substratum:
9 to 16 inches—reddish brown silt loam

Soft bedrock:
16 to 24 inches—weathered siltstone bedrock

Hard bedrock:
24 to 34 inches—unweathered siltstone bedrock

Soil Properties and Qualities

Available water capacity: Very low (about 2.0 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Shallow (10 to 20 inches)
Depth to root-restrictive feature: 10 to 20 inches to bedrock (paralithic) and 20 to 40 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Triassic residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- The limited available water capacity may cause plants to suffer from moisture stress during the drier summer months.

Woodland

Suitability: Moderately suited to northern red oak

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3s
Virginia soil management group: JJ
Hydric soil: No

31B—Minnieville loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder and summit
Elevation: 351 to 590 feet

Map Unit Composition

Major components:
Minnieville and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Minor components: Clifford and Oak Level soils

Typical Profile

Surface layer:
0 to 6 inches—brown loam (brown, dry)

Subsoil:
6 to 9 inches—yellowish red clay loam

9 to 45 inches—red clay
45 to 60 inches—red clay loam

Substratum:
60 to 65 inches—red loam

Soil Properties and Qualities

Available water capacity: Moderate (about 7.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and chestnut oak; moderately suited to northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: N
Hydric soil: No

32B3—Minnieville clay loam, 2 to 8 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder and summit
Elevation: 351 to 590 feet

Map Unit Composition

Major components:
Minnieville and similar soils: Typically 85 percent, ranging from about 80 to 95 percent

Minor components: Clifford and Oak Level soils

Typical Profile

Surface layer:
0 to 8 inches—dark reddish brown clay loam (reddish brown, dry)

Subsoil:
8 to 35 inches—red clay
35 to 50 inches—red clay loam
50 to 65 inches—red loam; common strong brown mottles

Soil Properties and Qualities

Available water capacity: Moderate (about 7.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, tobacco, and grass-legume hay; poorly suited to soybeans

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited

- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and chestnut oak; moderately suited to northern red oak; poorly suited to yellow-poplar

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: N
Hydric soil: No

32C3—Minnieville clay loam, 8 to 15 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 351 to 590 feet

Map Unit Composition

Major components:
Minnieville and similar soils: Typically 85 percent, ranging from about 80 to 95 percent

Minor components: Clifford and Oak Level soils

Typical Profile

Surface layer:
0 to 8 inches—dark reddish brown clay loam (reddish brown, dry)

Subsoil:
8 to 35 inches—red clay
35 to 50 inches—red clay loam
50 to 65 inches—red loam; common strong brown mottles

Soil Properties and Qualities

Available water capacity: Moderate (about 7.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn and soybeans

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited

- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine and chestnut oak; moderately suited to northern red oak; poorly suited to yellow-poplar

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: N
Hydric soil: No

33C—Montonia-Goldston complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder and backslope
Elevation: 325 to 459 feet

Map Unit Composition

Major components:
Montonia and similar soils: Typically 70 percent, ranging from about 60 to 80 percent
Goldston and similar soils: Typically 20 percent, ranging from about 15 to 40 percent

Minor components: Badin and Nanford soils

Typical Profile

Montonia

Surface layer:
0 to 8 inches—strong brown channery silt loam (reddish yellow, dry)

Subsoil:
8 to 30 inches—yellowish red channery clay loam

Soft bedrock:
30 to 41 inches—weathered serecite schist bedrock

Hard bedrock:
41 to 51 inches—unweathered serecite schist bedrock

Goldston

Surface layer:
0 to 3 inches—yellowish brown channery silt loam

Subsoil:
3 to 16 inches—brownish yellow very channery silt loam

Soft bedrock:
16 to 41 inches—weathered serecite schist bedrock

Hard bedrock:
41 to 51 inches—unweathered serecite schist bedrock

Soil Properties and Qualities

Available water capacity: Montonia—low (about 4.6 inches); Goldston—very low (about 2.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Montonia—moderately deep (20 to 40 inches); Goldston—shallow (10 to 20 inches)
Depth to root-restrictive feature: Montonia—20 to 40 inches to bedrock (paralithic) and 40 to 60 inches to bedrock (lithic); Goldston—10 to 20 inches to bedrock (paralithic) and 20 to 41 inches to bedrock (lithic)
Drainage class: Montonia—well drained; Goldston—somewhat excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Montonia—medium; Goldston—high
Surface fragments: None
Parent material: Serecite schist residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn and soybeans

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to chestnut oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The use of mechanical planting equipment is impractical because of the content of rock fragments.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: Montonia—3e; Goldston—4s
Virginia soil management group: Montonia—FF; Goldston—JJ
Hydric soils: No

34B—Montonia-Nanford complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit, shoulder, and backslope
Elevation: 325 to 459 feet

Map Unit Composition

Major components:
Montonia and similar soils: Typically 70 percent, ranging from about 60 to 80 percent
Nanford and similar soils: Typically 20 percent, ranging from about 15 to 40 percent

Minor components: Goldston and Badin soils

Typical Profile

Montonia

Surface layer:
0 to 8 inches—strong brown channery silt loam (reddish yellow, dry)

Subsoil:
8 to 30 inches—yellowish red channery clay loam

Soft bedrock:
30 to 41 inches—weathered serecite schist bedrock

Hard bedrock:
41 to 51 inches—unweathered serecite schist bedrock

Nanford

Surface layer:
0 to 8 inches—yellowish brown silt loam (light yellowish brown, dry)

Subsoil:
8 to 22 inches—brownish yellow silty clay loam
22 to 42 inches—brownish yellow silty clay

Soft bedrock:
42 to 59 inches—weathered slate bedrock

Soil Properties and Qualities

Available water capacity: Montonia—low (about 4.6 inches); Nanford—moderate (about 6.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Montonia—moderately deep (20 to 40 inches); Nanford—deep (40 to 60 inches)
Depth to root-restrictive feature: Montonia—20 to 40 inches to bedrock (paralithic) and 40 to 60 inches to bedrock (lithic); Nanford—40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Montonia—serecite schist residuum; Nanford—slate residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, tobacco, and grass-legume hay; poorly suited to soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to chestnut oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: Montonia—FF; Nanford—V
Hydric soils: No

35B—Nanford-Badin complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 325 to 590 feet

Map Unit Composition

Major components:
Nanford and similar soils: Typically 80 percent, ranging from about 70 to 90 percent
Badin and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Minor components: Herndon and Montonia soils

Typical Profile

Nanford

Surface layer:
0 to 8 inches—yellowish brown silt loam (light yellowish brown, dry)

Subsoil:
8 to 22 inches—brownish yellow silty clay loam
22 to 42 inches—brownish yellow silty clay

Soft bedrock:
42 to 59 inches—weathered schist bedrock

Badin

Surface layer:
0 to 2 inches—dark yellowish brown silt loam (yellowish brown, dry)

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

Subsoil:
6 to 10 inches—yellowish red silty clay loam
10 to 25 inches—red silty clay loam
25 to 38 inches—yellowish red very channery silty clay loam

Soft bedrock:
38 to 48 inches—weathered schist bedrock

Hard bedrock:
48 to 58 inches—bedrock

Soil Properties and Qualities

Available water capacity: Nanford—moderate (about 6.8 inches); Badin—moderate (about 6.6 inches)
Slowest saturated hydraulic conductivity: Nanford—moderately high (about 0.64 in/hr); Badin—moderately high (about 0.58 in/hr)
Depth class: Nanford—deep (40 to 60 inches); Badin—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Nanford—40 to 60 inches to bedrock (paralithic); Badin—20 to 40 inches to bedrock (paralithic) and 40 to 58 inches to bedrock (lithic)
Drainage class: Well drained

Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Nanford—low; Badin—moderate
Runoff class: Nanford—medium; Badin—low
Surface fragments: None
Parent material: Schist residuum

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco; moderately suited to corn, soybeans, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: Nanford—V; Badin—X
Hydric soils: No

35C—Nanford-Badin complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 325 to 590 feet

Map Unit Composition

Major components:
Nanford and similar soils: Typically 75 percent, ranging from about 70 to 85 percent
Badin and similar soils: Typically 20 percent, ranging from about 15 to 25 percent

Minor components: Goldston soils

Typical Profile

Nanford

Surface layer:
0 to 8 inches—yellowish brown silt loam (light yellowish brown, dry)

Subsoil:
8 to 22 inches—brownish yellow silty clay loam
22 to 42 inches—brownish yellow silty clay

Soft bedrock:
42 to 59 inches—weathered schist bedrock

Badin

Surface layer:
0 to 2 inches—dark yellowish brown silt loam (yellowish brown, dry)

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

Subsoil:
6 to 10 inches—yellowish red silty clay loam
10 to 25 inches—red silty clay loam
25 to 38 inches—yellowish red very channery silty clay loam

Soft bedrock:
38 to 48 inches—weathered schist bedrock

Hard bedrock:
48 to 58 inches—bedrock

Soil Properties and Qualities

Available water capacity: Nanford—moderate (about 6.8 inches); Badin—moderate (about 6.6 inches)
Slowest saturated hydraulic conductivity: Nanford—moderately high (about 0.64 in/hr); Badin—moderately high (about 0.58 in/hr)
Depth class: Nanford—deep (40 to 60 inches); Badin—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Nanford—40 to 60 inches to bedrock (paralithic); Badin—20 to 40 inches to bedrock (paralithic) and 40 to 58 inches to bedrock (lithic)
Drainage class: Well drained

Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Nanford—low; Badin—moderate
Runoff class: Medium
Surface fragments: None
Parent material: Schist residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland

Land capability classification: 3e
Virginia soil management group: Nanford—V; Badin—X
Hydric soils: No

35D—Nanford-Badin complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep side slopes
Elevation: 325 to 590 feet

Map Unit Composition

Major components:
Nanford and similar soils: Typically 55 percent, ranging from about 50 to 65 percent
Badin and similar soils: Typically 35 percent, ranging from about 30 to 45 percent

Minor components: Goldston and Montonia soils

Typical Profile

Nanford

Surface layer:
0 to 8 inches—yellowish brown silt loam (light yellowish brown, dry)

Subsoil:
8 to 22 inches—brownish yellow silty clay loam
22 to 42 inches—brownish yellow silty clay

Soft bedrock:
42 to 59 inches—weathered schist bedrock

Badin

Surface layer:
0 to 2 inches—dark yellowish brown silt loam (yellowish brown, dry)

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

Subsoil:
6 to 10 inches—yellowish red silty clay loam
10 to 25 inches—red silty clay loam
25 to 38 inches—yellowish red very channery silty clay loam

Soft bedrock:
38 to 48 inches—weathered schist bedrock

Hard bedrock:
48 to 58 inches—bedrock

Soil Properties and Qualities

Available water capacity: Nanford—moderate (about 6.8 inches); Badin—moderate (about 6.6 inches)
Slowest saturated hydraulic conductivity: Nanford—moderately high (about 0.64 in/hr); Badin—moderately high (about 0.58 in/hr)
Depth class: Nanford—deep (40 to 60 inches); Badin—moderately deep (20 to 40 inches)

Depth to root-restrictive feature: Nanford—40 to 60 inches to bedrock (paralithic); Badin—20 to 40 inches to bedrock (paralithic) and 40 to 58 inches to bedrock (lithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Nanford—low; Badin—moderate
Runoff class: High
Surface fragments: None
Parent material: Schist residuum

Use and Management Considerations

Cropland

Suitability: Poorly suited to corn, soybeans, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: Nanford—V; Badin—X
Hydric soils: No

36B—Nathalie sandy loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Nathalie and similar soils: Typically 90 percent, ranging from about 80 to 95 percent

Minor components: Bentley, Clifford, and Halifax soils

Typical Profile

Surface layer:
0 to 9 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsoil:
9 to 12 inches—strong brown sandy clay loam
12 to 27 inches—strong brown clay; common brownish yellow and common red mottles
27 to 42 inches—brownish yellow clay; many red mottles
42 to 52 inches—yellowish red clay loam; many yellow mottles

Substratum:
52 to 65 inches—brownish yellow and yellowish red loam

Soil Properties and Qualities

Available water capacity: High (about 9.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low

Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings and to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems, which may result in pollution of the water table.
- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: V
Hydric soil: No

36C—Nathalie sandy loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Upland ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Nathalie and similar soils: Typically 85 percent, ranging from about 80 to 95 percent

Minor components: Clifford and Halifax soils

Typical Profile

Surface layer:
0 to 9 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsoil:
9 to 12 inches—strong brown sandy clay loam
12 to 27 inches—strong brown clay; common brownish yellow and common red mottles
27 to 42 inches—brownish yellow clay; many red mottles
42 to 52 inches—yellowish red clay loam; many yellow mottles

Substratum:
52 to 65 inches—brownish yellow and yellowish red loam

Soil Properties and Qualities

Available water capacity: High (about 9.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Granite gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.

- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: V
Hydric soil: No

37B—Oak Level loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 351 to 459 feet

Map Unit Composition

Major components:
Oak Level and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Minnieville, Spriggs, and Rasalo soils

Typical Profile

Surface layer:
0 to 8 inches—reddish brown loam (reddish brown, dry)

Subsoil:
8 to 18 inches—red clay
18 to 32 inches—red clay; few strong brown mottles
32 to 42 inches—red clay loam; few brownish yellow mottles
42 to 50 inches—yellowish red loam; few brownish yellow mottles

Substratum:
50 to 65 inches—yellowish red loam; few brownish yellow mottles

Soil Properties and Qualities

Available water capacity: Moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.21 in/hr)

Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco; moderately suited to corn, soybeans, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e

Figure 5.—A hayfield in an area of Oak Level loam, 8 to 15 percent slopes.

Virginia soil management group: V
Hydric soil: No

37C—Oak Level loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Upland ridge on piedmont (fig. 5)
Position on the landform: Shoulder, backslope, and summit
Elevation: 351 to 459 feet

Map Unit Composition

Major components:
Oak Level and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Minnieville and Spriggs soils

Typical Profile

Surface layer:
0 to 8 inches—reddish brown loam (reddish brown, dry)

Subsoil:
8 to 18 inches—red clay
18 to 32 inches—red clay; few strong brown mottles
32 to 42 inches—red clay loam; few brownish yellow mottles
42 to 50 inches—yellowish red loam; few brownish yellow mottles

Substratum:
50 to 65 inches—yellowish red loam; few brownish yellow mottles

Soil Properties and Qualities

Available water capacity: Moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.21 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: None
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: V
Hydric soil: No

38C—Pinkston fine sandy loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder and backslope
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Pinkston and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Clover and Stoneville soils

Typical Profile

Surface layer:
0 to 5 inches—dark reddish brown fine sandy loam (reddish brown, dry)

Subsoil:
5 to 16 inches—dark reddish brown gravelly sandy loam

Substratum:
16 to 23 inches—dark reddish brown very gravelly sandy loam

Hard bedrock:
23 to 33 inches—reddish brown unweathered sandstone bedrock

Soil Properties and Qualities

Available water capacity: Very low (about 2.7 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High

Surface fragments: None
Parent material: Triassic sedimentary residuum

Use and Management Considerations

Cropland

Suitability: Poorly suited to corn, soybeans, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- The limited available water capacity may cause plants to suffer from moisture stress during the drier summer months.

Woodland

Suitability: Poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- Coarse textured soil layers increase the maintenance of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland

Land capability classification: 4s
Virginia soil management group: JJ
Hydric soil: No

38D—Pinkston fine sandy loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep side slopes
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Pinkston and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Clover soils

Typical Profile

Surface layer:
0 to 5 inches—dark reddish brown fine sandy loam (reddish brown, dry)

Subsoil:
5 to 16 inches—dark reddish brown gravelly sandy loam

Substratum:
16 to 23 inches—dark reddish brown very gravelly sandy loam

Hard bedrock:
23 to 33 inches—reddish brown unweathered sandstone bedrock

Soil Properties and Qualities

Available water capacity: Very low (about 2.7 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: High
Surface fragments: None
Parent material: Triassic sedimentary residuum

Use and Management Considerations

Cropland

Suitability: Poorly suited to corn, soybeans, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Because of the limited available water capacity, plants may suffer from moisture stress.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- The limited available water capacity may cause plants to suffer from moisture stress during the drier summer months.

Woodland

Suitability: Poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Coarse textured soil layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil material may reduce the traction of wheeled harvest equipment and log trucks.
- Coarse textured soil layers increase the maintenance of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: JJ
Hydric soil: No

39D—Poindexter gravelly silt loam, 15 to 25 percent slopes, very stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep side slopes
Elevation: 351 to 590 feet

Map Unit Composition

Major components:
Poindexter and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown gravelly silt loam (brown, dry)

Subsurface layer:
4 to 12 inches—brown gravelly silt loam

Subsoil:
12 to 22 inches—strong brown clay loam
22 to 33 inches—strong brown and yellowish brown clay loam

Soft bedrock:
33 to 41 inches—weathered greenstone bedrock

Hard bedrock:
41 to 51 inches—greenstone bedrock

Soil Properties and Qualities

Available water capacity: Low (about 5.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to bedrock (paralithic) and 40 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: About 0.01 to 1.50 percent subangular stones
Parent material: Hornblende gneiss residuum weathered from gneiss

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

- This soil is unsuited to pasture.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 7s
Virginia soil management group: FF
Hydric soil: No

40B—Rasalo-Orange complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont (fig. 6)
Position on the landform: Summit and shoulder
Elevation: 351 to 476 feet

Figure 6.—A crop field in an area of Rasalo-Orange complex, 2 to 8 percent slopes.

Map Unit Composition

Major components:
Rasalo and similar soils: Typically 70 percent, ranging from about 65 to 85 percent
Orange and similar soils: Typically 20 percent, ranging from about 15 to 35 percent

Minor components: Halifax soils

Typical Profile

Rasalo

Surface layer:
0 to 6 inches—yellowish brown sandy loam (brownish yellow, dry)

Subsoil:
6 to 20 inches—brownish yellow clay
20 to 30 inches—brownish yellow sandy clay loam

Substratum:
30 to 65 inches—multicolored sandy loam

Orange

Surface layer:
0 to 6 inches—light olive brown loam (light yellowish brown, dry)

Subsurface layer:
6 to 18 inches—light yellowish brown clay loam; yellowish brown masses of oxidized iron and black iron-manganese concretions

Subsoil:
18 to 35 inches—yellowish brown clay; light gray iron depletions and black concretions

Substratum:
35 to 54 inches—yellowish brown loam; gray iron depletions

Soft bedrock:
54 to 64 inches—weathered horneblende gneiss bedrock; common dark concretions

Soil Properties and Qualities

Available water capacity: Rasalo—moderate (about 8.0 inches); Orange—moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Rasalo—moderately high (about 0.21 in/hr); Orange—moderately low (about 0.06 in/hr)
Depth class: Rasalo—very deep (more than 60 inches); Orange—deep (40 to 60 inches)
Depth to root-restrictive feature: Rasalo—more than 60 inches; Orange—40 to 55 inches to bedrock (paralithic)
Drainage class: Rasalo—well drained; Orange—somewhat poorly drained
Depth to seasonal water saturation: Rasalo—more than 6 feet; Orange—about 12 to 18 inches
Water table kind: Rasalo—not applicable; Orange—perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: High
Runoff class: Rasalo—medium; Orange—high
Surface fragments: None
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems, which may result in pollution of the water table.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: Rasalo—2e; Orange—4w
Virginia soil management group: Rasalo—Y; Orange—KK
Hydric soils: No

41A—Riverview loam, 0 to 2 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plain on piedmont
Position on landform: Treads
Elevation: 298 to 351 feet

Map Unit Composition

Major components:
Riverview and similar soils: Typically 85 percent, ranging from about 80 to 95 percent

Minor components: Chewacla and Toccoa soils

Typical Profile

Surface layer:
0 to 15 inches—dark yellowish brown loam (yellowish brown, dry)

Subsoil:
15 to 30 inches—yellowish brown sandy loam
30 to 48 inches—dark yellowish brown sandy loam; common yellowish brown mottles and light brownish gray manganese masses
48 to 59 inches—dark yellowish brown sandy loam; common brownish yellow and common yellowish brown mottles and light gray manganese masses

Substratum:
59 to 75 inches—brownish yellow loamy sand; common yellowish brown mottles and light gray clay depletions
75 to 99 inches—light gray sandy loam; brownish yellow and strong brown masses of oxidized iron

Soil Properties and Qualities

Available water capacity: Moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.60 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 30 to 39 inches
Water table kind: Apparent
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: About 0.00 to 0.50 percent coarse well rounded gravel
Parent material: Recent alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and grass-legume hay
- Excessive permeability increases the risk of ground-water contamination.
- Flooding may damage crops.

Pastureland

Suitability: Well suited
- Flooding may damage pastures.

Woodland

Suitability: Well suited to loblolly pine, yellow-poplar, and sweetgum
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
- Flooding may damage haul roads.
- Flooding restricts the safe use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

- Flooding is a limitation affecting septic tank absorption fields.
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2w
Virginia soil management group: A
Hydric soil: No

42C—Spriggs sandy loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Backslope and shoulder
Elevation: 351 to 449 feet

Map Unit Composition

Major components:
Spriggs and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Oak Level soils

Typical Profile

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered horneblende gneiss bedrock

Soil Properties and Qualities

Available water capacity: Moderate (about 6.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn and soybeans

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery and interfere with the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: FF
Hydric soil: No

42D—Spriggs sandy loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands

Position on the landform: Steep side slopes
Elevation: 351 to 449 feet

Map Unit Composition

Major components:
Spriggs and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Rhodhiss soils

Typical Profile

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered horneblende gneiss bedrock

Soil Properties and Qualities

Available water capacity: Moderate (about 6.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery and interfere with the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative

impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: FF
Hydric soil: No

42E—Spriggs sandy loam, 25 to 45 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep side slopes
Elevation: 351 to 449 feet

Map Unit Composition

Major components:
Spriggs and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Rhodhiss soils

Typical Profile

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered horneblende gneiss bedrock

Soil Properties and Qualities

Available water capacity: Moderate (about 6.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

- This soil is unsuited to pasture.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality, especially in the steeper areas. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for planting and seeding is impractical.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 7e
Virginia soil management group: FF
Hydric soil: No

43B—Spriggs-Rasalo complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Backslope and shoulder
Elevation: 351 to 476 feet

Map Unit Composition

Major components:
Spriggs and similar soils: Typically 70 percent, ranging from about 65 to 85 percent
Rasalo and similar soils: Typically 20 percent, ranging from about 15 to 30 percent

Minor components: Oak Level soils

Typical Profile

Spriggs

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered horneblende gneiss bedrock

Rasalo

Surface layer:
0 to 6 inches—yellowish brown sandy loam (brownish yellow, dry)

Subsoil:
6 to 20 inches—brownish yellow clay
20 to 30 inches—brownish yellow sandy clay loam

Substratum:
30 to 65 inches—sandy loam

Soil Properties and Qualities

Available water capacity: Spriggs—moderate (about 6.5 inches); Rasalo—moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Spriggs—moderately high (about 0.64 in/hr); Rasalo—moderately high (about 0.21 in/hr)
Depth class: Spriggs—moderately deep (20 to 40 inches); Rasalo—very deep (more than 60 inches)
Depth to root-restrictive feature: Spriggs—20 to 40 inches to bedrock (paralithic); Rasalo—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Spriggs—moderate; Rasalo—high
Runoff class: Spriggs—low; Rasalo—medium
Surface fragments: Spriggs—about 0.01 to 0.10 percent subangular stones; Rasalo—none
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn and grass-legume hay; poorly suited to soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery and interfere with the emergence of seedlings.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- These soils are well suited to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: Spriggs—FF; Rasalo—Y
Hydric soils: No

43C—Spriggs-Rasalo complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Backslope and shoulder
Elevation: 351 to 476 feet

Map Unit Composition

Major components:
Spriggs and similar soils: Typically 75 percent, ranging from about 65 to 90 percent
Rasalo and similar soils: Typically 15 percent, ranging from about 10 to 25 percent

Minor components: Oak Level soils

Typical Profile

Spriggs

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered horneblende gneiss bedrock

Rasalo

Surface layer:
0 to 6 inches—yellowish brown sandy loam (brownish yellow, dry)

Subsoil:
6 to 20 inches—brownish yellow clay
20 to 30 inches—brownish yellow sandy clay loam

Substratum:
30 to 65 inches—sandy loam

Soil Properties and Qualities

Available water capacity: Spriggs—moderate (about 6.5 inches); Rasalo—moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Spriggs—moderately high (about 0.64 in/hr); Rasalo—moderately high (about 0.21 in/hr)
Depth class: Spriggs—moderately deep (20 to 40 inches); Rasalo—very deep (more than 60 inches)
Depth to root-restrictive feature: Spriggs—20 to 40 inches to bedrock (paralithic); Rasalo—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Spriggs—moderate; Rasalo—high
Runoff class: Spriggs—medium; Rasalo—high
Surface fragments: Spriggs—about 0.01 to 0.10 percent subangular stones; Rasalo—none
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery and interfere with the emergence of seedlings.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: Spriggs—FF; Rasalo—Y
Hydric soils: No

43D—Spriggs-Rasalo complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep side slopes
Elevation: 351 to 476 feet

Map Unit Composition

Major components:
Spriggs and similar soils: Typically 80 percent, ranging from about 70 to 90 percent
Rasalo and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Minor components: Oak Level soils

Typical Profile

Spriggs

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered horneblende gneiss bedrock

Rasalo

Surface layer:
0 to 6 inches—yellowish brown sandy loam (brownish yellow, dry)

Subsoil:
6 to 20 inches—brownish yellow clay
20 to 30 inches—brownish yellow sandy clay loam

Substratum:
30 to 65 inches—sandy loam

Soil Properties and Qualities

Available water capacity: Spriggs—moderate (about 6.5 inches); Rasalo—moderate (about 8.0 inches)
Slowest saturated hydraulic conductivity: Spriggs—moderately high (about 0.64 in/hr); Rasalo—moderately high (about 0.21 in/hr)
Depth class: Spriggs—moderately deep (20 to 40 inches); Rasalo—very deep (more than 60 inches)
Depth to root-restrictive feature: Spriggs—20 to 40 inches to bedrock (paralithic); Rasalo—more than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Spriggs—moderate; Rasalo—high
Runoff class: Spriggs—high; Rasalo—very high
Surface fragments: Spriggs—about 0.01 to 0.10 percent subangular stones; Rasalo—none
Parent material: Hornblende gneiss residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery and interfere with the emergence of seedlings.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.

- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: Spriggs—FF; Rasalo—Y
Hydric soils: No

44B—Spriggs-Urban land complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Backslope, shoulder, and summit
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Spriggs and similar soils: Typically 70 percent, ranging from about 60 to 85 percent
Urban land: Typically 15 percent, ranging from about 10 to 30 percent

Minor components: Rasalo and Oak Level soils

Typical Profile

Spriggs

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered horneblende gneiss bedrock

Urban land

This part of the map unit consists of areas covered by asphalt roadways or parking lots, concrete structures, buildings, and other impervious surfaces.

Properties and Qualities of the Spriggs Soil

Available water capacity: Moderate (about 6.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Hornblende gneiss residuum

Use and Management Considerations for Areas of Native Soil

Cropland

Suitability: Moderately suited to corn and grass-legume hay; poorly suited to soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery and interfere with the emergence of seedlings.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Bedrock may interfere with the construction of haul roads and log landings.

- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: Spriggs—2e; Urban land—8s
Virginia soil management group: Spriggs—FF; Urban land—none assigned
Hydric soils: No

44D—Spriggs-Urban land complex, 8 to 20 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Backslope and shoulder
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Spriggs and similar soils: Typically 70 percent, ranging from about 60 to 85 percent
Urban land: Typically 15 percent, ranging from about 10 to 30 percent

Minor components: Rasalo and Oak Level soils

Typical Profile

Spriggs

Surface layer:
0 to 4 inches—brown sandy loam (brown, dry)

Subsurface layer:
4 to 9 inches—light yellowish brown sandy loam

Subsoil:
9 to 38 inches—brownish yellow sandy clay loam

Soft bedrock:
38 to 59 inches—weathered horneblende gneiss bedrock

Urban land

This part of the map unit consists of areas covered by asphalt roadways or parking lots, concrete structures, buildings, and other impervious surfaces.

Properties and Qualities of the Spriggs Soil

Available water capacity: Moderate (about 6.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: About 0.01 to 0.10 percent subangular stones
Parent material: Hornblende gneiss residuum

Use and Management Considerations for Areas of Native Soil

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery and interfere with the emergence of seedlings.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- Rock fragments on the surface may restrict the operation of farm machinery.

Woodland

Suitability: Moderately suited to loblolly pine and northern red oak; poorly suited to yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: Spriggs—3e; Urban land—8s
Virginia soil management group: Spriggs—FF; Urban land—none assigned
Hydric soils: No

45C—Stoneville loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder, summit, and backslope
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Stoneville and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Clover soils

Typical Profile

Surface layer:
0 to 5 inches—dark reddish brown loam (reddish brown, dry)

Subsoil:
5 to 13 inches—dark reddish brown loam (reddish brown, dry)
13 to 32 inches—dark reddish brown clay (reddish brown, dry)
32 to 38 inches—dark reddish brown clay loam (reddish brown, dry)

Substratum:
38 to 48 inches—dark reddish brown loam (reddish brown, dry)

Soft bedrock:
48 to 59 inches—reddish brown weathered shale bedrock

Soil Properties and Qualities

Available water capacity: Moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Deep (40 to 60 inches)
Depth to root-restrictive feature: 40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Triassic sedimentary residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, and grass-legume hay; poorly suited to tobacco
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to chestnut oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.

- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: X
Hydric soil: No

46B—Straightstone loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Summit and shoulder
Elevation: 325 to 499 feet

Map Unit Composition

Major components:
Straightstone and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Clover soils

Typical Profile

Surface layer:
0 to 8 inches—dark reddish brown loam (reddish brown, dry)

Subsoil:
8 to 32 inches—dark reddish brown clay (reddish brown, dry)
32 to 54 inches—dark reddish brown silty clay loam (reddish brown, dry)

Substratum:
54 to 65 inches—reddish brown silt loam (yellowish red, dry)

Soil Properties and Qualities

Available water capacity: High (about 10.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Low
Surface fragments: None
Parent material: Triassic sedimentary residuum

Use and Management Considerations

Cropland

Suitability: Well suited to grass-legume hay; moderately suited to corn, soybeans, and tobacco

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Well suited to chestnut oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: V
Hydric soil: No

47B—Tarrus-Badin complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder and summit
Elevation: 325 to 400 feet

Map Unit Composition

Major components:
Tarrus and similar soils: Typically 75 percent, ranging from about 70 to 85 percent
Badin and similar soils: Typically 20 percent, ranging from about 15 to 30 percent

Minor components: Nanford and Georgeville soils

Typical Profile

Tarrus

Surface layer:
0 to 5 inches—yellowish brown silt loam (light yellowish brown, dry)

Subsoil:
5 to 11 inches—strong brown loam
11 to 34 inches—red clay
34 to 49 inches—red parachannery silty clay loam

Soft bedrock:
49 to 59 inches—weathered argillite bedrock

Badin

Surface layer:
0 to 2 inches—dark yellowish brown silt loam (yellowish brown, dry)

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

Subsoil:
6 to 10 inches—yellowish red silty clay loam
10 to 25 inches—red silty clay loam
25 to 38 inches—yellowish red very channery silty clay loam

Soft bedrock:
38 to 48 inches—weathered schist bedrock

Hard bedrock:
48 to 58 inches—bedrock

Soil Properties and Qualities

Available water capacity: Tarrus—moderate (about 7.8 inches); Badin—moderate (about 6.6 inches)
Slowest saturated hydraulic conductivity: Tarrus—moderately high (about 0.64 in/hr); Badin—moderately high (about 0.58 in/hr)
Depth class: Tarrus—deep (40 to 60 inches); Badin—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Tarrus—40 to 60 inches to bedrock (paralithic); Badin—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Tarrus—low; Badin—moderate
Runoff class: Medium
Surface fragments: None
Parent material: Tarrus—argillite and schist residuum; Badin—schist residuum

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco; moderately suited to corn, soybeans, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.

- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: X
Hydric soils: No

47C—Tarrus-Badin complex, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Upland ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 325 to 400 feet

Map Unit Composition

Major components:
Tarrus and similar soils: Typically 70 percent, ranging from about 60 to 80 percent
Badin and similar soils: Typically 20 percent, ranging from about 15 to 40 percent

Minor components: Goldston, Georgeville, and Nanford

Typical Profile

Tarrus

Surface layer:
0 to 5 inches—yellowish brown silt loam (light yellowish brown, dry)

Subsoil:
5 to 11 inches—strong brown loam
11 to 34 inches—red clay
34 to 49 inches—red parachannery silty clay loam

Soft bedrock:
49 to 59 inches—weathered argillite bedrock

Badin

Surface layer:
0 to 2 inches—dark yellowish brown silt loam (yellowish brown, dry)

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

Subsoil:
6 to 10 inches—yellowish red silty clay loam
10 to 25 inches—red silty clay loam
25 to 38 inches—yellowish red very channery silty clay loam

Soft bedrock:
38 to 48 inches—weathered schist bedrock

Hard bedrock:
48 to 58 inches—bedrock

Soil Properties and Qualities

Available water capacity: Tarrus—moderate (about 7.8 inches); Badin—moderate (about 6.6 inches)
Slowest saturated hydraulic conductivity: Tarrus—moderately high (about 0.64 in/hr); Badin—moderately high (about 0.58 in/hr)
Depth class: Tarrus—deep (40 to 60 inches); Badin—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Tarrus—40 to 60 inches to bedrock (paralithic); Badin—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Tarrus—low; Badin—moderate
Runoff class: Medium
Surface fragments: None
Parent material: Tarrus—argillite and schist residuum; Badin—schist residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: X
Hydric soils: No

47D—Tarrus-Badin complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep side slopes
Elevation: 325 to 400 feet

Map Unit Composition

Major components:
Tarrus and similar soils: Typically 55 percent, ranging from about 50 to 70 percent
Badin and similar soils: Typically 35 percent, ranging from about 25 to 45 percent

Minor components: Goldston soils

Typical Profile

Tarrus

Surface layer:
0 to 5 inches—yellowish brown silt loam (light yellowish brown, dry)

Subsoil:
5 to 11 inches—strong brown loam
11 to 34 inches—red clay
34 to 49 inches—red parachannery silty clay loam

Soft bedrock:
49 to 59 inches—weathered argillite bedrock

Badin

Surface layer:
0 to 2 inches—dark yellowish brown silt loam (yellowish brown, dry)

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

Subsoil:
6 to 10 inches—yellowish red silty clay loam
10 to 25 inches—red silty clay loam
25 to 38 inches—yellowish red very channery silty clay loam

Soft bedrock:
38 to 48 inches—weathered schist bedrock

Hard bedrock:
48 to 58 inches—bedrock

Soil Properties and Qualities

Available water capacity: Tarrus—moderate (about 7.8 inches); Badin—moderate (about 6.6 inches)
Slowest saturated hydraulic conductivity: Tarrus—moderately high (about 0.64 in/hr); Badin—moderately high (about 0.58 in/hr)
Depth class: Tarrus—deep (40 to 60 inches); Badin—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Tarrus—40 to 60 inches to bedrock (paralithic); Badin—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Tarrus—low; Badin—moderate
Runoff class: High
Surface fragments: None
Parent material: Tarrus—argillite and schist residuum; Badin—schist residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: X
Hydric soils: No

48D—Toast sandy loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Piedmont uplands
Position on the landform: Steep side slopes
Elevation: 351 to 551 feet

Map Unit Composition

Major components:
Toast and similar soils: Typically 85 percent, ranging from about 70 to 95 percent

Minor components: Devotion and Rhodhiss soils

Typical Profile

Surface layer:
0 to 6 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsurface layer:
6 to 12 inches—light yellowish brown sandy loam

Subsoil:
12 to 29 inches—strong brown clay
29 to 38 inches—strong brown sandy clay loam

Substratum:
38 to 62 inches—brownish yellow sandy loam

Soil Properties and Qualities

Available water capacity: Moderate (about 8.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from gneiss

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and northern red oak
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- Because of the slope, the use of equipment for preparing sites for planting and seeding is restricted.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The low soil strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: V
Hydric soil: No

49A—Toccoa fine sandy loam, 0 to 3 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plain on piedmont
Position on the landform: Treads
Elevation: 325 to 351 feet

Map Unit Composition

Major components:
Toccoa and similar soils: Typically 85 percent, ranging from about 80 to 95 percent

Minor components: Riverview and Chewacla soils

Typical Profile

Surface layer:
0 to 12 inches—dark yellowish brown fine sandy loam (yellowish brown, dry)

Substratum:
12 to 41 inches—dark yellowish brown fine sandy loam
41 to 47 inches—dark yellowish brown loam; strong brown masses of oxidized iron and very pale brown iron depletions
47 to 55 inches—dark yellowish brown fine sandy loam; very pale brown iron depletions and strong brown masses of oxidized iron

Substratum:
55 to 62 inches—dark yellowish brown loam; very pale brown iron depletions and yellowish brown masses of oxidized iron

Soil Properties and Qualities

Available water capacity: Moderate (about 6.6 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: About 30 to 60 inches
Water table kind: Apparent
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Surface fragments: About 0.00 to 0.50 percent coarse well rounded gravel
Parent material: Loamy alluvial sediments

Use and Management Considerations

Cropland

Suitability: Poorly suited to corn, soybeans, and grass-legume hay
• Flooding may damage crops.

Pastureland

Suitability: Poorly suited
• Flooding may damage pastures.

Woodland

Suitability: Well suited to loblolly pine, yellow-poplar, and sweetgum
• Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should focus on streamside management zones and stream crossings and should include general adherence to all applicable best management practices.
• Flooding may damage haul roads.
• Flooding restricts the safe use of log trucks.
• The low soil strength interferes with the construction of haul roads and log landings.
• The low soil strength may create unsafe conditions for log trucks.

Building sites

• Flooding is a limitation affecting building site development.
• The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields

• Flooding is a limitation affecting septic tank absorption fields.

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Flooding may damage local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2s
Virginia soil management group: II
Hydric soil: No

50B—Turbeville fine sandy loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: High terrace on piedmont
Position on the landform: Summit and shoulder
Elevation: 298 to 377 feet

Map Unit Composition

Major components:
Turbeville and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Minor components: Appomattox soils

Typical Profile

Surface layer:
0 to 8 inches—reddish brown loam (reddish brown, dry)

Subsoil:
8 to 25 inches—red clay
25 to 40 inches—reddish brown clay
40 to 60 inches—red clay

Soil Properties and Qualities

Available water capacity: Moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Low
Surface fragments: About 0.00 to 0.10 percent coarse well rounded gravel and cobbles
Parent material: Old alluvium capping

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- This soil is well suited to haul roads and log landings and to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: O
Hydric soil: No

50C—Turbeville fine sandy loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: High terrace on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 298 to 377 feet

Map Unit Composition

Major components:
Turbeville and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Minor components: Appomattox soils

Typical Profile

Surface layer:
0 to 8 inches—reddish brown loam (reddish brown, dry)

Subsoil:
8 to 25 inches—red clay
25 to 40 inches—reddish brown clay
40 to 60 inches—red clay

Soil Properties and Qualities

Available water capacity: Moderate (about 8.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: About 0.00 to 0.05 percent coarse well rounded gravel and cobbles
Parent material: Old alluvium capping

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: O
Hydric soil: No

51B—Udorthents loamy, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Interfluves
Elevation: 325 to 525 feet

Map Unit Composition

Major components:
Udorthents: Typically 90 percent, ranging from about 80 to 100 percent

Typical Profile

Udorthents are the result of disturbance of soil by land leveling, excavation, or filling. They consist of loamy and clayey soil material and varying amounts of rock fragments. Depth to hard bedrock varies from a few inches to more than 5 feet. Areas range from severely compacted to slightly compacted. Drainage is variable. Because of the variability of the material, a typical profile is not given.

Use and Management Considerations

Onsite investigation is needed to determine the suitability of any area for specific uses.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: None assigned
Virginia soil management group: None assigned
Hydric soils: No

52B—Urban land

Setting

Major land resource area: Southern Piedmont (MLRA 136)

Landform: Upland interfluve on piedmont
Position on the landform: Shoulder and summit
Elevation: 325 to 525 feet

Map Unit Composition

Major components:
Urban land: Typically 90 percent, ranging from about 85 to 100 percent

Typical Profile

This map unit consists of areas covered by asphalt or concrete, such as roadways, airport runways, or parking lots. Also included are structures, buildings, and other impervious surfaces. Because of the variability of the material, a typical profile is not given.

Use and Management Considerations

Onsite investigation is needed to determine the suitability of any area for specific uses.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 8s
Virginia soil management group: None assigned
Hydric soils: No

53B—Virgilina gravelly silt loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder and summit
Elevation: 351 to 590 feet

Map Unit Composition

Major components:
Virgilina and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 3 inches—olive brown gravelly silt loam (light olive brown, dry)

Subsurface layer:
3 to 11 inches—light yellowish brown gravelly silt loam

Subsoil:
11 to 28 inches—yellowish brown clay; light brownish gray iron depletions
28 to 32 inches—light olive brown clay; light brownish gray iron depletions

Hard bedrock:
32 to 42 inches—unweathered greenstone bedrock

Soil Properties and Qualities

Available water capacity: Low (about 4.8 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Moderately deep (20 to 40 inches)

Depth to root-restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Somewhat poorly drained
Depth to seasonal water saturation: About 12 to 18 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Very high
Runoff class: Very high
Surface fragments: None
Parent material: Greenstone residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn, soybeans, and tobacco

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pastureland

Suitability: Moderately suited

- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.

- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4w
Virginia soil management group: KK
Hydric soil: No

54B—Virgilina gravelly silt loam, 2 to 8 percent slopes, very stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder and summit
Elevation: 351 to 590 feet

Map Unit Composition

Major components:
Virgilina and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 3 inches—olive brown gravelly silt loam (light olive brown, dry)

Subsurface layer:
3 to 11 inches—light yellowish brown gravelly silt loam

Subsoil:
11 to 28 inches—yellowish brown clay; light brownish gray iron depletions
28 to 32 inches—light olive brown clay; light brownish gray iron depletions

Hard bedrock:
32 to 42 inches—unweathered greenstone bedrock

Soil Properties and Qualities

Available water capacity: Low (about 4.8 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Somewhat poorly drained
Depth to seasonal water saturation: About 12 to 18 inches

Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Very high
Runoff class: Very high
Surface fragments: About 0.10 to 2.00 percent angular cobbles and about 0.10 to 0.50 percent angular stones
Parent material: Greenstone residuum

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pastureland

Suitability: Poorly suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
- The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
- Large stones on the surface may restrict the operation of some farm machinery.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 6s
Virginia soil management group: KK
Hydric soil: No

55C—Virgilina-Poindexter complex, 8 to 15 percent slopes, very stony

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Upland ridge on piedmont
Position on the landform: Shoulder, backslope, and summit
Elevation: 351 to 590 feet

Map Unit Composition

Major components:
Virgilina and similar soils: Typically 50 percent, ranging from about 45 to 65 percent
Poindexter and similar soils: Typically 40 percent, ranging from about 30 to 50 percent

Typical Profile

Virgilina

Surface layer:
0 to 3 inches—olive brown gravelly silt loam (light olive brown, dry)

Subsurface layer:
3 to 11 inches—light yellowish brown gravelly silt loam

Subsoil:
11 to 28 inches—yellowish brown clay; light brownish gray iron depletions
28 to 32 inches—light olive brown clay; light brownish gray iron depletions

Hard bedrock:
32 to 42 inches—unweathered greenstone bedrock

Poindexter

Surface layer:
0 to 4 inches—dark grayish brown gravelly silt loam (brown, dry)

Subsurface layer:
4 to 12 inches—brown gravelly silt loam

Subsoil:
12 to 22 inches—strong brown clay loam
22 to 33 inches—strong brown and yellowish brown clay loam

Soft bedrock:
33 to 41 inches—weathered greenstone bedrock

Hard bedrock:
41 to 51 inches—greenstone bedrock

Soil Properties and Qualities

Available water capacity: Virgilina—low (about 4.8 inches); Poindexter—low (about 5.9 inches)
Slowest saturated hydraulic conductivity: Virgilina—low (about 0.00 in/hr); Poindexter—moderately high (about 0.64 in/hr)
Depth class: Moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Virgilina—20 to 40 inches to bedrock (lithic); Poindexter—20 to 40 inches to bedrock (paralithic)
Drainage class: Virgilina—somewhat poorly drained; Poindexter—well drained
Depth to seasonal water saturation: Virgilina—about 12 to 18 inches; Poindexter—more than 6 feet
Water table kind: Virgilina—perched; Poindexter—not applicable
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Virgilina—very high; Poindexter—moderate
Runoff class: Virgilina—very high; Poindexter—medium
Surface fragments: Virgilina—about 0.10 to 0.50 percent angular stones and about 0.10 to 2.00 percent angular cobbles; Poindexter—about 0.01 to 0.10 percent subangular stones
Parent material: Greenstone residuum

Use and Management Considerations

Cropland

• These soils are unsuited to cropland.

Pastureland

Suitability: Poorly suited
• The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.
• The seasonal high water table can affect equipment use, grazing patterns, and the viability of grass and legume species.
• Large stones on the surface may restrict the operation of some farm machinery.

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine
• Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
• Soil wetness may limit the use of log trucks.
• Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
• The slope may restrict the use of some mechanical planting equipment.
• Bedrock may interfere with the construction of haul roads and log landings.
• The use of mechanical planting equipment is impractical because of the content of rock fragments.
• Rock fragments restrict the use of equipment during site preparation for planting or seeding.
• The stickiness of the soil reduces the efficiency of mechanical planting equipment.
• The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- The slope affects the use of machinery and the amount of excavation required.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty in constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 6s
Virginia soil management group: Virgilina—KK; Poindexter—FF
Hydric soils: No

56B—Wolftrap-Easthamlet complex, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Ridge on piedmont
Position on the landform: Shoulder and summit
Elevation: 325 to 410 feet

Map Unit Composition

Major components:
Wolftrap and similar soils: Typically 75 percent, ranging from about 65 to 90 percent
Easthamlet and similar soils: Typically 15 percent, ranging from about 10 to 20 percent

Minor components: Lackstown soils

Typical Profile

Wolftrap

Surface layer:
0 to 8 inches—yellowish brown fine sandy loam (light yellowish brown, dry)

Subsoil:
8 to 19 inches—light yellowish brown and light olive brown clay
19 to 31 inches—brown clay; light brownish gray iron depletions
31 to 38 inches—reddish brown clay loam; grayish brown iron depletions

Substratum:
38 to 65 inches—reddish brown loam

Easthamlet

Surface layer:
0 to 5 inches—yellowish brown sandy loam (light yellowish brown, dry)

Subsoil:
5 to 16 inches—yellowish brown clay; pale brown iron depletions and red masses of oxidized iron
16 to 24 inches—yellowish red clay; red masses of oxidized iron and light brownish gray iron depletions
24 to 30 inches—reddish brown clay; light gray iron depletions

Soft bedrock:
30 to 47 inches—weathered sandstone bedrock

Hard bedrock:
47 to 57 inches—unweathered sandstone bedrock

Soil Properties and Qualities

Available water capacity: Wolftrap—moderate (about 8.6 inches); Easthamlet—low (about 4.7 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Wolftrap—very deep (more than 60 inches); Easthamlet—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Wolftrap—more than 60 inches; Easthamlet—20 to 40 inches to bedrock (paralithic)
Drainage class: Wolftrap—moderately well drained; Easthamlet—somewhat poorly drained
Depth to seasonal water saturation: Wolftrap—about 18 to 30 inches; Easthamlet—12 to 18 inches
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Very high
Runoff class: Very high
Surface fragments: None
Parent material: Triassic sedimentary residuum

Use and Management Considerations

Cropland

Suitability: Moderately suited to grass-legume hay; poorly suited to corn, soybeans, and tobacco

- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- Bedrock may interfere with the construction of haul roads and log landings.
- The low soil strength interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Shrinking and swelling of the soil may crack foundations and basement walls.
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The restricted permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of properly installing the effluent distribution lines is increased.

Local roads and streets

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of the soil.
- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: Wolftrap—2e; Easthamlet—4w
Virginia soil management group: KK
Hydric soils: No

57B—Yadkin fine sandy loam, 2 to 8 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: High terrace on piedmont
Position on the landform: Summit and shoulder
Elevation: 325 to 525 feet

Map Unit Composition

Major components:
Yadkin and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Minor components: Appomattox soils

Typical Profile

Surface layer:
0 to 8 inches—dark yellowish brown fine sandy loam (yellowish brown, dry)

Subsoil:
8 to 11 inches—red sandy clay loam
11 to 33 inches—red clay
33 to 48 inches—red clay loam
48 to 58 inches—red sandy clay loam
58 to 80 inches—red loam

Soil Properties and Qualities

Available water capacity: Moderate (about 8.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Low
Surface fragments: About 0.00 to 0.10 percent coarse well rounded gravel and cobbles
Parent material: Clayey, old alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, tobacco, and grass-legume hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- This soil is well suited to haul roads and log landings and to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability classification: 2e
Virginia soil management group: O
Hydric soil: No

57C—Yadkin fine sandy loam, 8 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: High terrace on piedmont
Position on the landform: Backslope and shoulder
Elevation: 325 to 525 feet

Map Unit Composition

Major components:
Yadkin and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Minor components: Appomattox soils

Typical Profile

Surface layer:
0 to 8 inches—dark yellowish brown fine sandy loam (yellowish brown, dry)

Subsoil:
8 to 11 inches—red sandy clay loam
11 to 33 inches—red clay
33 to 48 inches—red clay loam
48 to 58 inches—red sandy clay loam
58 to 80 inches—red loam

Soil Properties and Qualities

Available water capacity: Moderate (about 8.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches

Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: About 0.00 to 0.05 percent coarse well rounded gravel and cobbles
Parent material: Clayey, old alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco and grass-legume hay; moderately suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pastureland

Suitability: Well suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- This soil is well suited to haul roads and log landings.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength may cause structural damage to local roads and streets.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e

Virginia soil management group: O
Hydric soil: No

58B3—Yadkin clay loam, 2 to 8 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: High terrace on piedmont
Position on the landform: Summit and shoulder
Elevation: 325 to 525 feet

Map Unit Composition

Major components:
Yadkin and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—dark reddish brown clay loam (reddish brown, dry)

Subsoil:
6 to 28 inches—dark red clay
28 to 50 inches—red clay
50 to 65 inches—red clay loam

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: About 0.00 to 0.10 percent coarse well rounded gravel and cobbles
Parent material: Clayey, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Well suited to tobacco; moderately suited to corn and grass-legume hay; poorly suited to soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Well suited

- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to southern red oak and northern red oak; poorly suited to loblolly pine

- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites

- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 3e
Virginia soil management group: O
Hydric soil: No

58C3—Yadkin clay loam, 8 to 15 percent slopes, severely eroded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Terrace on piedmont
Position on the landform: Summit and shoulder
Elevation: 325 to 525 feet

Map Unit Composition

Major components:
Yadkin and similar soils: Typically 90 percent, ranging from about 85 to 95 percent

Typical Profile

Surface layer:
0 to 6 inches—dark reddish brown clay loam (reddish brown, dry)

Subsoil:
6 to 28 inches—dark red clay
28 to 50 inches—red clay
50 to 65 inches—red clay loam

Soil Properties and Qualities

Available water capacity: Moderate (about 8.3 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.64 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: About 0.00 to 0.05 percent coarse well rounded gravel and cobbles
Parent material: Clayey, mixed alluvium

Use and Management Considerations

Cropland

Suitability: Moderately suited to tobacco and grass-legume hay; poorly suited to corn and soybeans
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The high clay content restricts the rooting depth of crops.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pastureland

Suitability: Moderately suited
- The hazard of erosion, rate of surface runoff, and amount of nutrient loss are increased because of the slope.

Woodland

Suitability: Moderately suited to southern red oak and northern red oak; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in minimizing the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Because of the slope, the operating efficiency of log trucks is reduced and operating conditions are unsafe.
- The slope may restrict the use of some mechanical planting equipment.
- The low soil strength interferes with the construction of haul roads and log landings.
- The low soil strength may create unsafe conditions for log trucks.

Building sites

- The slope affects the use of machinery and the amount of excavation required.
- The high content of clay in the subsurface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- The moderate permeability limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Because of the shrinking and swelling, the use of the soil as base material for local roads and streets is restricted.
- The low soil strength is unfavorable for supporting heavy loads.
- Because of the slope, designing local roads and streets is difficult.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability classification: 4e
Virginia soil management group: O
Hydric soil: No

W—Water

This map unit is in the Southern Piedmont Major Land Resource Area (MLRA 136). Areas of this unit consist of lakes, streams, and reservoirs.

This map unit is not assigned any interpretive groups.

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

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, and the system of land capability classification used by the Natural Resources Conservation Service is explained.

Because most of the soils in Halifax County are highly leached, they are strongly acid and generally low in essential plant nutrients. Crops and pasture plants on most of the soils respond well to applications of lime and fertilizer. The amount of lime and fertilizer to be applied to any individual area depends on past cropping history, on the type of soil, on the crops to be grown, and on the yield desired.

In 2002, Halifax County has about 34,300 acres of harvested cropland *(11)*. About 25,000 acres of this total is in hay production. A small acreage is used for growing specialty crops, such as cantaloupes, pumpkins, strawberries, and vegetables. The major row crops are flue-cured tobacco, soybeans, and corn. The most widely grown small grain is winter wheat.

The climate and many of the soils are suited to the crops commonly grown in the survey area. Some of the soils, especially those in poorly drained areas, are not suited to crops. Areas of steep slopes are not well suited to crop production due to the potential of soil erosion.

The very deep, well drained, nearly level and gently sloping soils, such as Clifford, Nathalie, and Turbeville soils on upland landscapes and Danripple soils on stream terraces, are some of the most productive soils for growing cultivated crops, such as tobacco and pasture and hay plants. These soils are also well suited to vegetables, small fruits, and nursery plants. Bentley soils are moderately well drained, have a thick sandy surface layer, and are well suited to growing tobacco. Minnieville soils are well drained and tend to have less sand in the soil surface layer than most upland soils. They can match the tobacco production of Clifford and Nathalie soils; however, the leaf quality is not as good.

Most areas of the less sloping soils in the survey area are well suited to pasture and hay. The dominant plants in the well managed pastures are tall fescue and orchardgrass. The main legumes grown with the grasses in some pastures are white clover and ladino clover.

The dominant hay crops are orchardgrass, alfalfa, tall fescue, red clover, and lespedeza. Orchardgrass is the major grass hay crop because it makes better quality hay than tall fescue.

The latest information and suggestions for growing crops, hay, and pasture can be obtained at the local office of the Virginia Cooperative Extension Service or the Natural Resources Conservation Service.

Excessive tillage tends to destroy soil structure. As a result, the water infiltration rate is generally lowered and the seedbed has a less favorable tilth. Essential tillage should be confined to the period of optimum moisture content of each soil in order to help prevent the formation of clods or conditions leading to crusting. Cropping systems that utilize close-growing crops or grass and legume crops in rotation with row crops help to prevent the deterioration of soil structure through excessive tillage.

Soil compaction and deterioration of soil structure also results if wet soils are trampled by livestock. Soil compaction results in increased surface runoff and a less favorable root zone for pasture plants.

Soil erosion by water is the major hazard on about 85 percent of the cropland in the survey area. Soil erosion reduces the soil productivity and contributes to pond and stream sedimentation. Soils in capability subclasses 2e, 3e, 4e, 5e, 6e, and 7e are subject to water erosion. The control of erosion on these soils is a major management concern.

Erosion reduces the thickness of the topsoil, which contains most of the organic matter, available water, and nutrients. The potential for erosion on soils having clayey subsoils, such as Clifford and Nathalie soils in the central and western parts of Halifax County, is high, and conservation practices that minimize soil erosion and stream sedimentation are needed. If the original, friable surface layer has eroded away, preparing a good seedbed, tillage, and growing a good stand of some crops are difficult in the remaining clayey spots. Eroded areas of some Clifford soils were large enough to map as separate map units from the map units of Clifford sandy loam.

Most of the cultivated soils in the county are low in naturally occurring organic matter content and generally have weak structure. Organic matter is an important source of nitrogen for crops. It also improves soil structure, the rate of water infiltration, the available water capacity, and soil tilth. High-intensity rains sometimes cause surface crusting. The crusted surface is hard when dry and somewhat impervious to water, especially in spots where plowing has incorporated some of the clay subsoil into the surface layer. When hard and crusted, the surface increases surface runoff. Regular additions of livestock manure and other organic material help to improve soil structure and to minimize surface crusting. Leaving crop residues on the surface or using green manure crops also contribute to organic matter content.

In many areas, soil erosion on farmland causes stream pollution as sediments, nutrients, and pesticides enter the water channels. Controlling erosion minimizes this pollution and improves the quality of water for municipal use and for fish and wildlife.

Erosion-control practices cover and protect the soil surface, minimize runoff, and increase water infiltration. A cropping system that keeps plant cover on the soil for extended periods helps to control erosion and to maintain soil productivity. Including legumes and grass forage crops in the cropping system helps to control erosion on sloping land, provide nitrogen for plants, and improve soil tilth for the next crop in rotation.

The installation of structural practices, such as terraces, diversions, and/or grassed waterways, helps to minimize erosion by controlling runoff. Implementing cropping systems that rotate grass or close-growing crops with row crops also reduces the hazard of erosion on cropland.

On the soils that have short, irregular slopes, a cropping system that provides abundant plant cover helps to control erosion. Leaving crop residue on the surface, either by minimizing tillage or by stubble mulching, helps to increase water infiltration, minimize runoff, and control erosion during seeding and early crop growth.

On soils that have smooth, uniform slopes, contour tillage is effective in reducing surface runoff and significantly increases the amount of water that soaks into the soil. Soil moisture is commonly a critical factor at certain times during the growing season. Contour tillage is also very effective in controlling erosion.

The major limitations affecting most of the soils used for pasture and hay are high levels of acidity and low natural fertility. Applications of lime offset acidity. Applications of fertilizer, especially nitrogen, are needed to improve soil fertility for maximum forage production.

Major pasture management problems are establishing and maintaining a mixture of grasses and legumes and preventing overgrazing. Overgrazing reduces the stand of desirable grasses and legumes and allows weeds to increase in abundance. In addition, overgrazing reduces the ground cover and increases erosion. Major pasture management concerns are proper stocking rates, which maintain desirable grasses and legumes, rotational grazing, deferred grazing, weed control, and applications of lime and fertilizer for maximum forage production.

The choice of an appropriate cropping system or resource management system is a major decision for farmers in the county. All of the soils in the county have physical and chemical characteristics that affect their potential for farming.

A cropping system should be used that does not exceed a tolerable soil erosion loss for the soils involved, that meets the needs of the farmer, and that is consistent with the capability of the soils.

Cropping systems range from continuous row crops or small grains to various types of rotations, which may include grasses and/or legumes. Conservation tillage, contour stripcropping, and growing cover and green manure crops are other soil-saving farming methods.

Information on erosion-control practices for each kind of soil can be obtained at the local office of the Natural Resources Conservation Service. Information on management practices for cropland, pastureland, and hayland can be obtained at the local office of the Virginia Cooperative Extension Service.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification and the Virginia Soil Management Group of map units in the survey area also are shown in the table.

The yields are based on the Virginia Agronomic Land Evaluation System *(20)*. 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.

Realistic yield goals can be maintained over a long-term basis through proper nutrient management and other soil amendments such as lime. Applications of nitrogen and phosphorus from organic or inorganic forms should be in keeping with approved nutrient management practices and regulations.

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 unit *(18)*. Only class and subclass are used in this survey.

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

Class 1 soils have slight limitations that restrict their use.

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

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

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

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

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

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

Virginia Soil Management Groups

The Virginia Agronomic Land Use Evaluation System (VALUES) is a system that ranks soils for management and productivity *(20)*. VALUES places each soil series in

Virginia into one of 43 management groups. The format of the management groups, A through QQ, include the following soil characteristics—regional occurrence; parent material; landscape position or influence; solum thickness; dominant profile features, such as texture; available water capacity for plants; and internal soil drainage. Yields that are both economically and environmentally feasible were assigned to each management group, based on yields of field trial crop data and research. The following paragraphs describe the soil management groups in Halifax County.

Group A. The soils of this group formed from alluvium on gently sloping landscapes of flood plains or streams terraces. They are deep and medium textured throughout. They have a high available water capacity and are well drained.

Group G. The soils of this group formed in locally transported, medium textured sediments of either colluvial or alluvial origin that overlay a wide range of residual materials. They are in landscape positions ranging from footslopes and toeslopes to the heads of drainageways, depressions, and narrow upland drainageways. They are deep soils that have silty to loamy upper subsoils underlain with clayey to stony materials. They have a moderately high available water capacity and range from moderately well drained or somewhat poorly drained.

Group I. The soils of this group formed from alluvium along flood plains in the Piedmont region. As a result, they are somewhat susceptible to the hazard of flooding. They are deep soils that have predominantly clay loam subsurface horizons. They have a moderately high available water capacity and are somewhat poorly drained.

Group K. The soils of this group formed from mixed marine and fluvial sediments on landscapes that range from stream terraces to broad, nearly level interfluves on uplands. They are deep soils that have loamy surface layers and clay loam to clayey subsurface layers. They have a moderate available water capacity and are somewhat poorly drained.

Group L. The soils of this group formed from old transported deposits of alluvium or colluvium. They are common on stream terraces, footslopes, and older, elevated, upland landscapes that were once stream terraces. They are deep soils that have medium textured surfaces, have more clayey subsurface layers, and commonly have gravel and rounded stones. They have a moderate or high available water capacity and typically are well drained.

Group N. The soils of this group formed from residuum ranging from weathered mafic rocks to Triassic sediments and are located on dissected uplands in the Piedmont region. They are moderately deep or deep and have medium textured surface layers and reddish brown clayey subsurface layers. They have a moderate available water capacity and are well drained.

Group O. The soils of this group formed from transported materials from old alluvium on dissected uplands. They range from deep to shallow and have very dark red clayey subsurface horizons. In some areas, they may have a significant amount of coarse fragments. They have a moderate available water capacity and are well drained.

Group R. The soils of this group formed from marine sediments and are located on the gently sloping uplands. They are deep soils that have sandy loam surface layers and reddish yellow clayey to clay loam subsurface layers containing some mottles in the lower part. They have a moderate available water capacity and are well drained or moderately well drained.

Group V. The soils of this group formed from saprolites derived from a variety of parent materials ranging from slates to granites, gneisses, schists, and more basic granitic rocks. They are on upland landscapes in the Piedmont region. They are moderately deep and have clayey subsurface horizons. They have a moderate available water capacity and are well drained.

Group X. The soils of this group are derived from a variety of residual materials, including slates, granites, gneisses, and schists. They are located on upland landscapes in the Piedmont region. They are moderately deep and have clayey subsurface horizons, which contain coarse fragments or gravel in some areas. They have a moderate available water capacity and are moderately well drained or well drained.

Group Y. The soils of this group formed from the residuum of weathered limestones, shales, or other carbonate-influenced rocks. They are in upland landscapes in the Piedmont region. They are shallow to moderately deep and have clayey subsurface horizons, which contain coarse fragments in some areas. They have a moderate or low available water capacity where shallow to bedrock. They are mostly well drained.

Group FF. The soils of this group formed in residual parent materials ranging from sandstone, shales, and slates to loamy granitic saprolites. They extend across the Piedmont region and are on steeply dissected uplands. They are moderately shallow soils and have mostly loamy-skeletal subsurface horizons that may contain 80 percent or more coarse fragments. As a result, the available water capacity is very low or low. The soils are moderately well drained or well drained.

Group HH. The soils of this group formed from loamy sediments in flood-plain positions in the mountains and in finer textured sediments in the Coastal Plain region. They are moderately deep and have fine-loamy or clayey subsurface textures. They have a moderate available water capacity and are somewhat poorly drained or moderately well drained.

Group II. The soils of this group formed from sandy parent materials within the Coastal Plain region or from local alluvium or colluvium of sandy origin. They are sandy textured throughout and have little horizonation. They have a low or very low available water capacity and are well drained or moderately well drained.

Group JJ. The soils of this group formed from a wide variety of residual parent materials, ranging from sandstones and shales to Triassic materials and granite or schist saprolites. They are in the Piedmont region. They are shallow and predominantly have loamy-skeletal textures throughout that contain 30 to 70 percent coarse fragments. They have a very low available water capacity and are well drained.

Group MM. The soils of this group formed from loamy sediments and flood frequently. They have a moderate to high available water capacity and are poorly drained.

Group NN. The soils of this group formed in alluvium along streams or on terraces. They are moderately deep and have silty to clay loam subsurface textures. They have a moderately high available water capacity and are somewhat poorly drained or poorly drained.

The management groups for the map units in the survey area are given in the section “Detailed Soil Map Units” and in table 5.

Prime Farmland

Table 6 lists the map units in the survey area that are considered prime farmland. 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.

About 75,000 acres in the survey area, or nearly 14 percent of the total land acreage, meets the soil requirements for prime farmland. Scattered areas of this land are throughout the county. About 30,000 acres of this prime farmland is used for crops. The crops grown on this land, mainly corn, cotton, and soybeans, account for an estimated two-thirds of the county's total agricultural income each year.

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 table 6 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.

Hydric Soils

This section lists the map unit components 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 *(6, 8)*.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology *(3, 8, 9, 10)*. 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 *(4)*. 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 *(5)*. 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" *(15)* and "Keys to Soil Taxonomy" *(14)* and in the "Soil Survey Manual" *(19)*.

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" *(6)*.

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The Kinkora, Wehadkee, Hatboro, and Delila components of the following map units meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This information can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site *(6, 8)*.

2B	Banister-Kinkora complex, 0 to 4 percent slopes, rarely flooded
5A	Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded
14A	Codorus and Hatboro soils, 0 to 2 percent slopes, frequently flooded
18B	Delila sandy loam, 0 to 4 percent slopes

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 following map unit, in general, does not meet the definition of hydric soils because it does not have one of the hydric soil indicators. A portion of this map unit, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

13A	Codorus loam, 0 to 2 percent slopes, occasionally flooded

Agricultural Waste Management

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.

Table 7, parts I, II, and III, 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 this table, 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 table 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 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).

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 or a cemented pan, 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. Permanently frozen soils are unsuitable for waste treatment.

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 or a cemented pan, 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. Permanently frozen soils are unsuitable for waste treatment.

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 or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, 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. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

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 or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

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. Permanently frozen soils are unsuitable for waste treatment.

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 or a cemented pan, 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. Permanently frozen soils are unsuitable for waste treatment.

Forestland Productivity and Management

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.

About 350,000 acres, or about 67 percent of the survey area, is woodland. These figures include about 11,000 acres adjacent to flood plains of the Staunton and Dan Rivers that are managed by the U.S. Army Corps of Engineers and about 2,500 woodland acres of the Staunton River State Park. The remainder of the woodland in Halifax County is privately owned.

On upland sites the most common trees are white oak, hickory, maple, yellow-poplar, loblolly pine, and Virginia pine. On stream bottomlands, the main tree species are maple, sweetgum, yellow-poplar, and sycamore. Most of the stands are composed of hardwoods or mixed hardwoods and pine. Scattered tracts of land throughout the county have been planted or replanted with loblolly pine.

The forest products industry is an important component of the local economy. The Virginia Department of Forestry reports that over 500 persons are employed in industries relying on forest products.

Much of the existing commercial woodland can be improved by thinning out mature, diseased, poor-growth form, or undesirable tree species to increase potential timber production.

Woodland management practices and related activities include thinning, clearcutting, prescribed burning, reforestation, preventing wildfires, restricting grazing by livestock, and controlling diseases and insects. Forest management plans are available to private landowners through the Virginia Department of Forestry, which provides a variety of services.

In addition, literature describing “Best Management Practices” is available from the Virginia Department of Forestry to assist landowners and loggers in the planning and implementation of timber harvesting techniques. These “BMPs” are designed to reduce potential soil erosion and to protect water quality and wildlife habitat.

The potential for soil erosion associated with logging activities is greatest from access roads and skid trails. These areas concentrate overland flow and surface runoff resulting from precipitation, which do not enter the soil surface. Planning and installing access roads and skid trails on the contour help to reduce the potential for soil erosion by reducing the velocity of and thus the eroding power of surface runoff. Road grades should be kept under 10 percent, and roads should have side drainage ditches and adequate culverts to control surface runoff and overland flow. Also, installing water bars in logging roads and skid trails help to reduce erosion by diverting runoff to vegetated areas.

Following the completion of logging, seeding or planting any unneeded trails and roads to a permanent plant cover helps to control water runoff and to minimize erosion and stream sedimentation. Improvements in wildlife habitat may be incorporated into the planning at this time by establishing plant cover types that are preferred wildlife foods in addition to functioning in soil conservation.

Water quality is also aided by leaving a buffer zone of trees and shrubs adjacent to intermittent and perennial waterways. These areas help to reduce stream sedimentation by intercepting overland flow from higher slopes.

The Virginia Department of Forestry, the Natural Resources Conservation Service, or the Virginia Cooperative Extension Service can assist woodland owners and managers with determining specific management needs on woodland.

Forestland Productivity

In table 8, 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" *(12)*, which is available at the local office of the Natural Resources Conservation Service or on the Internet.

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

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

Forestland Management

In table 9, parts I through V, 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 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 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" *(12)*, which is available at the local office 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 Staunton and Dan Rivers in the survey area provide many recreational activities, including boating, fishing, swimming, and waterskiing.

Camping facilities are available at Staunton River State Park in eastern Halifax County just off of U.S. Highway 360. The County Department of Parks and Recreation maintains several facilities for public recreation, such as softball, volleyball, basketball, and tennis.

In table 10, parts I and II, 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 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).

The ratings in the table are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in this table 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 or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

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

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 11, parts I and II, show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *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).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Table 12, parts I and II, show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *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).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Table 13, parts I and II, give information about the soils as potential sources of gravel, sand, 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 table 13, part I, 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 table 13, part II, the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, 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 the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

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

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

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

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

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

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

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

Soil Properties

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

Soil properties are 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

Table 15 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 *(2)* and the system adopted by the American Association of State Highway and Transportation Officials *(1)*.

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

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

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

Rock fragments 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

Table 16 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

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

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute 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 refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in micrometers per second, 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” *(13)*, which is available at the local office 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 and frozen soil layers also influence wind erosion.

Chemical Soil Properties

Table 17 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

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

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Water Features

Table 18 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

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 grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. 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, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

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

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

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

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

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

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(14, 15)*. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 20 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is 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, mesic 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.

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” *(19)* and in the “Field Book for Describing and Sampling Soils” *(16)*. Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” *(15)* and in “Keys to Soil Taxonomy” *(14)*. 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.

Appomattox Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits and ridges
Parent material: Old alluvium capping
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderately slow
Slope: 2 to 15 percent

Associated Soils

- Bentley soils, which have a subsoil that is less red than that of the Appomattox soils
- Danripple soils on slightly lower stream terraces
- Minnieville soils, which are are residual
- Oak Level soils, which have a water table below a depth of 60 inches
- Turbeville soils, which have a water table below a depth of 60 inches

Taxonomic Classification

Fine, mixed, semiactive, mesic Oxyaquic Hapludults

Typical Pedon

Appomattox clay loam, 2 to 8 percent slopes, severely eroded; approximately 1 mile north of the junction of State Routes 658 and 671, about 2,600 feet east of State Route 671, in a cultivated field; Oak Level VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 41 minutes 33 seconds N. and long. 79 degrees 1 minute 19 seconds W.

Ap—0 to 8 inches; red (2.5YR 4/6) clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots throughout; 3 percent rounded quartz gravel; strongly acid; clear smooth boundary.

Bt1—8 to 14 inches; red (2.5YR 4/8) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots throughout; very few distinct continuous clay films on vertical faces of peds; very strongly acid; clear smooth boundary.

Bt2—14 to 36 inches; red (2.5YR 4/8) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots throughout; very few distinct continuous clay films on vertical faces of peds; common fine and medium prominent irregular reddish yellow (7.5YR 6/6) masses of oxidized iron with diffuse boundaries; very strongly acid; gradual smooth boundary.

Bt3—36 to 42 inches; red (2.5YR 4/6) clay loam; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; very few distinct continuous clay films on vertical faces of peds; common fine and medium prominent irregular brownish yellow (10YR 6/6) masses of oxidized iron with diffuse boundaries and common fine and medium prominent irregular light gray (10YR 7/2) iron depletions with diffuse boundaries; very strongly acid; gradual wavy boundary.

Bt4—42 to 54 inches; red (2.5YR 4/6) clay loam; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; very few distinct continuous clay films on vertical faces of peds; many fine and medium prominent irregular light gray (10YR 7/2) iron depletions with diffuse boundaries and many fine and medium prominent irregular brownish yellow (10YR 6/6) masses of oxidized iron with diffuse boundaries; very strongly acid; gradual wavy boundary.

BC—54 to 64 inches; red (2.5YR 5/8) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium prominent irregular reddish yellow (7.5YR 6/6) masses of oxidized iron with diffuse boundaries; very strongly acid; gradual smooth boundary.

C—64 to 79 inches; yellowish red (5YR 5/8) loam; massive; friable, slightly sticky, slightly plastic; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 1 to 15 inches
Depth to base of argillic horizon: 40 to 60 inches or more
Depth to bedrock: More than 60 inches
Depth to top of seasonal high water table: 36 to 40 inches from November to April
Depth to base of seasonal high water table: 50 to 60 inches or more from November to April
Depth to lithologic discontinuity: 36 to more than 144 inches to residual material
Surface rock fragments (content, size): 0 to 1 percent; mostly gravel and cobbles
Rock fragments in soil (content, type, size): 0 to 15 percent throughout the profile; mostly gravel and cobbles of igneous and metamorphic rock
Mica flakes: 0 to 20 percent, by volume, throughout the profile
Soil reaction: Very strongly acid to moderately acid throughout the profile, except in limed areas
Other characteristics: Some pedons have B horizons with platy structure and 5 percent or less plinthite

A horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 1 to 6
Texture—sandy loam, fine sandy loam, or loam

Ap horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 1 to 6
Texture—clay loam

E horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, or loam

BA horizon (if it occurs):
Color—hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—typically hue of 10R or 2.5YR, value of 3 to 5, and chroma of 6 to 8; some pedons have hue of 5YR or are variegated in shades of red, yellow, brown, and gray
Texture—clay loam, sandy clay, or clay
Clay content—35 to 80 percent in the upper part of horizon and 27 to 45 percent in the lower part
Redoximorphic features (if they occur)—iron depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

BC horizon:

Color—hue of 10R or 2.5YR, value of 3 to 5, and chroma of 6 to 8; in some pedons, horizon has hue of 5YR or is variegated in shades of red, yellow, brown, and gray

Texture—clay loam, sandy clay, or clay; this horizon is generally coarser in texture than the Bt horizon and commonly contains a higher content of rock fragments

Redoximorphic features (if they occur)—iron depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

C horizon or 2C horizon (if it occurs):

Color—highly variable and typically variegated

Texture—variable; ranging from loam to clay

Redoximorphic features (if they occur)—iron depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

Badin Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluve summits
Parent material: Schist residuum
Drainage class: Well drained
Depth class: Moderately deep
Slowest permeability class: Moderate
Slope: 2 to 25 percent

Associated Soils

- Cid soils, which are moderately well drained
- Goldston soils, which have soft bedrock within a depth of 20 inches
- Nason soils, which have soft bedrock within a depth of 60 inches
- Tarrus soils, which have soft bedrock within a depth of 60 inches

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Badin silt loam in an area of Tarrus-Badin complex, 2 to 8 percent slopes; 5,600 feet south on State Route 716 from its intersection with State Route 719, about 300 feet west of State Route 716, in deciduous woods; Clover VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 30 minutes 58 seconds N. and long. 78 degrees 57 minutes 14 seconds W.

A—0 to 2 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine and medium granular structure; friable, slightly sticky, slightly plastic; many very fine and fine and few coarse roots throughout; 7 percent angular phyllite channers; strongly acid; clear smooth boundary.

E—2 to 6 inches; light brown (7.5YR 6/4) silt loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; 5 percent angular phyllite channers; very strongly acid; clear smooth boundary.

Bt1—6 to 10 inches; yellowish red (5YR 5/8) silty clay loam; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine, medium, and coarse roots throughout; very few distinct continuous clay films on surfaces along pores; 5 percent angular phyllite channers; very strongly acid; gradual wavy boundary.

Bt2—10 to 25 inches; red (2.5YR 5/8) silty clay loam; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine, medium, and coarse roots throughout; very few distinct continuous clay films on vertical faces of peds; 5 percent angular phyllite channers; very strongly acid; gradual wavy boundary.

BCt—25 to 38 inches; yellowish red (5YR 5/8) very channery silty clay loam; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine, medium, and coarse roots throughout; very few faint patchy clay films on vertical faces of peds; 40 percent angular phyllite channers; very strongly acid; gradual wavy boundary.

Cr—38 to 48 inches; weathered schist bedrock.

R—48 to 58 inches; unweathered bedrock.

Range in Characteristics

Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 inches or more
Rock fragment content: 5 to 15 percent in the A horizon, 5 to 35 percent in the E, BE, BA, and Bt horizons, and 20 to 60 percent in the BC and C horizons
Soil reaction: Very strongly acid or strongly acid

Ap horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 2 to 8
Texture—silt loam or loam

A horizon:
Color—hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 2 to 8
Texture—silt loam

E horizon:
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 or loam

BA horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—silt loam, loam, or silty clay loam

BE horizon (if it occurs):
Color—hue of 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 7.5YR to 2.5YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—clay, clay loam, silty clay, or silty clay loam

BCt horizon:
Color—hue of 7.5YR to 2.5YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—silty clay loam, clay loam, or silt loam

C horizon (if it occurs):
Color—hue of 7.5YR to 2.5YR, value of 4 to 6, and chroma of 3 to 8
Texture—silt loam saprolite in the fine-earth fraction

Cr horizon:
Bedrock—moderately fractured, highly weathered schist

R horizon:
Bedrock—slightly fractured, relatively unweathered schist

Banister Series

Physiographic province: Southern Piedmont, mesic
Landform: Stream terrace treads
Parent material: Alluvium
Drainage class: Moderately well drained
Depth class: Very deep
Slowest permeability class: Moderately slow
Slope: 0 to 4 percent

Associated Soils

- Codorus soils, which are somewhat poorly drained and loamy; on flood plains
- Danripple soils, which are well drained; on the same landscape as the Banister soils
- Hatboro soils, which are poorly drained; on flood plains
- Kinkora soils, which are poorly drained and clayey; on the same landscape as the Banister soils
- Somewhat poorly drained, clayey soils on the same landscape as the Banister soils
- Well drained, loamy soils on the same landscape as the Banister soils

Taxonomic Classification

Fine, mixed, active, mesic Aquic Hapludalfs

Typical Pedon

Banister loam in an area of Banister-Kinkora complex, 0 to 4 percent slopes, rarely flooded; 7,300 feet northwest of the junction of U.S. Highway 58 and State Route 694, about 4,800 feet off State Route 694 along a farm road towards the Dan River, in a cultivated field; Milton VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 36 minutes 9.8 seconds N. and long. 79 degrees 9 minutes 9 seconds W.

Ap—0 to 8 inches; olive brown (2.5Y 4/4) loam; moderate fine granular structure; very friable, slightly sticky, nonplastic; many fine roots; 3 percent rounded quartz gravel; strongly acid; clear smooth boundary.

BA—8 to 14 inches; olive brown (2.5Y 4/4) loam; weak fine subangular blocky structure; very friable, slightly sticky, nonplastic; many fine and medium roots; 3 percent rounded quartz gravel; strongly acid; clear smooth boundary.

Bt1—14 to 18 inches; yellowish brown (10YR 5/6) clay loam; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; many fine roots; few distinct continuous clay films on all faces of peds; few fine mica flakes; strongly acid; gradual wavy boundary.

Bt2—18 to 38 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; very firm, very sticky, moderately plastic; many fine roots; few distinct continuous clay films on all faces of peds; many medium prominent gray (10YR 6/1) iron depletions with diffuse boundaries and many medium distinct strong brown (7.5YR 5/8) masses of oxidized iron with diffuse boundaries; few fine mica flakes; slightly acid; gradual wavy boundary.

Bt3—38 to 50 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; very firm, very sticky, moderately plastic; many fine roots; common distinct continuous clay films on all faces of peds; many medium prominent gray (10YR 6/1) iron depletions with diffuse boundaries and many medium distinct strong brown (7.5YR 5/8) masses of oxidized iron with diffuse boundaries; few fine mica flakes; strongly acid; gradual wavy boundary.

Btg—50 to 58 inches; light gray (N 7/0) clay; moderate medium subangular blocky structure; very firm, very sticky, moderately plastic; few distinct continuous clay films on all faces of peds; few fine prominent irregular red (2.5YR 4/8) masses of oxidized iron with diffuse boundaries; few fine mica flakes; strongly acid; gradual wavy boundary.

Cg—58 to 65 inches; light gray (2.5Y 7/1) clay loam; moderately sticky, moderately plastic; neutral.

Range in Characteristics

Depth to top of argillic horizon: 5 to 15 inches
Depth to base of argillic horizon: 40 to 60 inches
Depth to top of the seasonal high water table: 18 to 30 inches
Depth to base of the seasonal high water table: 200 inches or more
Depth to bedrock: More than 60 inches
Rock fragments (content, type, size): 0 to 15 percent, by volume, in the A and B horizons and 0 to 25 percent in the C horizon; mostly rounded quartzite gravel
Mica flakes: 1 to 20 percent, by volume, in the B and C horizons
Soil reaction: Extremely acid to strongly acid, except in limed areas

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 4; value of 3 occurs in some pedons where horizon is less than 6 inches thick
Texture—loam

E horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 to 6
Texture—sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam

BA or BE horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8
Texture—clay loam, sandy clay loam, silt loam, or loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—clay loam, sandy clay loam, sandy clay, silty clay loam, silty clay, or clay
Redoximorphic features (if they occur)—iron depletions or clay depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

Btg horizon:
Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 8
Texture—clay loam, sandy clay loam, sandy clay, silty clay loam, silty clay, or clay
Redoximorphic features—iron depletions, clay depletions, and masses of reduced iron in shades of brown, yellow, olive, or gray; masses of oxidized iron and iron-manganese masses in shades of red, yellow, or brown

BC or CB horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—sandy loam, sandy clay loam, clay loam, silty clay loam, or sandy clay
Redoximorphic features (if they occur)—iron depletions or clay depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

BCg or CBg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 or 2, or it is neutral in hue and has value of 4 to 8
Texture—sandy loam, sandy clay loam, clay loam, or sandy clay
Redoximorphic features (if they occur)—iron depletions or clay depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

C or 2C horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—sand, loamy sand, sandy loam, loam, or sandy clay loam; horizon may be stratified
Redoximorphic features (if they occur)—iron depletions or clay depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

Cg horizon or 2Cg horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture (fine-earth fraction)—sand, loamy sand, sandy loam, loam, or sandy clay loam; horizon may be stratified
Redoximorphic features (if they occur)—iron depletions or clay depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

Bentley Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Old alluvium capping
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderately slow
Slope: 2 to 15 percent

Associated Soils

- Appomattox soils, which have a subsoil that is redder than that of the Bentley soils
- Clifford soils, which do not have a water table within a depth of 60 inches
- Nathalie soils, which do not have a water table within a depth of 60 inches

Taxonomic Classification

Fine, mixed, semiactive, mesic Oxyaquic Hapludults

Typical Pedon

Bentley loamy sand, 2 to 8 percent slopes; 1.5 miles south of State Route 659 from its junction with State Route 682, about 750 feet north of a radio tower on State Route 659, on the north side of road, in a cropped field; South Boston VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 42 minutes 18 seconds N. and long. 78 degrees 57 minutes 10 seconds W.

Ap—0 to 17 inches; brown (10YR 5/3) loamy sand; weak fine granular structure; friable, nonsticky, nonplastic; few fine and medium roots; 2 percent rounded quartz gravel; slightly acid; abrupt smooth boundary.
BA—17 to 23 inches; yellowish brown (10YR 5/4) sandy loam; weak fine and medium granular structure; friable, nonsticky, nonplastic; few fine and very fine roots; 3 percent rounded quartz gravel; strongly acid; clear smooth boundary.
Bt1—23 to 35 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine roots; very few distinct continuous clay films on all faces of peds; 2 percent rounded quartz gravel; very strongly acid; clear smooth boundary.
Bt2—35 to 48 inches; yellowish brown (10YR 5/8) clay; moderate medium subangular blocky structure and weak medium platy structure; firm, moderately sticky, moderately plastic; few very fine, fine, and medium roots; very few distinct continuous clay films on all faces of peds; common medium and coarse prominent

pale brown (10YR 6/3) iron depletions and common medium and coarse prominent red (2.5YR 4/6) masses of oxidized iron; 2 percent rounded quartz gravel; very strongly acid; gradual wavy boundary.

BCt—48 to 61 inches; 40 percent yellowish brown (10YR 5/8), 30 percent red (2.5YR 4/6), and 30 percent pale brown (10YR 6/3) sandy clay; weak medium platy structure; firm, moderately sticky, moderately plastic; few very fine, fine, and medium roots; very few faint continuous clay films on all faces of peds; common medium prominent light gray (10YR 7/2) iron depletions; 5 percent rounded quartz gravel; very strongly acid; gradual wavy boundary.

C—61 to 80 inches; 40 percent dark yellowish brown (10YR 4/4), 35 percent light gray (10YR 7/2), and 25 percent yellowish brown (10YR 5/8) sandy clay; massive; firm, moderately sticky, moderately plastic; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 5 to 20 inches
Depth to bottom of argillic horizon: 30 to 65 inches or more
Depth to bedrock: More than 60 inches
Depth to top of seasonal high water table: 30 to 42 inches from December to March
Depth to base of seasonal high water table: 42 to 60 inches from December to March
Depth to lithologic discontinuity: More than 60 inches to residual material
Surface rock fragments (content, size): 0 to 1 percent; mostly gravel and cobbles
Rock fragments in soil (content, type, size): 0 to 15 percent in the A horizon and 0 to 35 percent in the E, B, and C horizons; commonly rounded quartzite gravel or less commonly cobbles
Mica flakes: 0 to 20 percent, by volume, throughout the profile
Soil reaction: Very strongly acid or strongly acid, except in limed areas

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 7, and chroma of 3 to 6
Texture—loamy sand

E horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y and value and chroma of 2 to 6
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, loam, or sandy clay loam

BA horizon:
Color—hue of 7.5YR to 2.5Y and value and chroma of 2 to 8
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon (upper part):
Color—hue of 7.5YR to 2.5Y and value and chroma of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay

Bt horizon (lower part):
Color—hue of 7.5YR to 2.5Y and value and chroma of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are relict features

Btg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y or is neutral in hue, has value of 3 to 8, and has chroma of 1 or 2
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features—iron depletions in shades of brown, yellow, or gray and

masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are relict features

BCt or BC horizon:
Color—hue of 2.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are contemporary features

BCg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are contemporary features

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—stratified gravelly sand to clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are contemporary features

Cg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 8
Texture (fine-earth fraction)—stratified gravelly sand to clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized in shades of red, brown, or yellow; in some pedons these colors are contemporary features

2C horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—stratified gravelly sand to clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow

Chewacla Series

Physiographic province: Southern Piedmont, thermic
Landform: Flood plains
Parent material: Recent alluvium
Drainage class: Somewhat poorly drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 0 to 2 percent

Associated Soils

- Riverview soils, which are well drained
- Toccoa soils, which are coarse-loamy and well drained
- Wedhadkee soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts

Typical Pedon

Chewacla silt loam, 0 to 2 percent slopes, occasionally flooded; about 1,000 feet southwest of the intersection of U.S. Highway 58 and State Route 644, about 500 feet north of the Meherrin River, in a pasture; White Plains VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 43 minutes 8 seconds N. and long. 77 degrees 55 minutes 30 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; friable; few very fine and fine roots; moderately acid; clear smooth boundary.

AB—8 to 15 inches; yellowish brown (10YR 5/4) silt loam; fine distinct yellowish brown (10YR 5/6) mottles; weak fine granular structure; friable; few very fine and fine roots; moderately acid; clear wavy boundary.

Bw1—15 to 30 inches; yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; friable; few very fine and fine roots; common medium distinct strong brown (7.5YR 5/8) masses of oxidized iron and common fine prominent light brownish gray (10YR 6/2) iron depletions; moderately acid; gradual smooth boundary.

Bw2—30 to 36 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; common medium faint light brownish gray (10YR 6/2) clay depletions and common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; strongly acid; gradual wavy boundary.

Bw3—36 to 42 inches; light yellowish brown (10YR 6/4) silty clay loam; weak medium subangular blocky structure; friable; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron and common medium faint light brownish gray (10YR 6/2) clay depletions; strongly acid; gradual wavy boundary.

Bw4—42 to 48 inches; light yellowish brown (10YR 6/4) silty clay loam; weak fine subangular blocky structure; friable; common medium faint light brownish gray (10YR 6/2) clay depletions and common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; strongly acid; gradual wavy boundary.

Bg—48 to 55 inches; light brownish gray (10YR 6/2) silty clay loam; medium distinct yellowish brown (10YR 5/8) mottles; weak fine subangular blocky structure; friable; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; gradual wavy boundary.

Cg—55 to 60 inches; dark reddish gray (5YR 4/2) silt loam; massive; friable; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 6 to 18 inches
Rock fragment content: 0 to 5 percent in the A horizon and the upper part of the B horizon; 0 to 10 percent in the lower part of the B horizon and in the C horizon; 0 to 75 percent below a depth of 40 inches
Mica flakes: 1 to more than 20 percent, by volume, throughout the profile
Soil reaction: Very strongly acid to slightly acid

Ap horizon:
Color—hue of 7.5YR to 10YR, value of 3 to 5, and chroma of 2 to 4; where value is 3 the horizon is less than 6 inches thick
Texture—silt loam

A horizon (if it occurs):
Color—hue of 7.5YR to 10YR, value of 3 to 5, and chroma of 2 to 4
Texture—silt loam, fine sandy loam, sandy loam, or loam

AB horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—loam, silt loam, clay loam, or silty clay loam

Bw horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture—silt loam, loam, silty clay loam, sandy loam, fine sandy loam, or clay loam

Bg horizon:
Color—horizon has hue of 10YR or 2.5Y or is neutral in hue, has value of 4 to 7, and has chroma of 0 to 2
Texture—silty clay loam, silt loam, sandy loam, fine sandy loam, loam, or clay loam

Cg horizon:
Color—horizon has hue of 10YR or 2.5Y or is neutral in hue, has value of 4 to 7, and has chroma of 0 to 2
Texture (fine-earth fraction)—variable; ranging from extremely gravelly sand to clay

Cid Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluve summits
Parent material: Slate residuum
Drainage class: Moderately well drained
Slowest permeability class: Slow
Slope: 2 to 15 percent

Associated Soils

- Badin soils, which are well drained
- Goldston soils, which are shallow to bedrock and better drained than the Cid soils
- Lignum soils, which are deeper to bedrock than the Cid soils and somewhat poorly drained
- Nanford soils, which are well drained and deeper to bedrock than the Cid soils

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Cid silt loam in an area of Cid-Lignum complex, 2 to 8 percent slopes; 500 feet east of the junction of U.S. Highway 96 and State Route 725, about 150 feet north of Highway 96, west of Virgilina, in a wooded area; Virgilina VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 32 minutes 48.5 seconds N. and long. 78 degrees 49 minutes 4.7 seconds W.

Ap—0 to 6 inches; yellowish brown (10YR 5/4) silt loam; weak fine granular structure; slightly sticky, nonplastic; many fine and very fine roots; 3 percent angular quartz gravel; strongly acid; abrupt smooth boundary.
Bt1—6 to 18 inches; yellowish brown (10YR 5/8) silty clay; moderate medium subangular blocky structure; moderately sticky, moderately plastic; common fine and very fine roots; few very fine moderate-continuity tubular pores; very few faint continuous clay films on vertical faces of peds; common medium faint irregular yellowish red (5YR 5/8) masses of oxidized iron with diffuse boundaries; very strongly acid; gradual wavy boundary.
Bt2—18 to 26 inches; yellowish brown (10YR 5/6) silty clay; moderate medium

subangular blocky structure; moderately sticky, moderately plastic; common fine roots; few very fine moderate-continuity tubular pores; very few faint continuous clay films on vertical faces of peds; common fine prominent irregular gray (10YR 6/1) iron depletions with diffuse boundaries and common fine faint irregular strong brown (7.5YR 5/6) masses of oxidized iron with diffuse boundaries; very strongly acid; gradual wavy boundary.

Bt3—26 to 31 inches; brownish yellow (10YR 6/6) silty clay loam; moderate medium subangular blocky structure; moderately sticky, moderately plastic; common fine roots; few very fine moderate-continuity tubular pores; very few faint continuous clay films on vertical faces of peds; common medium prominent irregular gray (10YR 6/1) iron depletions with diffuse boundaries and common medium faint irregular strong brown (7.5YR 5/6) masses of oxidized iron with diffuse boundaries; very strongly acid; gradual wavy boundary.

Cr—31 to 35 inches; weathered slate bedrock.

R—35 to 45 inches; unweathered slate bedrock.

Range in Characteristics

Depth to hard bedrock: 20 to 40 inches
Depth to seasonal high water table: 18 to 30 inches
Rock fragment content: 0 to 15 percent in the A, E, and B horizons and 5 to 35 percent in the C horizon
Soil reaction: Very strongly acid or strongly acid

A or Ap horizon:
Color—hue 10YR to 5Y, value of 4 to 7, and chroma of 1 to 4
Texture—silt loam

E horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 6 or 7, and chroma of 2 to 4
Texture—silt loam or loam

BA or BE horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 6 or 7, and chroma of 3 to 8
Texture—silt loam, loam, or silty clay loam

Bt horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 3 to 8
Texture—clay, silty clay, or silty clay loam

BC horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 8
Texture—silty clay loam, silty clay, clay loam, or clay

C horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—silty clay loam, silty clay, clay loam, or clay

Cr horizon:
Bedrock—moderately fractured, highly weathered slate

R horizon:
Bedrock—slightly fractured, relatively unweathered slate

Clifford Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Granite gneiss residuum

Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 2 to 15 percent

Associated Soils

- Appomattox soils, which have a perched water table
- Bentley soils, which have a perched water table
- Fairview soils, which have clay horizons that are thinner than those of the Clifford soils
- Halifax soils, which have a perched water table
- Minnieville soils, which have reddish loamy topsoils

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Clifford sandy loam, 2 to 8 percent slopes; 2,300 feet east of the junction of State Routes 748 and 833, about 75 feet south of State Route 748, about 1.6 miles east of Nathalie, in a hayfield; Nathalie VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 55 minutes 54 seconds N. and long. 78 degrees 58 minutes 31 seconds W.

Ap—0 to 6 inches; brown (7.5YR 4/4) sandy loam; weak very fine granular structure; very friable, soft, nonsticky, nonplastic; many fine and few medium roots; 1 percent angular quartz gravel; moderately acid; abrupt smooth boundary.

Bt1—6 to 28 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, hard, moderately sticky, moderately plastic; common fine roots; distinct continuous clay films on all faces of peds; few fine mica flakes; strongly acid; gradual smooth boundary.

Bt2—28 to 35 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, hard, moderately sticky, moderately plastic; distinct continuous clay films on all faces of peds; few fine mica flakes; strongly acid; gradual smooth boundary.

Bt3—35 to 55 inches; red (2.5YR 4/8) clay loam; weak medium subangular blocky structure; firm, slightly hard, moderately sticky, moderately plastic; distinct continuous clay films on all faces of peds; common fine mica flakes; very strongly acid; gradual wavy boundary.

C—55 to 65 inches; red (2.5YR 5/8) loam; massive; friable, slightly hard, slightly sticky, nonplastic; common fine mica flakes; strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 1 to 15 inches
Depth to base of argillic horizon: 35 inches or more
Depth to bedrock: More than 60 inches
Rock fragments (content, size): 0 to 15 percent in the A and E horizons and 0 to 10 percent in the B and C horizons; mostly gravel and cobbles
Mica flakes: 0 to 30 percent, by volume, throughout the profile
Soil reaction: Very strongly acid to moderately acid throughout the profile; limed soils are typically moderately acid or slightly acid in the upper part
Other characteristics: Clayey part (greater than 35 percent clay) of the argillic horizon extends to a depth of 30 inches or more and is 25 to 60 inches thick

A horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 3 or 4, and chroma of 2 to 4
Texture—fine sandy loam, sandy loam, or loam

Ap horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 5, and chroma of 2 to 6
Texture—sandy loam

E horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, or loam

BA or BE horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 10R to 5YR, value of 3 to 5, and chroma of 6 or 8; where hue is 5YR, horizon does not have evident patterns of non-redoximorphic mottling
Texture—clay loam or clay
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of shades of red, brown, or yellow

BC horizon (if it occurs):
Color—hue of 10R to 5YR, value of 4 or 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of shades of red, brown, or yellow

C horizon:
Color—horizon has hue of 10R to 10YR, value of 4 or 6, and chroma of 4 to 8, or it is variegated in shades of yellow, red, brown, black, or white
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam saprolite
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of shades of red, brown, or yellow

Clover Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Residuum from Triassic sedimentary rock
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 2 to 25 percent

Associated Soils

- Bentley soils, which have a perched water table
- Lackstown soils, which have a perched water table
- Wolftrap soils, which have a perched water table

Taxonomic Classification

Fine, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Clover fine sandy loam in an area of Clover-Bentley complex, 2 to 8 percent slopes; 7,400 feet northwest of the junction of State Routes 600 and 778, about 3,200 feet north of State Route 778, in a cultivated field; Clover VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 52 minutes 43 seconds N. and long. 78 degrees 44 minutes 18 seconds W.

Ap—0 to 9 inches; brown (7.5YR 5/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and medium roots throughout; 1 percent angular quartz gravel; strongly acid; abrupt smooth boundary.

Bt1—9 to 18 inches; yellowish red (5YR 4/6) clay; few fine faint yellowish red (5YR 5/6) and few fine prominent reddish yellow (7.5YR 6/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine and medium roots throughout; common distinct continuous clay films on faces of peds; few fine mica flakes; very strongly acid; gradual smooth boundary.

Bt2—18 to 32 inches; red (2.5YR 5/8) clay; common medium distinct yellowish brown (10YR 5/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine and medium roots throughout; common distinct continuous clay films on faces of peds; few fine mica flakes; very strongly acid; clear smooth boundary.

BC—32 to 42 inches; red (2.5YR 4/8) silty clay loam; common medium prominent brown (7.5YR 5/3) and yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots throughout; few distinct continuous clay films on faces of peds; few fine mica flakes; very strongly acid; gradual wavy boundary.

C—42 to 65 inches; 70 percent reddish brown (5YR 4/4) and 30 percent pale brown (10YR 6/3) silt loam; massive; friable, slightly sticky, nonplastic; common fine mica flakes; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 1 to 15 inches
Depth to base of argillic horizon: 25 to 60 inches
Depth to bedrock: More than 60 inches
Rock fragments (content, size): 0 to 15 percent in the A and E horizons and 0 to 5 percent in the B and C horizons; mostly gravel
Mica flakes: 0 to 20 percent, by volume, throughout the profile
Soil reaction: Very strongly acid to moderately acid in the A and E horizons and the upper part of the B horizon, except in limed areas, and very strongly acid or strongly acid in the lower part of the B horizon and in the C horizon

Ap or A horizon:
Color—hue of 5YR to 2.5Y, value of 2 to 6, and chroma of 2 to 8
Texture—fine sandy loam

E horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 6
Texture (fine-earth fraction)—sandy loam, fine sandy loam, silt loam, loam, or loamy sand

BE or BA horizon (if it occurs):
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 (fine-earth fraction)—sandy clay, clay loam, silty clay loam, silty clay, or clay
Non-redoximorphic mottles (if they occur)—in shades of red, yellow, brown, or gray

BC horizon:
Color—horizon has hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 2 to 8, or it is mottled in shades of these colors
Texture (fine-earth fraction)—sandy clay loam, loam, clay loam, sandy clay, silty clay, silty clay loam, or clay; most pedons have weathered Triassic C material in this horizon
Non-redoximorphic mottles (if they occur)—in shades of red, yellow, brown, or gray

C horizon:
Color—horizon has hue of 2.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 8, or it is variegated in shades of these colors
Texture (fine-earth fraction)—variable saprolite, typically loamy; weathered from Triassic sandstone, mudstone, shale, and siltstone
Non-redoximorphic mottles (if they occur)—in shades of red, yellow, brown, or gray

Codorus Series

Physiographic province: Southern Piedmont, mesic
Landform: Flood-plain treads
Parent material: Alluvium
Drainage class: Somewhat poorly drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 0 to 2 percent

Associated Soils

- Comus soils, which are better drained and coarser textured than the Codorus soils
- Dan River soils, which are well drained
- Hatboro soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, active, mesic Fluvaquentic Dystrudepts

Typical Pedon

Codorus loam, 0 to 2 percent slopes, occasionally flooded; 1,800 feet south of the junction of State Routes 706 and 704, about 300 feet north of Stokes Creek, in a grassy field; South Boston VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 39 minutes 23 seconds N. and long. 78 degrees 55 minutes 10 seconds W.

Ap—0 to 8 inches; brown (10YR 5/3) loam; weak fine and medium subangular blocky structure; very friable, slightly sticky, slightly plastic; many fine and medium roots; common fine prominent yellowish red (5YR 5/8) masses of oxidized iron; moderately acid; clear smooth boundary.
Bw—8 to 17 inches; 70 percent yellowish brown (10YR 5/4) and 30 percent brown (10YR 5/3) loam; weak fine and medium subangular blocky structure; very friable, slightly sticky, slightly plastic; few very fine and fine roots; common fine pores; few fine prominent yellowish red (5YR 5/8) iron-manganese concretions; moderately acid; clear smooth boundary.
Bg1—17 to 23 inches; grayish brown (10YR 5/2) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; few fine pores; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; few fine mica flakes; moderately acid; gradual wavy boundary.
Bg2—23 to 33 inches; light brownish gray (10YR 6/2) clay loam; weak medium

subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; common fine pores; few medium iron-manganese nodules and many medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; few fine mica flakes; moderately acid; clear smooth boundary.

Cg1—33 to 49 inches; light brownish gray (10YR 6/2) clay loam; massive; firm, slightly sticky, slightly plastic; few fine mica flakes; moderately acid; clear smooth boundary.

Cg2—49 to 62 inches; light brownish gray (10YR 6/2) clay loam; massive; very firm; few fine mica flakes; moderately acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 6 to 18 inches
Rock fragment content: 0 to 15 percent in the A and B horizons and 0 to 25 percent in the C horizon
Mica flakes: 1 to 20 percent, by volume, throughout the profile
Soil reaction: Very strongly acid to slightly acid

Ap horizon:
Color—hue of 10YR, value of 3 to 6, and chroma of 2 or 3
Texture—loam

A horizon (if it occurs):
Color—hue of 10YR, value of 3 to 6, and chroma of 2 or 3
Texture—silt loam or loam

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—silt loam, loam, silty clay loam, or clay loam

Bg horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 1 or 2
Texture—silty clay loam, silt loam, loam, or clay loam

Cg horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 1 or 2
Texture—variable; ranging from gravelly sand to silty clay loam

Comus Series

Physiographic province: Southern Piedmont, mesic
Landform: Flood-plain treads
Parent material: Alluvium
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 0 to 4 percent

Associated Soils

- Codorus soils, which are somewhat poorly drained
- Dan River soils, which have subsoils that are heavier textured than those of the Comus soils
- Hatboro soils, which are poorly drained

Taxonomic Classification

Coarse-loamy, mixed, active, mesic Typic Dystrudepts

Typical Pedon

Comus fine sandy loam, 0 to 2 percent slopes, occasionally flooded; 3,400 feet southeast of where State Route 659 crosses Birch Creek, 300 feet north of the Dan River, in a pasture; Oak Level VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 39 minutes 57 seconds N. and long. 79 degrees 3 minutes 8 seconds W.

Ap—0 to 10 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine and medium granular structure; very friable, nonsticky, nonplastic; common very fine roots throughout; moderately acid; clear smooth boundary.

Bw—10 to 39 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; strongly acid; gradual wavy boundary.

C—39 to 65 inches; yellowish brown (10YR 5/4) loamy sand; single grain; very friable, nonsticky, nonplastic; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Rock fragment content: 0 to 5 percent throughout the profile
Mica flakes: 1 to 20 percent, by volume, throughout the profile
Soil reaction: Strongly acid to slightly acid

A horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 1 to 4
Texture—fine sandy loam

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6
Texture—fine sandy loam, sandy loam, or loam

C horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 6
Texture—loamy fine sand, loamy sand, sand, fine sandy loam, or sandy loam

Dan River Series

Physiographic province: Southern Piedmont, mesic
Landform: Flood-plain treads
Parent material: Alluvium
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 0 to 2 percent

Associated Soils

- Codorus soils, which are somewhat poorly drained
- Comus soils, which have subsoils that are coarser textured than those of the Dan River soils
- Hatboro soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, active, mesic Oxyaquic Dystrudepts

Typical Pedon

Dan River loam, 0 to 2 percent slopes, occasionally flooded; 1,600 feet west on State Route 658 from where it crosses the Dan River, near Paces, Virginia; Oak Level VA

USGS 7.5-minute topographic quadrangle; lat. 36 degrees 38 minutes 36 seconds N. and long. 79 degrees 5 minutes 43 seconds W.

Ap—0 to 9 inches; dark yellowish brown (10YR 4/4) loam; weak fine subangular blocky structure; very friable, slightly sticky, slightly plastic; common fine roots; 1 percent rounded quartz gravel; slightly acid; clear smooth boundary.
Bw1—9 to 25 inches; dark yellowish brown (10YR 4/4) loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; slightly acid; clear smooth boundary.
Bw2—25 to 30 inches; dark yellowish brown (10YR 4/6) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; strongly acid; abrupt smooth boundary.
Bw3—30 to 41 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; common medium faint strong brown (7.5YR 5/8) masses of oxidized iron and common medium prominent pale brown (10YR 6/3) iron depletions; strongly acid; gradual wavy boundary.
Bw4—41 to 56 inches; yellowish brown (10YR 5/8) sandy clay loam; weak fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; common medium faint strong brown (7.5YR 5/8) masses of oxidized iron and common medium prominent light brownish gray (10YR 6/2) iron depletions; few fine mica flakes; very strongly acid; gradual wavy boundary.
C—56 to 62 inches; yellowish brown (10YR 5/6) sandy loam; massive; very friable, nonsticky, nonplastic; common medium distinct strong brown (7.5YR 5/8) masses of oxidized iron and common medium prominent light brownish gray (10YR 6/2) iron depletions; common fine mica flakes; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 30 to 40 inches
Rock fragments: 0 to 10 percent throughout the profile
Mica flakes: 0 to 20 percent, by volume, throughout the solum
Soil reaction: Very strongly acid to slightly acid throughout the profile, except where surface layers have been limed
Other characteristics: Buried A and/or B horizons occur in some pedons below a depth of 25 inches; these horizons have the same colors and textures as the A and B horizons

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 4
Texture—loam

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 7, and chroma of 3 to 8; in some pedons the lower part of the Bw horizon has hue of 7.5YR or 10YR, value of 3 to 7, and chroma of 3 to 6
Texture—loam, fine sandy loam, sandy clay loam, or clay loam
Redoximorphic features—few or common iron concentrations in shades of yellow, brown, or red; few or common iron depletions with chroma of 2 or less occur at a depth of 24 inches or more

Bg horizon (if it occurs):
Color—horizon has hue of 7.5YR or 10YR or is neutral in hue, has value of 3 to 7, and has chroma of 0 to 2
Texture—loam, fine sandy loam, sandy clay loam, clay loam, or silt loam

Redoximorphic features—few or common iron concentrations in shades of yellow, brown, or red

BC horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—loam, fine sandy loam, sandy clay loam, or clay loam
Redoximorphic features—few or common iron concentrations in shades of yellow, brown, or red; few or common iron depletions in shades of gray, brown, or yellow

BCg horizon (if it occurs):
Color—horizon has hue of 7.5YR or 10YR or is neutral in hue, has value of 3 to 6, and has chroma of 0 to 2
Texture—loam, fine sandy loam, sandy clay loam, or clay loam
Redoximorphic features—few or common iron concentrations in shades of yellow, brown, or red

C horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 7, and chroma of 3 to 8
Texture—loamy fine sand, loamy sand, sand, fine sandy loam, or sandy loam
Redoximorphic features—few or common iron concentrations in shades of yellow, brown, or red; few or common iron depletions with chroma of 2 or less

Cg horizon (if it occurs):
Color—horizon has hue of 7.5YR or 10YR or is neutral in hue, has value of 4 to 7, and has chroma of 0 to 2
Texture—loamy fine sand, loamy sand, sand, fine sandy loam, or sandy loam
Redoximorphic features—few iron concentrations in shades of yellow, brown, or red

Danripple Series

Physiographic province: Southern Piedmont, mesic
Landform: Stream terrace treads
Parent material: Alluvium
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderately slow
Slope: 2 to 8 percent

Associated Soils

- Banister soils, which are moderately well drained
- Codorus soils, which are somewhat poorly drained and on flood plains
- Turbeville soils, which do not have a perched water table

Taxonomic Classification

Fine, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Danripple sandy loam, 2 to 8 percent slopes, very rarely flooded; 3,200 feet northwest of the junction of State Routes 658 and 792, about 400 feet west off State Route 792, in a cultivated field; Alton VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 36 minutes 37 seconds N. and long. 79 degrees 7 minutes 18 seconds W.

Ap—0 to 10 inches; reddish brown (5YR 4/3) sandy loam; weak fine granular structure;

very friable, nonsticky, nonplastic; many fine roots; 5 percent rounded quartz gravel; strongly acid; clear smooth boundary.

Bt1—10 to 28 inches; yellowish red (5YR 4/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine roots; very few distinct continuous clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt2—28 to 40 inches; strong brown (7.5YR 5/8) clay loam; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; many fine roots; few distinct continuous clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt3—40 to 48 inches; strong brown (7.5YR 5/8) clay loam; moderate fine and medium subangular blocky structure; firm, moderately sticky, slightly plastic; few fine roots; very few distinct continuous clay films on all faces of peds; common fine faint red (2.5YR 5/8) masses of oxidized iron and common medium prominent pale brown (10YR 6/3) iron depletions; 1 percent rounded quartz gravel; strongly acid; gradual wavy boundary.

C—48 to 72 inches; reddish yellow (7.5YR 6/8) sandy clay loam; massive; friable, slightly sticky, slightly plastic; common fine roots; common fine distinct red (2.5YR 5/8) masses of oxidized iron and common medium prominent light gray (10YR 7/2) iron depletions; 2 percent rounded quartz gravel; strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 4 to 12 inches
Depth to base of argillic horizon: 40 to 60 inches
Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 40 to 60 inches from December to April
Surface rock fragments (content, size): 0 to 1 percent, mostly gravel and cobbles
Rock fragments in soil (content, type, size): 0 to 15 percent, by volume, in the A or E horizon, 0 to 10 percent in the B horizon, and 0 to 25 percent in the C horizon; mostly rounded quartzite pebbles
Soil reaction: Very strongly acid to moderately acid, except in limed areas

A or Ap horizon:
Color—hue of 5YR to 2.5Y and value and chroma of 3 to 5
Texture—sandy loam

E horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, or loam

BA or BE horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, or loam

Bt horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features—iron masses in shades of red, brown, or yellow and iron depletions in shades of brown, yellow, or gray occur in the lower part of the horizon (below a depth of 40 inches)

BC or BCt horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam
Redoximorphic features—masses of oxidized iron in shades of red, brown, or yellow and iron depletions in shades of brown, yellow, or gray

C horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy loam, loam, sandy clay loam, or clay loam
Redoximorphic features—masses of oxidized iron in shades of red, brown, or yellow and iron depletions in shades of brown, yellow, or gray

Delila Series

Physiographic province: Southern Piedmont, mesic
Landform: Risers and swales
Parent material: Local alluvium
Drainage class: Poorly drained
Depth class: Very deep
Slowest permeability class: Very slow
Slope: 0 to 4 percent

Associated Soils

- Orange soils, which are somewhat poorly drained
- Rasalo soils, which are well drained
- Turbeville soils, which are well drained

Taxonomic Classification

Fine, mixed, active, mesic Typic Endoaquults

Typical Pedon

Delila sandy loam, 0 to 4 percent slopes; about 5,000 feet north of the junction of State Routes 658 and 692, near Delila, in planted loblolly pines; Oak Level VA 7.5-minute USGS topographic quadrangle; lat. 36 degrees 38 minutes 41 seconds N. and long. 79 degrees 3 minutes 56 seconds W.

Ap—0 to 8 inches; grayish brown (10YR 5/2) sandy loam; moderate fine and medium granular structure; very friable, nonsticky, nonplastic; common very fine, fine, and medium roots; 3 percent subrounded quartz gravel; strongly acid; clear smooth boundary.

Btg1—8 to 21 inches; gray (10YR 6/1) clay; moderate medium subangular blocky structure; very firm, very sticky, very plastic; few very fine and fine roots; very few distinct continuous clay films on all faces of peds; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; 3 percent subangular quartz gravel; very strongly acid; gradual wavy boundary.

Btg2—21 to 38 inches; gray (10YR 6/1) clay; massive; very firm, very sticky, very plastic; few very fine and fine roots; very few distinct continuous clay films on all faces of peds; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; few very fine and fine mica flakes; 1 percent subangular quartz gravel; very strongly acid; gradual wavy boundary.

Cg—38 to 65 inches; gray (10YR 6/1) sandy loam; very friable, nonsticky, nonplastic; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; few very fine mica flakes; 3 percent subangular quartz gravel; strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 4 to 10 inches
Depth to base of argillic horizon: More than 30 inches
Thickness of clayey part of argillic horizon: 20 inches or more
Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 0 to 12 inches from October to May

Rock fragment content: 0 to 15 percent, by volume, throughout the profile
Mica flakes: 0 to 20 percent, by volume, in the B and C horizons
Soil reaction: Very strongly acid or strongly acid throughout the profile, except in limed areas

A or Ap horizon:
Color—horizon has hue of 10YR to 5Y, value of 2 to 6, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 7
Texture—sandy loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Eg horizon (if it occurs):
Color—horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2, or it is neutral in hue and has value of 3 to 7
Texture—sandy loam, fine sandy loam, loam, or silt loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Btg horizon:
Color—horizon has hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2, or it is neutral in hue and has value of 4 to 7
Texture—sandy clay, clay, or clay loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

BCg or BCtg horizon (if it occurs):
Color—horizon has hue of 10YR or 2.5Y or is neutral in hue, has value of 4 to 7, and has chroma of 1 or 2
Texture—loam, sandy clay loam, or clay loam
Redoximorphic features (if they occur)—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Cg horizon:
Color—horizon has hue of 10YR to 5Y or is neutral in hue, has value of 4 to 7, and has chroma of 1 or 2
Texture—sandy loam, sandy clay loam, or clay loam
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Devotion Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve backslopes
Parent material: Granite gneiss residuum
Drainage class: Well drained
Depth class: Moderately deep
Slowest permeability class: Moderately rapid
Slope: 2 to 45 percent

Associated Soils

- Rhodhiss soils, which have bedrock at a depth of more than 60 inches
- Toast soils, which have bedrock at a depth of more than 60 inches
- Areas of rock outcrops

Taxonomic Classification

Coarse-loamy, mixed, semiactive, mesic Typic Dystrudepts

Typical Pedon

Devotion sandy loam in an area of Devotion-Rhodhiss complex, 15 to 25 percent slopes; 3,700 feet northeast of the intersection of State Routes 832 and 642, about 100 feet east off State Route 642, in mixed hardwoods; Vernon Hill VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 50 minutes 32 seconds N. and long. 79 degrees 1 minute 29 seconds W.

A—0 to 10 inches; brown (10YR 5/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common medium and coarse roots; 5 percent angular quartz gravel; strongly acid; clear smooth boundary.

BA—10 to 14 inches; yellowish brown (10YR 5/4) sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; common medium and coarse roots; 5 percent angular quartz gravel; very strongly acid; gradual smooth boundary.

Bw—14 to 25 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common medium and coarse roots; common fine mica flakes; 5 percent angular quartz gravel; very strongly acid; gradual smooth boundary.

C—25 to 30 inches; light yellowish brown (2.5Y 6/4) sandy loam; friable, nonsticky, nonplastic; common fine mica flakes; very strongly acid; gradual smooth boundary.

Cr—30 to 52 inches; weathered granite gneiss bedrock.

R—52 to 62 inches; unweathered granite gneiss bedrock.

Range in Characteristics

Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches
Rock fragment content: 5 to 15 percent in the A horizon and 5 to 35 percent in the E, B and C horizons
Soil reaction: Very strongly acid to moderately acid

A horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 2 to 4
Texture—sandy loam

E horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 or 4
Texture (fine-earth fraction)—sandy loam

BA or BE horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—sandy loam or loam

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 7, and chroma of 4 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

C horizon:
Color—multicolored
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or coarse sandy loam saprolite

Cr horizon:
Bedrock—highly weathered granite gneiss

R layer:
Bedrock—relatively unweathered granite gneiss

Dogue Series

Physiographic province: Southern Piedmont, thermic
Landform: Stream terrace treads
Parent material: Alluvium
Drainage class: Moderately well drained
Depth class: Very deep
Slowest permeability class: Moderately slow
Slope: 2 to 8 percent

Associated Soils

- Masada soils, which are deeper to a seasonal high water table than the Dogue soils
- Mattaponi soils, which are deeper to a seasonal high water table than the Dogue soils
- Turbeville soils, which are well drained

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Dogue silt loam, 2 to 8 percent slopes, rarely flooded; 3,500 feet east of Mayo Creek, 2,000 feet north of U.S. Highway 96, in a cultivated field; Cluster Springs VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 34 minutes 33 seconds N. and long. 78 degrees 53 minutes 2 seconds W.

Ap—0 to 11 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; friable, slightly sticky, slightly plastic; many fine roots; 3 percent rounded quartz gravel; moderately acid; clear smooth boundary.

Bt1—11 to 17 inches; light yellowish brown (2.5Y 6/4) silty clay loam; weak medium subangular blocky structure; firm, moderately sticky, slightly plastic; many fine and medium roots; very few faint continuous clay films on all faces of peds; common medium distinct strong brown (7.5YR 5/8) masses of oxidized iron with diffuse boundaries; 3 percent rounded quartz gravel; moderately acid; gradual wavy boundary.

Bt2—17 to 30 inches; 60 percent light yellowish brown (2.5Y 6/4) and 40 percent yellowish brown (10YR 5/8) silty clay; moderate medium subangular blocky structure; very firm, very sticky, very plastic; common fine roots; few very fine tubular pores; very few faint continuous clay films on all faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron with diffuse boundaries and many medium prominent grayish brown (10YR 5/2) iron depletions with diffuse boundaries; few fine mica flakes; strongly acid; gradual wavy boundary.

Bt3—30 to 51 inches; yellowish brown (10YR 5/8) clay; strong medium and coarse angular blocky structure; very firm, very sticky, very plastic; few fine roots; few very fine tubular pores; few distinct continuous clay films on all faces of peds; common medium faint strong brown (7.5YR 5/8) masses of oxidized iron with diffuse boundaries and many medium prominent gray (10YR 6/1) iron depletions with diffuse boundaries; few fine mica flakes; strongly acid; gradual wavy boundary.

BCt—51 to 62 inches; brownish yellow (10YR 6/8) clay loam; weak coarse angular blocky structure; firm, moderately sticky, moderately plastic; very few faint patchy clay films on all faces of peds; common medium faint strong brown (7.5YR 5/8) masses of oxidized iron with diffuse boundaries and many medium prominent gray (10YR 6/1) iron depletions with diffuse boundaries; few fine mica flakes; very strongly acid; gradual wavy boundary.

C—62 to 80 inches; strong brown (7.5YR 5/8) loam; massive; friable, slightly sticky, slightly plastic; few medium faint irregular reddish yellow (7.5YR 6/8) masses of oxidized iron with diffuse boundaries; few fine mica flakes; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 18 to 36 inches from December to March
Rock fragments (content, type, size): 0 to 15 percent in the A, E, and B horizons and 0 to 25 percent in the C horizon; typically rounded quartzite gravel
Soil reaction: Extremely acid to strongly acid, except in limed areas
Other characteristics: 0 to 20 percent, by volume, mica flakes and feldspar grains occur in the B and C horizons; average clay content in the particle-size control section is 35 to 50 percent, silt content is less than 30 percent, or silt plus very fine sand is less than 40 percent

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 2 to 4; where value is 3, the surface layer is less than 6 inches thick
Texture—silt loam

E horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 to 6
Texture—sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam

BE or BA horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8
Texture—clay loam, sandy clay loam, or loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—clay loam, sandy clay loam, sandy clay, or clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

Btg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y or is neutral in hue, has value of 4 to 7, and has chroma of 0 to 2
Texture—clay loam, sandy clay loam, sandy clay, or clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

BCt, BC, or CB horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—sandy loam, sandy clay loam, clay loam, or sandy clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

BCg or CBg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y or is neutral in hue, has value of 4 to 7, and has chroma of 0 to 2
Texture—sandy loam, sandy clay loam, clay loam, or sandy clay
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

C or 2C horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture (fine-earth fraction)—typically stratified; ranging from sand to sandy clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

Cg or 2Cg horizon (if it occurs):
Color—horizon has hue of 7.5YR to 2.5Y or is neutral in hue, has value of 4 to 7, and has chroma of 0 to 2
Texture (fine-earth fraction)—typically stratified; ranging from sand to sandy clay loam
Redoximorphic features—iron masses in shades of brown, yellow, or red and iron depletions in shades of brown, olive, or gray

Easthamlet Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Residuum from Triassic sedimentary rock
Drainage class: Somewhat poorly drained
Depth class: Moderately deep
Slowest permeability class: Very slow
Slope: 2 to 8 percent

Associated Soils

- Clover soils, which are well drained
- Lackstown soils, which are moderately well drained and have bedrock below a depth of 60 inches
- Wolftrap soils, which are somewhat poorly drained

Taxonomic Classification

Fine, mixed, active, mesic Aquertic Chromic Hapludalfs

Typical Pedon

Easthamlet sandy loam in an area of Wolftrap-Easthamlet complex, 2 to 8 percent slopes; 4,500 feet northeast of the junction of State Routes 344 and 724, about 250 feet south of State Route 724, about 1 mile north of Scottsburg, in a hayfield; Scottsburg VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 46 minutes 6 seconds N. and long. 78 degrees 47 minutes 8 seconds W.

Ap—0 to 5 inches; yellowish brown (10YR 5/4) sandy loam; moderate medium granular structure; friable, nonsticky, nonplastic; common fine and medium roots; strongly acid; abrupt smooth boundary.

Btss1—5 to 16 inches; yellowish brown (10YR 5/6) clay; weak coarse prismatic structure parting to moderate medium angular blocky; extremely firm, very sticky, very plastic; few fine roots; very few distinct continuous clay films on all faces of peds and few distinct patchy slickensides (pedogenic) on vertical faces of peds; common fine prominent irregular pale brown (10YR 6/3) iron depletions with diffuse boundaries and many fine prominent irregular red (10R 4/6) masses of oxidized iron with diffuse boundaries; very strongly acid; gradual wavy boundary.

Btss2—16 to 24 inches; yellowish red (5YR 5/6) clay; weak coarse prismatic structure parting to moderate medium angular blocky; extremely firm, very sticky, very plastic; few fine roots; very few distinct continuous clay films on all faces of peds and few distinct patchy slickensides (pedogenic) on vertical faces of peds; few fine prominent irregular red (10R 4/6) masses of oxidized iron with diffuse boundaries and common fine prominent irregular light brownish gray (10YR 6/2) iron depletions with diffuse boundaries; very strongly acid; clear smooth boundary.

Bt—24 to 30 inches; reddish brown (2.5YR 5/3) clay; moderate medium subangular blocky structure; very firm, moderately sticky, moderately plastic; very few distinct continuous clay films on all faces of peds; common medium prominent irregular light gray (10YR 7/2) iron depletions with diffuse boundaries; very strongly acid; gradual wavy boundary.

Cr—30 to 47 inches; weathered sandstone bedrock.

R—47 to 57 inches; unweathered sandstone bedrock.

Range in Characteristics

Depth to top of argillic horizon: 5 to 15 inches

Depth to base of argillic horizon: 20 to 40 inches

Depth to bedrock: 20 to 40 inches to soft bedrock (paralithic contact) and 40 to 60 inches or more to hard bedrock

Depth to seasonal high water table: 12 to 18 inches from December to March

Rock fragment content: 0 to 10 percent, by volume, throughout the profile

Soil reaction: Extremely acid to strongly acid throughout the profile, except in limed areas

Other characteristics: Non-intersecting slickensides range from 5 to 50 percent in the Btss horizon; content of exchangeable aluminum ranges from 10 to 25 milliequivalents per 100 grams of soil in the Btss horizon

Ap or A horizon (if it occurs):

Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 2 to 4

Texture—sandy loam

E horizon (if it occurs):

Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 6

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

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 brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

Bt 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 brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

BCt or BC horizon (if it occurs):

Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 3 to 8

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

Redoximorphic features (if they occur)—iron depletions in shades of brown, yellow, olive, or gray and masses of oxidized iron in shades of red, yellow, or brown

C horizon (if it occurs):

Color—hue of 2.5YR to 2.5Y, value of 3 to 7, and chroma of 2 to 8

Texture—variable; ranging from sandy loam to clay

Cr horizon:

Bedrock—partially consolidated Triassic siltstones, mudstones, shales, or sandstones that can be dug with difficulty with a spade

R horizon:
Bedrock—hard Triassic siltstones, mudstones, shales, or sandstones

Fairview Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve backslopes
Parent material: Granite gneiss residuum
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 15 to 45 percent

Associated Soils

- Clifford soils, which have clay subsoils that are thicker than those of the Fairview soils
- Rhodhiss soils, which have less clay in the subsoil than the Fairview soils
- Toast soils, which have subsoils that are yellower than those of the Fairview soils

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Fairview sandy loam, 15 to 25 percent slopes; 1,000 feet north on State Route 693 from the North Carolina-Virginia State line, northeast of Milton, North Carolina, in cutover woodland; Milton VA-NC USGS 7.5-minute topographic quadrangle; lat. 36 degrees 32 minutes 39 seconds N. and long. 79 degrees 11 minutes 50 seconds W.

Ap—0 to 1 inch; brown (10YR 4/3) sandy loam; moderate fine granular structure; very friable, soft, nonsticky, nonplastic; common very fine and fine roots; 10 percent angular quartz gravel; strongly acid; clear smooth boundary.

E—1 to 6 inches; yellowish brown (10YR 5/4) sandy loam; moderate fine granular structure; very friable, soft, nonsticky, nonplastic; common fine and medium roots; few fine tubular pores; 10 percent angular quartz gravel; strongly acid; clear smooth boundary.

Bt1—6 to 20 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, hard, moderately sticky, moderately plastic; few medium and coarse roots; common fine tubular pores; few distinct continuous clay films on all faces of peds; common very fine and fine mica flakes throughout; very strongly acid; gradual wavy boundary.

Bt2—20 to 23 inches; red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; firm, hard, slightly sticky, slightly plastic; common fine tubular pores; few distinct clay films on all faces of peds; common very fine and fine mica flakes throughout; very strongly acid; gradual wavy boundary.

BCt—23 to 38 inches; 60 percent yellowish red (5YR 5/6) and 40 percent strong brown (7.5YR 5/6) sandy loam; weak fine and medium subangular blocky structure; very friable, slightly hard, slightly sticky, nonplastic; few fine tubular pores; very few faint continuous clay films on vertical faces of peds; common fine and medium mica flakes throughout; very strongly acid; gradual wavy boundary.

C—38 to 62 inches; strong brown (7.5YR 5/8) sandy loam; massive; very friable, slightly hard, nonsticky, nonplastic; common fine and medium mica flakes throughout; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 1 to 15 inches
Depth to base of argillic horizon: 15 inches or more
Depth to bedrock: More than 60 inches
Rock fragments (content, size): 0 to 15 percent in the A horizon, 0 to 30 percent in the E horizon, and 0 to 15 percent in the B and C horizons; mostly gravel
Mica flakes: 0 to 20 percent, by volume, in the A and E horizons and in the upper part of the B horizon and 0 to 30 percent in the lower part of the B horizon and in the C horizon
Soil reaction: Extremely acid to moderately acid throughout the profile
Other characteristics: Clayey part (more than 35 percent clay) of the argillic horizon extends to a depth of less than 30 inches and is less than 25 inches thick

A horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 3 to 6, and chroma of 2 to 8
Texture—sandy loam

Ap horizon:
Color—hue of 5YR to 10YR, value of 3 to 6, and chroma of 2 to 8
Texture—sandy loam, fine sandy loam, or loam

E horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or loam

BE or BA horizon (if it occurs):
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture—fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 10R to 5YR, value of 4 or 5, and chroma of 4 to 8
Texture—clay loam, sandy clay, or clay
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of shades of red, brown, or yellow

BC, BCt, or CB horizon (if it occurs):
Color—hue of 10R to 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of red, brown, or yellow

C horizon:
Color—hue of 10R to 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam saprolite
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of red, brown, or yellow

Georgeville Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluve summits
Parent material: Schist residuum
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 2 to 15 percent

Associated Soils

- Badin soils, which have bedrock within a depth of 40 inches
- Herndon soils, which have subsoils that are yellower than those of the Georgeville soils
- Lignum soils, which are somewhat poorly drained
- Nanford and Tarrus soils, which have soft bedrock within a depth of 60 inches

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Georgeville silt loam, 2 to 8 percent slopes; 200 feet west of the intersection of State Routes 721 and 716, about 125 feet north of State Route 721, about 3 miles southeast of Clover, in deciduous woods; Clover VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 48 minutes 0 seconds N. and long. 78 degrees 42 minutes 34 seconds W.

Ap—0 to 5 inches; yellowish brown (10YR 5/6) silt loam; weak fine and medium granular structure; very friable, slightly sticky, slightly plastic; many fine, common medium, and few coarse roots; 10 percent angular quartz gravel; strongly acid; abrupt smooth boundary.

Bt1—5 to 8 inches; yellowish red (5YR 5/8) silty clay loam; weak fine and medium subangular blocky structure; friable, moderately sticky, moderately plastic; common medium and few coarse roots; 10 percent angular quartz gravel; strongly acid; clear smooth boundary.

Bt2—8 to 13 inches; red (2.5YR 4/6) clay; strong fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine and few medium and coarse roots; very few distinct continuous clay films on all faces of peds; strongly acid; clear smooth boundary.

Bt3—13 to 35 inches; red (2.5YR 4/6) clay; moderate medium and coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few medium and coarse roots; very few distinct continuous clay films on all faces of peds; strongly acid; clear smooth boundary.

Bt4—35 to 42 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; very few distinct continuous clay films on all faces of peds; few fine mica flakes; strongly acid; gradual wavy boundary.

BC—42 to 54 inches; red (2.5YR 4/6) silty clay loam; weak fine and medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine mica flakes; strongly acid; gradual wavy boundary.

C—54 to 65 inches; 40 percent yellowish red (5YR 5/8), 40 percent red (2.5YR 4/8), and 20 percent brownish yellow (10YR 6/8) silt loam; medium distinct strong brown (7.5YR 5/8) mottles; massive; friable, slightly sticky, slightly plastic; few fine mica flakes; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Rock fragment content: 0 to 10 percent throughout the profile
Mica flakes: 1 to 2 percent, by volume, in the lower horizons of some pedons
Soil reaction: Very strongly acid to slightly acid

Ap or A horizon:
Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 2 to 6
Texture—silt loam

E horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 3 to 8
Texture—silt loam or loam

Bt horizon:
Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 to 8
Texture—clay, silty clay, silty clay loam, or clay loam

BC horizon:
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 6 to 8
Texture—silt loam, loam, or silty clay loam
Non-redoximorphic mottles (in some pedons)—in shades of yellow or brown

C horizon:
Color—hue of 10R to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture—silt loam, loam, or silty clay loam saprolite
Non-redoximorphic mottles (in some pedons)—in shades of yellow, brown, gray, or red

Goldston Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluve backslopes
Parent material: Serecite schist residuum
Drainage class: Somewhat excessively drained
Depth class: Shallow
Slowest permeability class: Moderate
Slope: 8 to 45 percent

Associated Soils

- Badin soils, which have bedrock at a depth of 20 to 40 inches
- Montonia soils, which have bedrock at a depth of 20 to 40 inches
- Nanford soils, which have bedrock at a depth of 40 to 60 inches

Taxonomic Classification

Loamy-skeletal, siliceous, semiactive, thermic, shallow Typic Dystrudepts

Typical Pedon

Goldston channery silt loam in an area of Goldston-Montonia complex, 15 to 25 percent slopes; 2,000 feet south of the junction of State Routes 744 and 602, about 600 feet west of State Route 744, in deciduous woods; Virgilina VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 35 minutes 40 seconds N. and long. 78 degrees 50 minutes 52 seconds W.

Ap—0 to 3 inches; yellowish brown (10YR 5/4) channery silt loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine roots; 30 percent angular channers; very strongly acid; clear smooth boundary.
Bw—3 to 16 inches; brownish yellow (10YR 6/6) very channery silt loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; 40 percent angular channers; very strongly acid; gradual wavy boundary.
Cr—16 to 41 inches; weathered serecite schist bedrock.
R—41 to 51 inches; unweathered serecite schist bedrock.

Range in Characteristics

Depth to soft bedrock: 10 to 20 inches
Depth to hard bedrock: 20 to 40 inches or more

Rock fragment content: 15 to 35 percent in the A horizon and 35 to 70 percent in the E, B, and C horizons
Soil reaction: Extremely acid to strongly acid

A horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 to 4
Texture (fine-earth fraction)—silt loam or very fine sandy loam

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 or very fine sandy loam

E horizon (if it occurs):
Color—hue 10YR to 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

Cr horizon:
Bedrock—highly weathered and fractured schist

R horizon:
Bedrock—relatively unweathered hard schist

Halifax Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Hornblende gneiss residuum
Drainage class: Moderately well drained
Depth class: Very deep
Slowest permeability class: Slow
Slope: 2 to 15 percent

Associated Soils

- Clifford soils, which are well drained
- Jackland soils, which are somewhat poorly drained
- Nathalie soils, which are well drained
- Orange soils, which are somewhat poorly drained
- Rasalo soils, which are well drained

Taxonomic Classification

Fine, mixed, semiactive, mesic Aquic Hapludults

Typical Pedon

Halifax sandy loam, 2 to 8 percent slopes; 2,400 feet southeast of the junction of State Routes 716 and 854, about 900 feet east of State Route 854 in a hayfield; South Boston VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 43 minutes 22.3 seconds N. and long. 78 degrees 52 minutes 46.3 seconds W.

Ap—0 to 13 inches; light olive brown (2.5Y 5/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine roots; 2 percent angular quartz gravel; moderately acid; abrupt smooth boundary.
Bt1—13 to 25 inches; brownish yellow (10YR 6/6) clay; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine

roots; few distinct continuous clay films on all faces of peds; common fine prominent irregular red (2.5YR 5/8) masses of oxidized iron with diffuse boundaries; 2 percent angular quartz gravel; strongly acid; clear smooth boundary.

Bt2—25 to 39 inches; brownish yellow (10YR 6/6) clay; moderate medium subangular blocky structure; very firm, moderately sticky, moderately plastic; few fine roots; few distinct continuous clay films on all faces of peds; common fine prominent irregular red (2.5YR 5/8) masses of oxidized iron with diffuse boundaries and many medium prominent irregular light gray (2.5Y 7/2) iron depletions with diffuse boundaries; 2 percent angular quartz gravel; strongly acid; clear smooth boundary.

Btg—39 to 58 inches; gray (10YR 6/1) clay; strong medium and coarse subangular blocky structure; very firm, very sticky, very plastic; few fine roots; few distinct continuous clay films on all faces of peds; common fine prominent irregular brownish yellow (10YR 6/6) and many medium prominent irregular olive yellow (2.5Y 6/8) masses of oxidized iron with diffuse boundaries; few fine mica flakes; strongly acid; gradual wavy boundary.

C—58 to 65 inches; 60 percent pale yellow (2.5Y 7/4), 20 percent pale yellow (2.5Y 7/3), and 20 percent yellowish brown (10YR 5/8) clay loam; massive; firm, slightly sticky, slightly plastic; common fine prominent olive yellow (2.5Y 6/8) masses of oxidized iron; common fine mica flakes; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 6 to 18 inches
Depth to base of argillic horizon: More than 30 inches
Thickness of clayey part of argillic horizon: 20 inches or more
Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 18 to 30 inches from December to May
Rock fragment content: 0 to 15 percent, by volume, throughout the profile
Mica flakes: 1 to 20 percent, by volume, in the B and C horizons
Soil reaction: Extremely acid to strongly acid throughout the profile, except in limed areas
Other characteristics: Linear extensibility percentage (LEP) of the heaviest textured subsurface horizon is 6 to 9 (high shrink-swell potential)

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 to 4
Texture—sandy loam

E horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 2 to 4
Texture—coarse sandy loam, fine sandy loam, sandy loam, or loam

BE or BA horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture—sandy loam, sandy clay loam, or loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 8, and chroma of 3 to 8
Texture—sandy clay, clay, clay loam, or sandy clay loam
Redoximorphic features—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray occur within 24 inches of the upper boundary of the horizon

Btg horizon:
Color—horizon has hue of 10YR or 2.5Y or is neutral in hue, has value of 4 to 7, and has chroma of 1 or 2
Texture—sandy clay, clay, or clay loam

Redoximorphic features—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

BC or BCt horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 3 to 8
Texture—loam, sandy clay loam, clay loam, fine sandy loam, or sandy loam
Redoximorphic features (if they occur)—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

BCg or BCtg horizon (if it occurs):
Color—horizon has hue of 10YR or 2.5Y or is neutral in hue, has value of 4 to 7, and has chroma of 1 or 2
Texture—loam, sandy clay loam, clay loam, fine sandy loam, or sandy loam
Redoximorphic features—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

C horizon:
Color—hue of 5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture—sandy loam, sandy clay loam, clay loam, fine sandy loam, loamy sand, or loam
Redoximorphic features (if they occur)—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Cg horizon (if it occurs):
Color—horizon has hue of 10YR or 2.5Y or is neutral in hue, has value of 4 to 7, and has chroma of 1 or 2
Texture—sandy loam, sandy clay loam, clay loam, fine sandy loam, loamy sand, or loam saprolite
Redoximorphic features—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, or gray

Hatboro Series

Physiographic province: Southern Piedmont, mesic
Landform: Flood-plain treads
Parent material: Alluvium
Drainage class: Poorly drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 0 to 2 percent

Associated Soils

- Banister soils, which are moderately well drained and on terraces
- Codorus soils, which are somewhat poorly drained
- Comus soils, which are well drained

Taxonomic Classification

Fine-loamy, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts

Typical Pedon

Hatboro loam in an area of Codorus and Hatboro soils, 0 to 2 percent slopes, frequently flooded; 5,700 feet northeast of the junction of State Routes 691 and 658 near Big Lake, in deciduous woodland; Oak Level VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 41 minutes 8 seconds N. and long. 79 degrees 5 minutes 16 seconds W.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) loam; moderate fine and medium subangular blocky structure; very friable, slightly sticky, slightly plastic; common very fine, fine, and medium roots; few fine prominent brown (7.5YR 4/4) masses of oxidized iron; few fine mica flakes; slightly acid; abrupt smooth boundary.

Bg—4 to 35 inches; grayish brown (2.5Y 5/2) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; common fine prominent brown (7.5YR 4/4) masses of oxidized iron; few fine mica flakes; slightly acid; gradual wavy boundary.

Cg—35 to 65 inches; grayish brown (2.5Y 5/2) sandy loam; very friable, nonsticky, nonplastic; common fine prominent brown (7.5YR 4/4) masses of oxidized iron; few fine mica flakes; neutral.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 0 to 12 inches
Rock fragment content: 0 to 10 percent in the A and B horizons and 0 to 25 percent in the C horizon
Mica flakes: 2 to 20 percent, by volume, throughout the solum
Soil reaction: Very strongly acid to neutral

Ap or A horizon:
Color—horizon has hue of 10YR or 2.5Y or is neutral in hue, has value of 3 or 4, and has chroma of 2 to 4
Texture—loam

Bg horizon:
Color—horizon has hue of 10YR to 5Y or is neutral in hue, has value of 4 to 7, and has chroma of 1 or 2
Texture—loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Cg horizon:
Color—horizon has hue of 10YR to 5Y or is neutral in hue, has value of 4 to 7, and has chroma of 1 or 2
Texture (fine-earth fraction)—loam, sandy loam, or sandy clay loam

Herndon Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluve summits
Parent material: Schist residuum
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 2 to 15 percent

Associated Soils

- Badin soils, which have bedrock within a depth of 20 to 40 inches
- Georgeville soils, which have subsoils that are redder than those of the Herndon soils
- Lignum soils, which are somewhat poorly drained
- Nanford soils, which have bedrock within a depth of 40 to 60 inches

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Herndon silt loam, 2 to 8 percent slopes; 2,000 feet north of the intersection of State Routes 344 and 716, on the west side of State Route 716, north of Dryburg, in a cultivated field; Buffalo Springs VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 44 minutes 6 seconds N. and long. 78 degrees 43 minutes 14 seconds W.

Ap—0 to 8 inches; yellowish brown (10YR 5/4) silt loam; weak fine granular structure; very friable, slightly sticky, nonplastic; common fine and medium roots; 2 percent subangular quartz gravel; strongly acid; abrupt smooth boundary.

BE—8 to 11 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; very strongly acid; clear smooth boundary.

Bt1—11 to 40 inches; yellowish red (5YR 5/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; very few faint continuous clay films on all faces of peds; very strongly acid; gradual smooth boundary.

Bt2—40 to 48 inches; yellowish red (5YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; friable, moderately sticky, slightly plastic; very few faint continuous clay films on all faces of peds; 7 percent angular schist channers; very strongly acid; gradual smooth boundary.

BC—48 to 57 inches; yellowish red (5YR 5/6) silty clay loam; weak fine subangular blocky structure; friable, moderately sticky, slightly plastic; 12 percent angular schist channers; very strongly acid; gradual wavy boundary.

C—57 to 65 inches; light brown (7.5YR 6/4) silt loam; very friable, slightly sticky, nonplastic; 12 percent angular schist channers; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Rock fragment content: 0 to 10 percent throughout the profile
Mica flakes: 1 to 2 percent, by volume, in the lower horizons of some pedons
Soil reaction: Very strongly acid to slightly acid

A horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 2 to 6
Texture—silt loam

Ap horizon:
Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 2 to 6
Texture—silt loam or loam

E horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 3 to 8
Texture—silt loam or loam

BE horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—silt loam, loam, silty clay loam, or clay loam

Bt horizon:
Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 to 8
Texture—clay, silty clay, silty clay loam, or clay loam

BC horizon:
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 6 to 8
Texture—silt loam, loam, or silty clay loam
Non-redoximorphic mottles (in some pedons)—in shades of yellow or brown

C horizon:
Color—hue of 10R to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture—silt loam, loam, or silty clay loam saprolite
Non-redoximorphic mottles (in some pedons)—in shades of yellow, brown, gray, or red

Jackland Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Hornblende gneiss
Drainage class: Somewhat poorly drained
Depth class: Very deep
Slowest permeability class: Very slow
Slope: 2 to 8 percent

Associated Soils

- Orange soils, which have bedrock at a depth of 40 to 60 inches
- Rasalo soils, which are well drained
- Spriggs soils, which have bedrock at a depth of 40 to 60 inches

Taxonomic Classification

Fine, smectitic, mesic Aquic Hapludalfs

Typical Pedon

Jackland sandy loam in an area of Jackland-Orange complex, 2 to 8 percent slopes; 3,200 feet north on State Route 680 from its junction with State Route 683, about 400 feet west off State Route 680, in an idle field; Oak Level VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 32 minutes 55 seconds N. and long. 78 degrees 59 minutes 23 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; few fine and medium roots; 2 percent angular quartz gravel; strongly acid; abrupt smooth boundary.

Btss—8 to 30 inches; yellowish brown (10YR 5/4) clay; strong medium angular blocky structure; very firm, very sticky, very plastic; few fine roots between peds; prominent continuous clay films on all faces of peds; common medium prominent light gray (10YR 7/2) iron depletions throughout; few fine mica flakes; slightly acid; clear smooth boundary.

C—30 to 65 inches; 50 percent olive (5Y 5/6) and 50 percent yellowish brown (10YR 5/6) sandy loam; massive; very friable, nonsticky, nonplastic; few fine and medium mica flakes; slightly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 12 to 18 inches
Rock fragment content: 0 to 15 percent in the A horizon, 0 to 25 percent in the E, BA, and BE horizons, 0 to 5 percent in the Bt horizon, and 0 to 15 percent in the C horizon
Mica flakes: 1 to 20 percent, by volume, in the Bt and C horizons
Soil reaction: Strongly acid to slightly acid
Other characteristics: Linear extensibility percentage (LEP) of the heaviest textured subsurface horizon is 6 to 9 (high shrink-swell potential)

Ap or A horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 to 6
Texture—sandy loam

E horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 6
Texture (fine-earth fraction)—sandy loam or loam

BE horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 6
Texture (fine-earth fraction)—loam or clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture—clay

BC horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 6
Texture—loam, sandy clay loam, or clay loam

C horizon:
Color—multicolored
Texture—sandy clay loam, loam, or sandy loam saprolite

Kinkora Series

Physiographic province: Southern Piedmont, thermic
Landform: Terrace treads
Parent material: Alluvium
Drainage class: Poorly drained
Depth class: Very deep
Slowest permeability class: Slow
Slope: 0 to 2 percent

Associated Soils

- Banister soils, which are moderately well drained and on terraces
- Codorus soils, which are somewhat poorly drained and loamy and on flood plains
- Danripple soils, which are well drained and on terraces
- Hatboro soils, which are poorly drained and loamy and on flood plains

Taxonomic Classification

Fine, mixed, semiactive, mesic Typic Endoaquults

Typical Pedon

Kinkora silt loam in an area of Banister-Kinkora complex, 0 to 4 percent slopes, rarely flooded; 5,500 feet southeast of Terry Minutess Bridge on U.S. Highway 360 where it crosses the Banister River, in the Wolftrap Wildlife Management Area, in deciduous woodland; Omega VA USGS 7.5-minute topographic quadrangle; lat. 38 degrees 44 minutes 5.7 seconds N. and long. 78 degrees 49 minutes 39.9 seconds W.

A—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; friable, nonsticky, nonplastic; many very fine, fine, and medium roots; many fine tubular and few medium tubular pores; common fine distinct yellowish brown (10YR 5/6) iron-manganese masses; very strongly acid; clear smooth boundary.

Btg1—4 to 9 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium subangular blocky structure; firm, slightly sticky, moderately plastic; many fine and medium roots; many very fine and fine tubular pores; very few faint continuous clay films on all faces of peds; many coarse prominent strong brown (7.5YR 5/8) iron-manganese masses; very strongly acid; clear smooth boundary.

Btg2—9 to 38 inches; gray (10YR 5/1) silty clay; strong coarse subangular blocky structure; very firm, very sticky, very plastic; few very fine, fine, and medium roots; few fine tubular pores; few prominent continuous clay films on all faces of peds; many fine prominent strong brown (7.5YR 5/8) iron-manganese masses; very strongly acid; gradual wavy boundary.

2Cg—38 to 62 inches; gray (2.5Y 6/1) sandy loam; massive; firm, slightly sticky, nonplastic; few very fine tubular pores; many coarse prominent strong brown (7.5YR 5/8) iron-manganese masses; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 0 to 12 inches
Rock fragment content: 0 to 15 percent throughout the profile
Mica flakes: 0 to 20 percent, by volume, in the Btg and Cg horizons
Soil reaction: Very strongly acid or strongly acid

A or Ap horizon:
Color—hue of 10YR to 5Y, value of 4 or 5, and chroma of 1 or 2
Texture—silt loam

Eg horizon (if it occurs):
Color—horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 1 or 2, or it is neutral in hue and has value of 4 to 6
Texture—silt loam, loam, or sandy loam

Btg horizon:
Color—horizon has hue of 10YR to 5Y or is neutral in hue, has value of 5 or 6, and has chroma of 1 or 2
Texture—clay, sandy clay, silty clay, clay loam, sandy clay loam, or silty clay loam

Cg horizon:
Color—horizon has hue of 10YR to 5Y or is neutral in hue, has value of 5 or 6, and has chroma of 1 or 2
Texture—sandy loam, sandy clay loam, silt loam, silty clay loam, or clay loam

Lackstown Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Residuum from Triassic sedimentary rock
Drainage class: Moderately well drained
Depth class: Very deep
Slowest permeability class: Very slow
Slope: 2 to 15 percent

Associated Soils

- Clover soils, which are well drained
- Easthamlet soils, which have bedrock at a depth of 20 to 40 inches
- Wolftrap soils, which are somewhat poorly drained

Taxonomic Classification

Fine, mixed, semiactive, mesic Aquic Hapludults

Typical Pedon

Lackstown fine sandy loam, 2 to 8 percent slopes; 700 feet north of the junction of State Routes 613 and 914, about 200 feet northwest of State Route 914, about 4,200 feet west of Scottsburg; Scottsburg VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 45 minutes 22 seconds N. and long. 78 degrees 48 minutes 9 seconds W.

A—0 to 9 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common fine roots; 3 percent angular quartz gravel; slightly acid; abrupt smooth boundary.

E—9 to 14 inches; yellowish brown (10YR 5/4) sandy loam; weak fine subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; 3 percent angular quartz gravel; strongly acid; clear smooth boundary.

Bt1—14 to 28 inches; yellowish brown (10YR 5/8) clay loam; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; few distinct continuous clay films on all faces of peds; few fine faint yellowish red (5YR 5/6) masses of oxidized iron; very strongly acid; clear smooth boundary.

Bt2—28 to 40 inches; yellowish brown (10YR 5/8) clay; strong coarse prismatic structure; very firm, very sticky, very plastic; many fine vesicular pores; few distinct continuous clay films on all faces of peds; common medium prominent light brownish gray (2.5Y 6/2) iron depletions; very strongly acid; clear smooth boundary.

Btg1—40 to 46 inches; light brownish gray (2.5Y 6/2) clay; strong coarse prismatic structure; very firm, very sticky, very plastic; few distinct continuous clay films on all faces of peds; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; clear smooth boundary.

Btg2—46 to 54 inches; light brownish gray (2.5Y 6/2) clay; weak coarse angular blocky structure; firm, moderately sticky, moderately plastic; very few distinct continuous clay films on all faces of peds; very strongly acid; clear smooth boundary.

C—54 to 65 inches; 50 percent dark reddish brown (2.5YR 3/3), 25 percent pale brown (10YR 6/3), and 25 percent yellowish brown (10YR 5/8) loam; massive; friable, slightly sticky, nonplastic; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 4 to 20 inches
Depth to base of argillic horizon: 30 to 60 inches
Depth to bedrock: More than 60 inches
Depth to top of seasonal high water table: 12 to 30 inches from December to March
Depth to base of seasonal high water table: 45 to 60 inches from December to March
Rock fragment content: 0 to 5 percent, by volume, throughout the profile
Soil reaction: Extremely acid to strongly acid throughout the profile, except in limed areas

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 1 to 6
Texture—fine sandy loam

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 2 to 4
Texture—fine sandy loam, loamy sand, coarse sandy loam, sandy loam, loam, or silt loam

BE horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 4 to 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—sandy clay loam, silty clay loam, clay loam, sandy clay, clay, or silty clay
Redoximorphic features (if they occur)—iron depletions in shades of brown or gray and masses of oxidized iron in shades of red, yellow, or brown

Btg horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 1 or 2
Texture—sandy clay loam, silty clay loam, clay loam, sandy clay, clay, or silty clay; the horizon is distinctly finer in texture and firmer in consistence than the Bt horizon
Redoximorphic features—iron depletions in shades of brown or gray and masses of oxidized iron in shades of red, yellow, or brown

BC horizon (if it occurs):
Color—hue of 2.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture—silty clay loam, sandy clay loam, clay loam, sandy clay, or silty clay
Redoximorphic features (if they occur)—iron depletions in shades of brown or gray and masses of oxidized iron in shades of red, yellow, or brown

BCg horizon (if it occurs):
Color—hue of 2.5YR to 2.5Y, value of 4 to 8, and chroma of 1 or 2
Texture—silty clay loam, sandy clay loam, sandy clay, clay loam, or silty clay
Redoximorphic features—iron depletions in shades of brown or gray and masses of oxidized iron in shades of red, yellow, or brown

C horizon:
Color—hue of 10R to 2.5Y and value and chroma of 3 to 8
Texture—silt loam, loam, sandy loam, fine sandy loam, sandy clay loam, clay loam, silty clay loam, silty clay, or sandy clay
Redoximorphic features (if they occur)—iron depletions in shades of brown or gray and masses of oxidized iron in shades of red, yellow, or brown

Cg horizon (if it occurs):
Color—hue of 10R to 2.5Y, value of 3 to 8, and chroma of 1 or 2
Texture—silt loam, loam, sandy loam, fine sandy loam, sandy clay loam, clay loam, silty clay loam, silty clay, or sandy clay
Redoximorphic features—iron depletions in shades of brown or gray and masses of oxidized iron in shades of red, yellow, or brown

Lignum Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluves
Parent material: Slate residuum
Drainage class: Somewhat poorly drained
Depth class: Deep
Slowest permeability class: Very slow
Slope: 2 to 8 percent

Associated Soils

- Badin soils, which are well drained and have bedrock at a depth of 20 to 40 inches
- Cid soils, which have bedrock at a depth of 20 to 40 inches
- Nanford soils, which are well drained and have bedrock at a depth of 40 to 60 inches

Taxonomic Classification

Fine, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Lignum loam in an area of Cid-Lignum complex, 2 to 8 percent slopes; about 6.9 miles southeast of Roxboro, North Carolina, 0.3 mile east of Surl on U.S. Highway 158, about 1.6 miles northeast on Secondary Road 1567, about 1.0 mile north on Secondary Road 1571, about 0.2 mile east on Secondary Road 1565, about 25 feet north of the road; lat. 36 degrees 22 minutes 6 seconds N. and long. 78 degrees 51 minutes 51 seconds W.

Ap—0 to 6 inches; light olive brown (2.5Y 5/4) loam; weak fine granular structure; very friable, slightly sticky, nonplastic; many fine and medium roots; few fine interstitial pores; 10 percent angular quartz gravel; very strongly acid; abrupt smooth boundary.

Bt1—6 to 14 inches; yellowish brown (10YR 5/8) clay; moderate coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few fine and medium and common very fine roots; few fine and medium tubular pores; very few distinct continuous clay films on all faces of peds; few medium faint irregular strong brown (7.5YR 5/8) and few medium prominent irregular red (2.5YR 5/8) masses of oxidized iron with diffuse boundaries and common medium prominent irregular gray (10YR 6/1) iron depletions with diffuse boundaries; very strongly acid; gradual wavy boundary.

Bt2—14 to 28 inches; yellowish brown (10YR 5/8) clay; moderate medium and coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; few fine and medium moderate-continuity tubular pores; very few distinct continuous clay films on all faces of peds; common medium prominent irregular gray (10YR 6/1) iron depletions with diffuse boundaries and common medium faint irregular strong brown (7.5YR 5/8) and common medium prominent irregular red (2.5YR 5/8) masses of oxidized iron with diffuse boundaries; very strongly acid; gradual wavy boundary.

Btg—28 to 35 inches; gray (10YR 6/1) clay; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; few fine and medium tubular pores; very few distinct continuous clay films on all faces of peds; few fine and common medium and coarse prominent irregular strong brown (7.5YR 5/8) masses of oxidized iron with diffuse boundaries; very strongly acid; gradual wavy boundary.

C—35 to 56 inches; yellowish brown (10YR 5/4) silt loam; massive; friable, slightly sticky, nonplastic; 3 percent angular quartz gravel; very strongly acid; gradual wavy boundary.

Cr—56 to 66 inches; weathered slate bedrock.

Range in Characteristics

Depth to soft bedrock: 40 to 60 inches
Depth to hard bedrock: More than 60 inches
Depth to seasonal high water table: 12 to 30 inches
Rock fragment content: 0 to 15 percent throughout the profile
Soil reaction: Very strongly acid or strongly acid

Ap or A horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 1 to 4
Texture—loam

BA or BE horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—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 1 to 8
Texture—silty clay, clay, silty clay loam, or clay loam

Btg horizon:
Color—horizon has hue of 7.5YR to 2.5Y or is neutral in hue, has value of 5 to 7, and has chroma of 0 to 2
Texture—silty clay loam, silty clay, clay loam, or clay

C horizon:
Color—variable
Texture—silt loam, very fine sandy loam, or silty clay loam saprolite

Cr horizon:
Bedrock—moderately fractured, highly weathered slate

Masada Series

Physiographic province: Southern Piedmont, thermic
Landform: Stream terraces
Parent material: Alluvium
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 2 to 8 percent

Associated Soils

- Dogue soils, which are moderately well drained
- Mattaponi soils, which are on marine terraces
- Turbeville soils, which do not have perched water tables

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Masada sandy loam, 2 to 8 percent slopes, rarely flooded; about 1.2 miles northeast of U.S. Highway 1 and State Route 711, about 600 feet north of the road, in a pasture, about 2.4 miles west of Bracey; lat. 36 degrees 35 minutes 45.7 seconds N. and long. 78 degrees 11 minutes 1.9 seconds W.

Ap—0 to 8 inches; yellowish brown (10YR 5/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common medium and many very fine roots; many very fine irregular pores; 5 percent rounded quartz gravel; strongly acid; clear smooth boundary.
BE—8 to 11 inches; yellowish brown (10YR 5/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; few fine and many very fine irregular pores; 2 percent rounded quartz gravel; strongly acid; clear smooth boundary.
Bt1—11 to 17 inches; strong brown (7.5YR 4/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots;

common fine tubular pores; very few distinct continuous clay films on faces of peds; few fine mica flakes; strongly acid; clear smooth boundary.

Bt2—17 to 23 inches; 80 percent yellowish red (5YR 5/8) and 20 percent brownish yellow (10YR 6/8) clay; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; few fine irregular pores; few distinct continuous clay films on faces of peds; few fine mica flakes; strongly acid; gradual wavy boundary.

Bt3—23 to 41 inches; 60 percent yellowish red (5YR 5/8), 20 percent red (2.5YR 4/8), and 20 percent brownish yellow (10YR 6/8) clay loam; moderate medium subangular blocky structure; firm, moderately sticky, slightly plastic; few fine roots; few fine irregular pores; very few distinct continuous clay films on all faces of peds; common fine faint red (2.5YR 5/8) masses of oxidized iron and common medium prominent pale brown (10YR 6/3) iron depletions; few fine mica flakes; 1 percent rounded quartz gravel; strongly acid; gradual wavy boundary.

BC—41 to 58 inches; red (2.5YR 4/6) clay loam; weak coarse subangular blocky structure; firm, slightly sticky, slightly plastic; common fine roots; few very fine irregular pores; common fine distinct brownish yellow (10YR 6/8) masses of oxidized iron and common medium prominent very pale brown (10YR 8/2) iron depletions; few fine mica flakes; 2 percent rounded quartz gravel; strongly acid; gradual wavy boundary.

C—58 to 62 inches; red (2.5YR 4/6) loam; massive; firm, slightly sticky, slightly plastic; common fine roots; few very fine irregular pores; common fine distinct brownish yellow (10YR 6/8) masses of oxidized iron and common medium prominent very pale brown (10YR 8/2) iron depletions; few fine mica flakes; 2 percent rounded quartz gravel; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to seasonal high water table: More than 40 inches
Rock fragment content: 0 to 15 percent in the A horizon, 0 to 25 in the E horizon, 0 to 10 percent in the B horizon, and 0 to 25 percent in the C horizon
Soil reaction: Very strongly acid or strongly acid

Ap or A horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 8, and chroma of 1 to 8
Texture—sandy loam

BE horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

E horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 3 to 8, and chroma of 2 to 8
Texture (fine-earth fraction)—fine sandy loam, sandy loam, or loam

Bt horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—clay loam, sandy clay, or clay

BC horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—clay loam, sandy clay loam, sandy clay, or clay

C horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—sandy loam, loam, sandy clay loam, or clay loam

Mattaponi Series

Physiographic province: Southern Piedmont, thermic
Landform: Upland and high marine terrace interfluve summits
Parent material: Old alluvium capping
Drainage class: Moderately well drained
Depth class: Very deep
Slowest permeability class: Moderately slow
Slope: 2 to 15 percent

Associated Soils

- Appomattox soils, which have subsoils that are redder than those of the Mattaponi soils
- Dogue soils, which are moderately well drained
- Turbeville soils, which do not have water tables within a depth of 60 inches

Taxonomic Classification

Fine, mixed, subactive, thermic Oxyaquic Hapludults

Typical Pedon

Mattaponi sandy loam, 2 to 8 percent slopes; 500 feet east of State Route 644, about 2,000 feet north of State Route 652, about 200 feet south of a utility pole on a farm road; lat. 36 degrees 52 minutes 56 seconds N. and long. 77 degrees 56 minutes 35 seconds W.

A—0 to 10 inches; brown (10YR 5/3) sandy loam; moderate medium granular structure; very friable, nonsticky, nonplastic; many very fine, fine, and medium and few coarse roots; neutral; abrupt smooth boundary.
E—10 to 14 inches; light yellowish brown (10YR 6/4) sandy loam; moderate medium granular structure; friable, nonsticky, nonplastic; many very fine, fine, and medium and few coarse roots; slightly acid; clear smooth boundary.
Bt1—14 to 19 inches; brownish yellow (10YR 6/6) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine, fine, and medium roots; moderately acid; clear wavy boundary.
Bt2—19 to 25 inches; brownish yellow (10YR 6/8) clay; common fine faint strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine, fine, and medium roots; strongly acid; clear wavy boundary.
Bt3—25 to 35 inches; strong brown (7.5YR 5/8) clay; common medium distinct yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few very fine, fine, and medium roots; very strongly acid; clear wavy boundary.
BC—35 to 60 inches; strong brown (7.5YR 5/8) clay loam; weak medium subangular blocky structure; firm, moderately sticky, moderately plastic; common coarse distinct platy red (2.5YR 4/8) masses of oxidized iron with clear boundaries throughout and common coarse prominent platy light gray (10YR 7/1) iron depletions with clear boundaries throughout; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 5 to 20 inches
Depth to bottom of argillic horizon: 30 to 65 inches or more
Depth to bedrock: More than 60 inches
Depth to top of seasonal high water table: 30 to 42 inches from December to March
Depth to base of seasonal high water table: 48 to 60 inches from December to March
Depth to lithologic discontinuity: More than 60 inches to residual material

Surface rock fragments (content, size): 0 to 1 percent; mostly gravel and cobbles
Rock fragments in soil (content, type, size): 0 to 15 percent in the A horizon and 0 to 35 in the E, B, and C horizons; mostly rounded quartzite gravel and less commonly cobbles
Mica flakes: 0 to 20 percent, by volume, throughout the profile
Soil reaction: Very strongly acid or strongly acid, except in limed areas

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 7, and chroma of 3 to 6
Texture—sandy loam

E horizon:
Color—hue of 7.5YR to 2.5Y and value and chroma of 2 to 6
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, loam, or sandy clay loam

BA horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y and value and chroma of 2 to 8
Texture (fine-earth fraction)—loamy sand, sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Bt horizon (upper part):
Color—hue of 7.5YR to 2.5Y and value and chroma of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay

Bt horizon (lower part):
Color—hue of 7.5YR to 2.5Y and value and chroma of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are relict features

Btg horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 3 to 8, and chroma of 1 or 2
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are relict features

BCt or BC horizon:
Color—hue of 2.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are contemporary features

BCg horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 or 2
Texture (fine-earth fraction)—sandy clay loam, clay loam, sandy clay, or clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are contemporary features

C horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—stratified gravelly sand to clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow; in some pedons these colors are contemporary features

Cg horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 or 2
Texture (fine-earth fraction)—stratified gravelly sand to clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized in shades of red, brown, or yellow; in some pedons these colors are contemporary features

2C horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture (fine-earth fraction)—stratified gravelly sand to clay
Redoximorphic features (relict)—iron depletions in shades of brown, yellow, or gray and masses of oxidized iron in shades of red, brown, or yellow

Meadows Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluves
Parent material: Residuum from Triassic sedimentary rock
Drainage class: Somewhat excessively drained
Depth class: Shallow
Slowest permeability class: Moderately rapid
Slope: 2 to 8 percent

Associated Soils

- Clover soils, which have bedrock at a depth of more than 60 inches
- Pinkston soils, which have bedrock within a depth of 20 inches
- Straightstone soils, which have bedrock at a depth of more than 60 inches

Taxonomic Classification

Loamy, mixed, semiactive, mesic, shallow Humic Dystrudepts

Typical Pedon

Meadows gravelly loam, 2 to 8 percent slopes; 1,800 yards southeast of the intersection of State Routes 690 and 683, about 2,300 yards east-northeast of the intersection of State Routes 649 and 691, about 230 yards east of two small farm ponds, in a fallow field; Spring Garden VA USGS 7.5-minute topographic quadrangle:

A—0 to 4 inches; dark reddish brown (5YR 3/3) gravelly loam; weak fine granular structure; very friable, slightly sticky, nonplastic; common very fine and fine and few medium roots; many very fine irregular pores; 25 percent angular siltstone channers; slightly acid; clear wavy boundary.
Bw—4 to 9 inches; dark reddish brown (5YR 3/3) gravelly loam; moderate fine subangular blocky structure; very friable, slightly sticky, slightly plastic; few coarse roots; many very fine irregular pores; very few faint continuous clay films on all faces of peds; 30 percent angular siltstone channers; slightly acid; clear wavy boundary.
C—9 to 16 inches; reddish brown (5YR 4/3) silt loam; massive; friable; common very fine and fine and few medium roots; slightly acid; clear wavy boundary.
Cr—16 to 24 inches; weathered siltstone bedrock.
R—24 to 34 inches; unweathered siltstone bedrock.

Range in Characteristics

Depth to top of cambic horizon: 0 to 5 inches
Depth to base of cambic horizon: 5 to 20 inches
Depth to soft bedrock: 10 to 20 inches

Depth to hard bedrock: 20 to 40 inches
Rock fragment content: 15 to 35 percent in the A horizon, 15 to 35 percent in the B horizon, and 5 to 25 percent in the C horizon
Soil reaction: Very strongly acid to slightly acid

A or Ap horizon:
Color—hue of 2.5YR or 5YR, value of 3 or less, and chroma of 2 to 4
Texture (fine-earth fraction)—loam or silt loam

Bw horizon:
Color—hue of 2.5YR or 5YR, value of 2 to 4, and chroma of 2 to 6
Texture (fine-earth fraction)—loam or silt loam

C horizon:
Color—hue of 2.5YR or 5YR and value and chroma of 2 to 4
Texture (fine-earth fraction)—loam or silt loam saprolite

Cr horizon:
Bedrock—highly weathered siltstone, mudstone, or shale that crushes to loam or silt loam

R horizon:
Bedrock—relatively unweathered sandstone, siltstone, or shale

Minnieville Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Residuum from mixed gneiss
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 2 to 15 percent

Associated Soils

- Clifford soils, which have more sand in the topsoil than the Minnieville soils
- Oak Level soils, which have moderately slow permeability
- Rasalo soils, which have a high shrink-swell potential

Taxonomic Classification

Fine, kaolinitic, mesic Typic Hapludults

Typical Pedon

Minnieville loam, 2 to 8 percent slopes; about 2.5 miles northwest of Nathalie, 2,400 feet northeast of the junction of State Routes 645 and 639, about 300 feet north off State Route 639, in mixed hardwoods; Nathalie VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 57 minutes 34 seconds N. and long. 78 degrees 57 minutes 51 seconds W.

Ap—0 to 6 inches; brown (7.5YR 4/4) loam; weak fine granular structure; very friable, slightly sticky, nonplastic; common very fine and fine roots; 5 percent angular quartzite gravel; strongly acid; gradual smooth boundary.
BA—6 to 9 inches; yellowish red (5YR 5/6) clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine and fine roots; strongly acid; clear smooth boundary.
Bt—9 to 45 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine roots; few

distinct continuous clay films on all faces of peds; few fine mica flakes throughout; strongly acid; gradual wavy boundary.

BCt—45 to 60 inches; red (2.5YR 4/8) clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; very few distinct continuous clay films on all faces of peds; common fine mica flakes throughout; strongly acid; gradual wavy boundary.

C—60 to 65 inches; red (2.5YR 4/8) loam; massive; friable, moderately sticky, moderately plastic; common fine mica flakes throughout; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Rock fragment content: 0 to 10 percent throughout the solum
Mica flakes: 1 to 20 percent, by volume, in the B and C horizons
Soil reaction: Very strongly acid to slightly acid

Ap or A horizon:
Color—hue of 5YR or 7.5YR, value of 3 to 5, and chroma of 3 to 6
Texture—typically loam; clay loam in eroded areas

BA horizon:
Color—hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 4 to 8
Texture—loam or clay loam

Bt horizon:
Color—hue of 10R or 2.5YR, value of 3 or 4, and chroma of 4 to 8
Texture—clay, silty clay, or clay loam

BCt or BC horizon:
Color—hue of 10R or 2.5YR, value of 4 to 6, and chroma of 6 to 8
Texture—clay loam, loam, or silty clay loam

C horizon:
Color—multicolored in shades of red, brown, and yellow
Texture—loam, clay loam, silt loam, or silty clay loam saprolite

Montonia Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluve backslopes
Parent material: Serecite schist residuum
Drainage class: Well drained
Depth class: Moderately deep
Slowest permeability class: Moderate
Slope: 2 to 45 percent

Associated Soils

- Badin soils, which are clayey
- Cid soils, which are moderately well drained and clayey
- Goldston soils, which have bedrock within a depth of 20 inches

Taxonomic Classification

Fine-loamy, mixed, subactive, thermic Typic Hapludults

Typical Pedon

Montonia channery silt loam in an area of Goldston-Montonia complex, 15 to 25 percent slopes; 4,000 feet south of the intersection of State Routes 744 and 602, about 800 feet northwest of State Route 744, in mixed woodland; Virgilina VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 35 minutes 42 seconds N. and long. 78 degrees 50 minutes 55 seconds W.

A—0 to 8 inches; strong brown (7.5YR 5/6) channery silt loam; weak fine and medium subangular blocky structure; very friable, slightly sticky, nonplastic; common fine and medium roots throughout; few very fine moderate-continuity tubular pores; 16 percent angular schist channers; strongly acid; clear smooth boundary.

Bt1—8 to 22 inches; yellowish red (5YR 5/8) channery clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots throughout; few very fine moderate-continuity tubular pores; very few distinct continuous clay films on all faces of peds; 20 percent angular schist channers; strongly acid; gradual wavy boundary.

Bt2—22 to 30 inches; yellowish red (5YR 5/8) channery clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots throughout; few distinct continuous clay films on all faces of peds; 20 percent angular schist channers; strongly acid; gradual wavy boundary.

Cr—30 to 41 inches; weathered serecite schist bedrock.

R—41 to 51 inches; unweathered serecite schist bedrock.

Range in Characteristics

Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches
Rock fragment content: 15 to 35 percent in the A, E, and B horizons and 15 to 50 percent in the C horizon
Soil reaction: Very strongly acid to moderately acid

A horizon:
Color—hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 3 to 6
Texture (fine-earth fraction)—silt loam

Ap horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 3 to 6
Texture (fine-earth fraction)—silt loam or loam

BA horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 6
Texture (fine-earth fraction)—silt loam or loam

E horizon (if it occurs):
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 or loam

Bt horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—silty clay loam, clay loam, or loam

BC horizon (if it occurs):
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—clay loam, silty clay loam, or loam

C horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture—silt or loam in the fine-earth fraction

Cr horizon:
Bedrock—highly weathered and fractured schist

R horizon:
Bedrock—relatively unweathered hard schist

Nanford Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluve summits
Parent material: Schist or slate residumm
Drainage class: Well drained
Depth class: Deep
Slowest permeability class: Moderate
Slope: 2 to 25 percent

Associated Soils

- Badin soils, which have bedrock at a depth of 20 to 40 inches
- Herndon soils, which have bedrock at a depth of more than 60 inches
- Tarrus soils, which have subsoils that are redder than those of the Nanford soils

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Nanford silt loam in an area of Nanford-Badin complex, 2 to 8 percent slopes; 200 feet east of the junction of U.S. Highway 96 and State Route 738, about 500 feet north of Highway 96, west of Virgilina, in abandoned cropland; Virgilina VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 33 minutes 7 seconds N. and long. 78 degrees 47 minutes 29 seconds W.

Ap—0 to 8 inches; yellowish brown (10YR 5/4) silt loam; moderate medium granular structure; friable, slightly sticky, nonplastic; many fine, common medium, and few coarse roots; 3 percent quartzite gravel; strongly acid; clear smooth boundary.
Bt1—8 to 22 inches; brownish yellow (10YR 6/8) silty clay loam; moderate medium subangular blocky structure; firm, moderately sticky, slightly plastic; common fine and few medium and coarse roots; few distinct continuous clay films on all faces of peds; very strongly acid; gradual wavy boundary.
Bt2—22 to 42 inches; brownish yellow (10YR 6/8) silty clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine and few medium and coarse roots; few distinct continuous clay films on all faces of peds; very strongly acid; gradual wavy boundary.
Cr—42 to 59 inches; weathered yellowish red (5YR 5/8) schist bedrock.

Range in Characteristics

Depth to soft bedrock: 40 to 60 inches
Depth to hard bedrock: More than 60 inches
Rock fragment content: 0 to 10 percent throughout the profile
Soil reaction: Very strongly acid or strongly acid

Ap horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 6
Texture—silt loam

A horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 2 to 5, and chroma of 2 to 4
Texture—silt loam or loam

E horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 6
Texture—silt loam or loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—clay, silty clay, or silty clay loam

BC horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—silty clay loam, silt loam, loam, or clay loam

C horizon (if it occurs):
Color—multicolored in shades of brown, red, yellow, gray, and white
Texture—silt loam saprolite

Cr horizon:
Bedrock—moderately fractured, highly weathered schist

Nathalie Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Granite gneiss residuum
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 2 to 15 percent

Associated Soils

- Clifford soils, which have subsoils that are redder than those of the Nathalie soils
- Halifax soils, which are moderately well drained and have a high shrink-swell potential
- Toast soils, which have clay horizons that are thinner than those of the Nathalie soils

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Nathalie sandy loam, 2 to 8 percent slopes; 250 feet west of the junction of State Routes 644 and 645, about 1,220 feet north of Nathalie, Virginia, in a cultivated field; Nathalie VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 52 minutes 43 seconds N. and long. 78 degrees 59 minutes 8 seconds W.

Ap—0 to 9 inches; yellowish brown (10YR 5/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and few medium roots; 5 percent angular quartz gravel; slightly acid; abrupt smooth boundary.
BA—9 to 12 inches; strong brown (7.5YR 5/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and few medium roots; moderately acid; gradual smooth boundary.
Bt1—12 to 27 inches; strong brown (7.5YR 5/6) clay; common medium distinct brownish yellow (10YR 6/8) and common medium prominent red (2.5YR 5/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine and medium roots; common fine moderate-continuity tubular pores; very few distinct continuous clay films on all faces of peds; strongly acid; gradual smooth boundary.

Bt2—27 to 42 inches; brownish yellow (10YR 6/8) clay; many coarse prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine and medium roots; common fine moderate-continuity tubular pores; few distinct continuous clay films on all faces of peds; few fine mica flakes; strongly acid; gradual smooth boundary.

BC—42 to 52 inches; yellowish red (5YR 5/6) clay loam; many medium prominent yellow (10YR 7/8) mottles; weak fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; common fine mica flakes; very strongly acid; gradual smooth boundary.

C—52 to 65 inches; 50 percent brownish yellow (10YR 6/8) and 50 percent yellowish red (5YR 5/8) loam; massive; friable, slightly sticky, nonplastic; common fine mica flakes; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 4 to 14 inches
Depth to base of argillic horizon: 35 inches or more
Depth to bedrock: More than 60 inches
Rock fragment content: 0 to 15 percent, by volume, in the A, E, and B horizons and 0 to 25 percent in the C horizon
Mica flakes: 0 to 20 percent, by volume, in the B and C horizons
Soil reaction: Very strongly acid or strongly acid throughout the profile, except in limed areas
Other characteristics: Clayey part (more than 35 percent clay) of the argillic horizon extends to a depth of 30 inches or more and is 25 to 60 inches thick

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 6
Texture—coarse sandy loam, sandy loam, fine sandy loam, or loam

E horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y and value and chroma of 4 to 6
Texture—coarse sandy loam, sandy loam, fine sandy loam, or loam

BA or BE horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 4 to 8; hue ranges to 5YR where horizon has few to many non-redoximorphic mottles
Texture—clay loam or clay; 35 to 60 percent clay
Non-redoximorphic mottles (if they occur)—in shades of red, brown, yellow, or white

BC horizon or BCt horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 7, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam
Non-redoximorphic mottles (if they occur)—in shades of red, brown, yellow, or white

C horizon:
Color—hue of 2.5YR to 2.5Y and value and chroma of 4 to 8; horizon commonly does not have a dominant color
Texture (fine-earth fraction)—variable; commonly sandy loam, loam, sandy clay loam, or clay loam saprolite

Oak Level Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Hornblende gneiss residuum
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderately slow
Slope: 2 to 15 percent

Associated Soils

- Minnieville soils, which have moderate permeability
- Rasalo soils, which have a high shrink-swell potential
- Spriggs soils, which have bedrock at a depth of 20 to 40 inches

Taxonomic Classification

Fine, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Oak Level loam, 2 to 8 percent slopes; about 1,000 feet south from the intersection of State Routes 711 and 710, about 1,250 feet east of State Route 710, in a cultivated field; Cluster Springs VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 39 minutes 18 seconds N. and long. 78 degrees 50 minutes 26 seconds W.

Ap—0 to 8 inches; reddish brown (5YR 4/4) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots throughout; 4 percent angular quartz gravel; slightly acid; clear wavy boundary.

Bt1—8 to 18 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots throughout; common fine tubular pores; few faint continuous clay films on faces of peds; slightly acid; gradual wavy boundary.

Bt2—18 to 32 inches; red (2.5YR 4/8) clay; few medium prominent strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots throughout; common fine tubular pores; few faint continuous clay films on faces of peds; slightly acid; gradual wavy boundary.

Bt3—32 to 42 inches; red (2.5YR 4/8) clay loam; few medium prominent brownish yellow (10YR 6/6) mottles; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine tubular pores; few faint patchy clay films on faces of peds; slightly acid; gradual wavy boundary.

BC—42 to 50 inches; yellowish red (5YR 5/8) loam; few medium prominent brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; 1 percent iron-manganese nodules; slightly acid; gradual wavy boundary.

C—50 to 65 inches; yellowish red (5YR 5/8) loam; few medium prominent brownish yellow (10YR 6/6) mottles; massive; friable, slightly sticky, nonplastic; 1 percent iron-manganese nodules; slightly acid.

Range in Characteristics

Depth to top of argillic horizon: 4 to 15 inches
Depth to base of argillic horizon: 25 to 50 inches
Depth to bedrock: More than 60 inches
Rock fragment content: 0 to 25 percent, by volume, in the A and E horizons, 0 to 15 percent in the Bt and BC horizons, and 0 to 25 percent in the C horizon
Mica flakes: 0 to 20 percent, by volume, in the B and C horizons

Soil reaction: Strongly acid to slightly acid in the A and Bt horizons and moderately acid to neutral in the BC and C horizons, except in limed areas
Other characteristics: Silt content of the particle-size control section is less than 30 percent; content of manganese concretions ranges from 0 to 20 percent throughout the profile

A or Ap horizon:
Color—hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—fine sandy loam, loam, clay loam, or sandy clay loam

BA or BE horizon (if it occurs):
Color—hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—loam, sandy clay loam, or clay loam

Bt horizon:
Color (upper part)—hue of 10R or 2.5YR, value of 3 to 6, and chroma of 4 to 8; hue ranges to 5YR where there are few to many non-redoximorphic mottles
Color (lower part)—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—clay loam or clay
Non-redoximorphic mottles (if they occur)—in shades of red, brown, yellow, or white; mostly in the lower part of Bt horizon

BC or BCt horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 7, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam
Non-redoximorphic mottles (if they occur)—in shades of red, brown, yellow, or white

C horizon:
Color—horizon is variable in color and commonly does not have a dominant color
Texture (fine-earth fraction)—sandy loam, loam, sandy clay loam, or clay loam

Orange Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve backslopes
Parent material: Hornblende gneiss residuum
Drainage class: Somewhat poorly drained
Depth class: Deep
Slowest permeability class: Slow
Slope: 2 to 15 percent

Associated Soils

- Halifax soils, which are moderately well drained and have bedrock below a depth of 60 inches
- Jackland soils, which have bedrock at a depth of more than 60 inches
- Rasalo soils, which are well drained
- Spriggs soils, which have bedrock at a depth of 20 to 40 inches

Taxonomic Classification

Fine, smectitic, mesic Albaquic Hapludalfs

Typical Pedon

Orange loam in an area of Rasalo-Orange complex, 2 to 8 percent slopes; 7,400 feet east of the intersection of State Routes 741 and 658, about 500 feet north of State Route 658, in a cutover area; Omega VA USGS 7.5-minute topographic quadrangle;

lat. 36 degrees 39 minutes 18 seconds N. and long. 78 degrees 50 minutes 26 seconds W.

A—0 to 6 inches; light olive brown (2.5Y 5/4) loam; weak fine granular structure; friable, slightly sticky, nonplastic; many fine roots; strongly acid; abrupt smooth boundary.

BE—6 to 18 inches; light yellowish brown (2.5Y 6/4) clay loam; weak fine and medium granular structure; friable, slightly sticky, slightly plastic; few fine, medium, and coarse roots; many medium prominent yellowish brown (10YR 5/8) masses of oxidized iron and many coarse prominent black (N 2/0) iron-manganese concretions; 10 percent quartz; slightly acid; clear smooth boundary.

Bt—18 to 35 inches; yellowish brown (10YR 5/6) clay; strong medium and coarse subangular blocky structure; very firm, very sticky, very plastic; few fine, medium, and coarse roots; few distinct continuous clay films on all faces of peds; few fine prominent light gray (10YR 7/1) iron depletions and many fine and medium black (N 2/0) dark concretions; moderately alkaline; gradual wavy boundary.

C—35 to 54 inches; yellowish brown (10YR 5/6) loam; massive; friable, slightly sticky, slightly plastic; few fine, medium, and coarse roots; few fine prominent gray (5Y 6/1) iron depletions; moderately alkaline; clear wavy boundary.

Cr—54 to 59 inches; weathered horneblende gneiss bedrock; common dark concretions.

Range in Characteristics

Depth to soft bedrock: 40 to 55 inches
Depth to hard bedrock: More that 55 inches
Depth to seasonal high water table: 12 to 18 inches
Rock fragment content: 0 to 15 percent throughout the profile
Soil reaction: Strongly acid to moderately alkaline

Ap horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 6
Texture—loam

A horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 6
Texture—loam, sandy loam, or silt loam

E horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 to 4
Texture—loam, sandy loam, or silt loam

BA or BE horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 2 to 6
Texture—loam, sandy loam, silt loam, clay loam, silty clay loam, clay, or silty clay

Bt horizon:
Color—hue of 7.5YR to 5Y, value of 4 to 6, and chroma of 4 to 8
Texture—clay, silty clay, or silty clay loam

BC horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 2 to 8
Texture—clay loam or clay

C horizon:
Color—multicolored
Texture—loam, sandy loam, or silt loam saprolite

Cr horizon:
Bedrock—highly weathered metamorphic rock

R layer (if it occurs):
Bedrock—relatively unweathered hard metamorhpic rock

Pinkston Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluves
Parent material: Residuum from Triassic sedimentary rock
Drainage class: Somewhat excessively drained
Depth class: Moderately deep
Slowest permeability class: Moderately rapid
Slope: 8 to 25 percent

Associated Soils

- Clover soils, which have bedrock at a depth of more than 60 inches
- Stoneville soils, which have bedrock at a depth of 40 to 60 inches
- Straightstone soils, which have bedrock at a depth of more than 60 inches

Taxonomic Classification

Coarse-loamy, mixed, semiactive, mesic Ruptic-Ultic Dystrudepts

Typical Pedon

Pinkston fine sandy loam, 15 to 25 percent slopes; about 5 miles northwest of Wentworth, North Carolina, on Secondary Road 2150, about 5,000 feet west of Settles Bridge, 50 feet north of Secondary Road 2150; lat. 36 degrees 24 minutes 55 seconds N. and long. 79 degrees 50 minutes 59 seconds W.

Ap—0 to 5 inches; dark reddish brown (5YR 3/4) fine sandy loam; moderate fine and medium granular structure; very friable, nonsticky, nonplastic; common fine and medium roots; 10 percent angular sandstone gravel; strongly acid; clear smooth boundary.

Bw—5 to 16 inches; dark reddish brown (2.5YR 3/4) gravelly sandy loam; moderate fine and medium subangular blocky structure; friable, nonsticky, nonplastic; few fine roots; common fine low-continuity tubular pores; few fine prominent irregular clay bodies; 20 percent angular sandstone gravel; very strongly acid; clear irregular boundary.

C—16 to 23 inches; dark reddish brown (5YR 3/4) very gravelly sandy loam; moderate fine and medium granular structure; friable, nonsticky, nonplastic; 40 percent angular sandstone gravel; strongly acid; abrupt wavy boundary.

R—23 to 33 inches; reddish brown (5YR 5/4) unweathered sandstone bedrock.

Range in Characteristics

Depth to top of cambic horizon: 1 to 15 inches
Depth to base of cambic horizon: 15 to 40 inches
Depth to bedrock: 20 to 40 inches to hard bedrock
Rock fragments (content, type, size): 0 to 15 percent in the A horizon, 0 to 20 percent in the E and B horizons, and 10 to 50 percent in the C horizon; mostly small weathered fragments of sandstone, conglomerate, and quartz
Soil reaction: Very strongly acid or strongly acid, except in limed areas

A horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 3 to 5, and chroma of 1 to 4
Texture—fine sandy loam

Ap horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 2 to 6
Texture—loamy sand, fine sandy loam, sandy loam, loam, very fine sandy loam, or silt loam

E or BE horizon (if it occurs):
Color—hue of 2.5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—fine sandy loam, sandy loam, loam, very fine sandy loam, or silt loam

Bw or Bt horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 2 to 8
Texture (fine-earth fraction)—most pedons have discontinuous, irregularly shaped areas of different textures that include fine sandy loam, sandy loam, loam, very fine sandy loam, silt loam, sandy clay loam, clay loam, and silty clay loam

BC horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 2 to 8
Texture (fine-earth fraction)—most pedons have discontinuous, irregularly shaped areas of different textures that include fine sandy loam, sandy loam, loam, very fine sandy loam, silt loam, sandy clay loam, clay loam, and silty clay loam; pedons may also have irregularly shaped intrusions of highly weathered sandstone and conglomerate from below

C horizon:
Color—variegated in shades of brown, pink, purple, red, white, or yellow
Texture (fine-earth fraction)—fine sandy loam, sandy loam, very fine sandy loam, loam, or silt loam and including saprolite of these textures

Cr horizon (if it occurs):
Bedrock—sandstone, siltstone, and conglomerate at a depth of 20 to 36 inches

R horizon:
Bedrock—sandstone, siltstone, and conglomerate

Poindexter Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluve summits
Parent material: Greenstone residuum
Drainage class: Well drained
Depth class: Moderately deep
Slowest permeability class: Moderate
Slope: 15 to 45 percent

Associated Soils

- Virgilinia soils, which are somewhat poorly drained and clayey

Taxonomic Classification

Fine-loamy, mixed, active, thermic Typic Hapludalfs

Typical Pedon

Poindexter gravelly silt loam in an area of Virgilina-Poindexter complex, 8 to 15 percent slopes, very stony; 4,800 feet southwest of the junction of State Routes 716 and 719, in mixed woods; Clover VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 46 minutes 13.5 seconds N. and long. 78 degrees 43 minutes 2.8 seconds W.

A—0 to 4 inches; dark grayish brown (10YR 4/2) gravelly silt loam; weak fine granular structure; very friable, slightly sticky, nonplastic; common very fine and fine and few medium roots; 20 percent angular greenstone channers; moderately acid; clear smooth boundary.
E—4 to 12 inches; brown (10YR 5/3) gravelly silt loam; moderate fine and medium granular structure; very friable, slightly sticky, nonplastic; common very fine and fine and few medium roots; 20 percent angular greenstone channers; moderately acid; clear smooth boundary.
Bt1—12 to 22 inches; strong brown (7.5YR 5/8) clay loam; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few coarse roots; very few faint continuous clay films on all faces of peds; slightly acid; gradual wavy boundary.
Bt2—22 to 33 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent strong brown (7.5YR 5/8) clay loam; moderate fine and medium subangular blocky structure; firm, moderately sticky, moderately plastic; few coarse roots; very few faint continuous clay films on all faces of peds; slightly acid; gradual wavy boundary.
Cr—33 to 41 inches; weathered greenstone bedrock.
R—41 to 51 inches; unweathered greenstone bedrock.

Range in Characteristics

Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches
Rock fragment content: 15 to 35 percent in the A and E horizons and 0 to 35 percent in the B and C horizons
Soil reaction: Strongly acid to neutral

A horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 or 4, and chroma of 3 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 3 to 6
Texture (fine-earth fraction)—sandy loam, loam, or silt loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 5 or 6, and chroma of 4 to 8
Texture (fine-earth fraction)—clay loam, sandy clay loam, loam, or silt loam

C horizon (if it occurs):
Color—multicolored black, greenish, and brown saprolite
Texture (fine-earth fraction)—sandy loam, loam, or silt loam saprolite

Cr horizon:
Bedrock—highly weathered mafic crystalline rock

R horizon:
Bedrock—relatively unweathered mafic crystalline rock

Rasalo Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Hornblende gneiss residuum
Drainage class: Well drained
Depth class: Very deep

Slowest permeability class: Moderately slow
Slope: 2 to 25 percent

Associated Soils

- Jackland soils, which are somewhat poorly drained
- Oak Level soils, which have moderately slow permeability
- Orange soils, which are somewhat poorly drained
- Spriggs soils, which have bedrock at a depth of 20 to 40 inches

Taxonomic Classification

Fine, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Rasalo sandy loam in an area of Rasalo-Orange complex, 2 to 8 percent slopes; 3,000 feet east on State Route 809 from the junction with State Route 708, about 1,600 feet north of State Route 809, in a cutover area; South Boston VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 38 minutes 39 seconds N. and long. 78 degrees 58 minutes 40 seconds W.

A—0 to 6 inches; yellowish brown (10YR 5/6) sandy loam; moderate fine and medium granular structure; very friable, nonsticky, nonplastic; few fine and medium roots; strongly acid; abrupt smooth boundary.

Bt1—6 to 20 inches; brownish yellow (10YR 6/6) clay; strong medium angular blocky structure; very firm, very sticky, very plastic; few fine roots; few fine moderate-continuity tubular pores; very few distinct continuous clay films on all faces of peds; slightly acid; abrupt smooth boundary.

Bt2—20 to 30 inches; brownish yellow (10YR 6/8) sandy clay loam; weak medium subangular blocky structure; firm, slightly sticky, nonplastic; very few distinct continuous clay films on all faces of peds; few fine platy mica flakes; slightly acid; gradual wavy boundary.

C—30 to 65 inches; multicolored sandy loam; massive; friable; few fine platy mica flakes; slightly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Rock fragment content: 0 to 15 percent throughout the profile
Mica flakes: 0 to 20 percent, by volume, throughout the profile
Soil reaction: Strongly acid to slightly acid

A or Ap horizon:
Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 2 to 6
Texture—sandy loam

E horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 6
Texture—sandy loam or loam

BA or BE horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—clay, clay loam, or sandy clay loam

BC horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

C horizon:
Color—multicolored
Texture—loam or sandy loam saprolite

Rhodhiss Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve backslopes
Parent material: Granite gneiss residuum
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 4 to 45 percent

Associated Soils

- Clifford soils, which have red clayey subsoils
- Devotion soils, which have bedrock at a depth of 20 to 40 inches
- Fairview soils, which have red clayey subsoils
- Toast soils, which have yellowish brown clayey subsoils

Taxonomic Classification

Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Rhodhiss sandy loam in an area of Devotion-Rhodhiss complex, 15 to 25 percent slopes; 6,500 feet northeast of the junction of State Routes 660 and 662 east of Birch, 500 feet south of Tanyard Branch, in a wooded area; Ingram VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 42 minutes 56.3 seconds N. and long. 79 degrees 8 minutes 40.6 seconds W.

A—0 to 2 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine and fine roots; 10 percent angular quartz gravel; strongly acid; abrupt smooth boundary.
E—2 to 14 inches; yellowish brown (10YR 5/6) sandy loam; weak fine and medium granular structure; very friable, nonsticky, nonplastic; common very fine and fine roots; 12 percent angular quartz gravel; strongly acid; clear smooth boundary.
Bt—14 to 40 inches; strong brown (7.5YR 5/8) sandy clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine and fine roots; very few distinct continuous clay films on all faces of peds; few fine mica flakes; 10 percent angular quartz gravel; very strongly acid; gradual wavy boundary.
C—40 to 62 inches; strong brown (7.5YR 5/8) gravelly sandy loam; massive; very friable, nonsticky, nonplastic; few fine and medium mica flakes; 20 percent angular quartz gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Rock fragment content: 0 to 15 percent in the A horizon and 0 to 20 percent in the E, B, and C horizons

Mica flakes: 0 to 20 percent, by volume, in the solum and 2 to 50 percent in the C horizon below a depth of 40 inches
Soil reaction: Very strongly acid to slightly acid

A horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 6
Texture—sandy loam

E horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—sandy loam, fine sandy loam, or 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)—sandy clay loam, loam, or clay loam

BC or BCt horizon (if it occurs):
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 loam, loam, or sandy loam

C horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—sandy loam, loam, coarse sandy loam, or fine sandy loam saprolite

Riverview Series

Physiographic province: Southern Piedmont, thermic
Landform: Flood-plain risers
Parent material: Recent alluvium
Drainage class: Moderately well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 0 to 2 percent

Associated Soils

- Chewacla soils, which are somewhat poorly drained
- Toccoa soils, which have subsoils that are sandier than those of the Riverview soils
- Wehadkee soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluventic Dystrudepts

Typical Pedon

Riverview loam, 0 to 2 percent slopes, occasionally flooded; 500 feet southeast of Cutbank Bridge on State Route 609 along the Nottoway River near the Dinwiddie County boundary; McKenney VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 54 minutes 0.35 seconds N. and long. 77 degrees 40 minutes 20.8 seconds W.

A—0 to 15 inches; dark yellowish brown (10YR 4/4) loam; weak fine granular structure; very friable; common fine and medium and few very fine and coarse roots; moderately acid; clear smooth boundary.
Bw1—15 to 30 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; few medium and coarse roots; strongly acid; gradual wavy boundary.
Bw2—30 to 48 inches; dark yellowish brown (10YR 4/6) sandy loam; common medium

faint yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; friable; few medium and coarse roots; medium distinct light brownish gray (10YR 6/2) manganese masses; strongly acid; gradual wavy boundary.

Bw3—48 to 59 inches; dark yellowish brown (10YR 4/6) sandy loam; common medium distinct brownish yellow (10YR 6/8) and common medium faint yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few medium roots; medium distinct light gray (10YR 7/2) manganese masses; strongly acid; gradual wavy boundary.

C—59 to 75 inches; brownish yellow (10YR 6/8) loamy sand; common medium distinct yellowish brown (10YR 5/6) mottles; massive; friable; few medium roots; medium distinct light gray (10YR 7/2) clay depletions; very strongly acid; gradual wavy boundary.

Cg—75 to 99 inches; light gray (10YR 7/2) sandy loam; massive; friable; common medium prominent brownish yellow (10YR 6/8) and strong brown (7.5YR 5/6) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 24 to 60 inches
Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 30 to 40 inches
Rock fragment content: 0 to 15 percent throughout the profile
Mica flakes: 0 to 20 percent, by volume, throughout the profile
Soil reaction: Very strongly acid to slightly acid in the A horizon and very strongly acid to moderately acid in the Bw, BC, and C horizons

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 6; where value is 3 the horizon is less than 6 inches thick
Texture—loam

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—loam, fine sandy loam, sandy clay loam, clay loam, silt loam, or silty clay loam
Redoximorphic features—none to common iron concentrations in shades of yellow, brown, or red; at depths of 24 inches or more, the horizon has none to common iron depletions with chroma of 2 or less

BC horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 to 6
Texture—loam, fine sandy loam, sandy loam, or sandy clay loam
Redoximorphic features—few or common iron concentrations in shades of yellow, brown, or red; few or common iron depletions in shades of gray, brown, or yellow

BCg horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 0 to 2
Texture—loam, fine sandy loam, sandy loam, or sandy clay loam
Redoximorphic features—few or common iron concentrations in shades of yellow, brown, or red

C horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 7, and chroma of 3 to 8
Texture—loamy fine sand, loamy sand, sand, fine sandy loam, or sandy loam
Redoximorphic features—few or common iron concentrations in shades of yellow, brown, or red; few or common iron depletions with chroma of 2 or less

Cg horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 7, and chroma of 0 to 2
Texture—loamy fine sand, loamy sand, sand, fine sandy loam, or sandy loam
Redoximorphic features—few or common iron concentrations in shades of yellow, brown, or red

Spriggs Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Hornblende gneiss residuum
Drainage class: Well drained
Depth class: Moderately deep
Slowest permeability class: Moderate
Slope: 2 to 45 percent

Associated Soils

- Jackland soils, which are somewhat poorly drained
- Minnieville soils, which have bedrock below a depth of 60 inches
- Oak Level soils, which have bedrock below a depth 60 inches
- Rasalo soils, which have bedrock below a depth 60 inches

Taxonomic Classification

Fine-loamy, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Spriggs sandy loam in an area of Spriggs-Rasalo complex, 8 to 15 percent slopes; 3,000 feet east on State Route 809 from the junction with State Route 708, about 1,700 feet north of State Route 809, in a cutover area; South Boston VA USGS 7.5-minute topographic quandrangle; lat. 36 degrees 38 minutes 39 seconds N. and long. 78 degrees 58 minutes 40 seconds W.

A—0 to 4 inches; brown (10YR 4/3) sandy loam; moderate fine granular structure; very friable, nonsticky, nonplastic; common very fine, fine, and medium roots; few fine mica flakes; slightly acid; clear smooth boundary.
E—4 to 9 inches; light yellowish brown (10YR 6/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine and fine roots; few fine mica flakes; slightly acid; clear smooth boundary.
Bt1—9 to 15 inches; brownish yellow (10YR 6/6) sandy clay loam; moderate fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; common very fine and fine roots; very few faint continuous clay films on all faces of peds; few fine mica flakes; slightly acid; gradual wavy boundary.
Bt2—15 to 38 inches; brownish yellow (10YR 6/6) sandy clay loam; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; common fine roots; very few faint continuous clay films on all faces of peds; common fine mica flakes; slightly acid; gradual wavy boundary.
Cr—38 to 59 inches; weathered hornblende gneiss bedrock.

Range in Characteristics

Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 or more inches
Rock fragment (content, type): 0 to 15 percent throughout the profile; quartz or partially weathered gneiss fragments
Soil reaction: Very strongly acid to moderately acid, except in limed areas

A horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 or 4, and chroma of 2 to 4
Texture—sandy loam

E horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 6
Texture—sandy loam, fine sandy loam, loam, or silt loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 5 or 6, and chroma of 4 to 8
Texture—loam, silt loam, clay loam, sandy clay loam, or silty clay loam

C horizon (if it occurs):
Color—horizon is multicolored or has hue of 2.5YR to 2.5Y, value of 4 to 8, and chroma of 1 to 8
Texture—loam, sandy loam, fine sandy loam, or silt loam

Cr horizon:
Bedrock—highly weathered mafic rock

Stoneville Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve side slopes
Parent material: Residuum from Triassic sedimentary rock
Drainage class: Well drained
Depth class: Deep
Slowest permeability class: Moderate
Slope: 8 to 15 percent

Associated Soils

- Clover soils, which have bedrock at a depth of more than 60 inches
- Pinkston soils, which have bedrock within a depth of 20 inches
- Straightstone soils, which have bedrock at a depth of more than 60 inches

Taxonomic Classification

Fine, mixed, semiactive, mesic Typic Rhodudults

Typical Pedon

Stoneville loam, 8 to 15 percent slopes; southwest of Stoneville, North Carolina, about 0.75 mile south of the intersection of U.S. Highway 220 Business and U.S. Highway 220 Bypass, 600 feet west of U.S. Highway 220 Bypass, in a wooded area; lat. 36 degrees 26 minutes 12 seconds N. and long. 79 degrees 55 minutes 54 seconds W.

Ap—0 to 5 inches; dark reddish brown (5YR 3/3) loam; moderate fine and medium granular structure; very friable, slightly sticky, slightly plastic; common fine, medium, and coarse roots; strongly acid; clear smooth boundary.
BA—5 to 13 inches; dark reddish brown (5YR 3/3) loam; moderate fine and medium granular structure; friable, slightly sticky, slightly plastic; few fine and medium roots; strongly acid; gradual wavy boundary.
Bt1—13 to 32 inches; dark reddish brown (2.5YR 3/4) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine and medium roots; common fine moderate-continuity tubular pores; few distinct continuous clay films on all faces of peds; few fine mica flakes; very strongly acid; gradual wavy boundary.
Bt2—32 to 38 inches; dark reddish brown (2.5YR 3/4) clay loam; moderate fine and

medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; common fine low-continuity tubular pores; common fine mica flakes; very strongly acid; gradual wavy boundary.

C—38 to 48 inches; dark reddish brown (5YR 3/4) loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine low-continuity tubular pores; common fine mica flakes; very strongly acid; gradual wavy boundary.

Cr—48 to 59 inches; reddish brown (5YR 5/4) weathered shale bedrock.

Range in Characteristics

Depth to top of argillic horizon: 5 to 15 inches
Depth to base of argillic horizon: 25 to 35 inches
Depth to bedrock: 40 to 60 inches to soft bedrock and more than 60 inches to hard bedrock
Thickness of the clayey part of the Bt horizon: 10 to 30 inches
Rock fragments (content, type, size): 0 to 10 percent, by volume, throughout the profile; mostly siltstone and mudstone gravel
Soil reaction: Moderately acid to very strongly acid, except where surface layers have been limed
Other characteristics: Dark manganese oxide concretions range from 0 to 20 percent, by volume, throughout the profile

A or Ap horizon:
Color—hue of 7.5YR to 10R, value of 2.5 or 3, and chroma of 2 to 4
Texture—loam or silt loam; including clay loam in eroded areas

BA horizon:
Color—hue of 5YR to 10R, value of 2.5 or 3, and chroma of 2 to 6
Texture—loam or silt loam

Bt horizon:
Color—hue of 2.5YR to 10R, value of 2.5 or 3, and chroma of 3 to 6
Texture—clay, silty clay loam, clay loam, or silty clay loam
Non-redoximorphic mottles (if they occur)—in shades of red, yellow, or brown

BC horizon (if it occurs):
Color—hue of 2.5YR to 10R, value of 2.5 or 3, and chroma of 3 to 6
Texture—clay loam or silty clay loam
Non-redoximorphic mottles (if they occur)—in shades of red, yellow, or brown

C horizon:
Color—hue of 5YR to 10R, value of 2.5 to 4, and chroma of 2 to 6
Texture—silt loam or loam; most pedons contain saprolite of mudstone, siltstone, sandstone, shale, or conglomerate
Non-redoximorphic mottles (if they occur)—in shades of red, yellow, or brown

Cr horizon:
Bedrock—very weakly cemented to moderately cemented siltstone, mudstone, sandstone, shale, or conglomerate

Straightstone Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Residuum from Triassic sedimentary rock
Drainage class: Well drained
Depth class: Very deep

Slowest permeability class: Moderate
Slope: 2 to 8 percent

Associated Soils

- Clover soils, which have more sand in the topsoil than the Straightstone soils
- Lackstown soils, which are moderately well drained
- Stoneville soils, which have bedrock at a depth of 40 to 60 inches

Taxonomic Classification

Fine, mixed, semiactive, mesic Typic Rhodudults

Typical Pedon

Straightstone loam, 2 to 8 percent slopes; 4,600 feet east of the junction of State Routes 600 and 746, about 1,600 feet north of State Route 600, about 4.6 miles north of Clover; Saxe VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 53 minutes 55 seconds N. and long. 78 degrees 44 minutes 13 seconds W.

Ap—0 to 8 inches; dark reddish brown (5YR 3/4) loam; moderate fine and medium granular structure; very friable, slightly sticky, nonplastic; common very fine and fine roots; strongly acid; abrupt smooth boundary.
Bt—8 to 32 inches; dark reddish brown (2.5YR 3/4) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine roots; common fine moderate-continuity tubular pores; few distinct continuous clay films on all faces of peds; few fine mica flakes; very strongly acid; gradual smooth boundary.
BC—32 to 54 inches; dark reddish brown (2.5YR 3/4) silty clay loam; moderate fine and medium subangular blocky structure; friable, moderately sticky, slightly plastic; common fine low-continuity tubular pores; common fine mica flakes; very strongly acid; gradual wavy boundary.
C—54 to 65 inches; reddish brown (5YR 5/4) silt loam; massive; very friable, slightly sticky, nonplastic; common fine low-continuity tubular pores; common fine mica flakes; very strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 4 to 15 inches
Depth to base of argillic horizon: 30 to 60 inches or more
Depth to bedrock: More than 60 inches
Rock fragment content: 0 to 10 percent, by volume, throughout the profile
Mica flakes: 0 to 20 percent, by volume, in the B and C horizons
Soil reaction: Very strongly acid or strongly acid throughout the profile, except in limed areas

A or Ap horizon:
Color—hue of 10R to 7.5YR, value of 2.5 or 3, and chroma of 2 to 6
Texture—loam

Bt horizon (upper part):
Color—hue of 10R or 2.5YR, value of 3, and chroma of 2 to 6
Texture—clay loam, silty clay loam, silty clay, or clay

Bt horizon (lower part):
Color—hue of 10R or 2.5YR, value of 3 or 4, and chroma of 2 to 6
Texture—clay loam, silty clay loam, silty clay, or clay
Mottles (if they occur)—in shades of brown or yellow

BCt or BC horizon:
Color—hue of 10R or 2.5YR, value of 3 to 5, and chroma of 2 to 6

Texture—sandy clay loam, silty clay loam, or clay loam
Mottles (if they occur)—in shades of brown or yellow

C horizon:
Color—hue of 10R to 5YR, value of 3 to 5, and chroma of 2 to 6
Texture—clay loam, loam, silty clay loam, or silt loam

Tarrus Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluve summits
Parent material: Argillite residuum
Drainage class: Well drained
Depth class: Deep
Slowest permeability class: Moderate
Slope: 2 to 25 percent

Associated Soils

- Badin soils, which have bedrock at a depth of 20 to 40 inches
- Georgeville soils, which have bedrock below a depth of 60 inches
- Goldston soils, which have bedrock within a depth of 20 inches

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kanhapludults

Typical Pedon

Tarrus silt loam in an area of Tarrus-Badin complex, 2 to 8 percent slopes; 1.6 miles southeast of the junction of State Routes 716 and 803, about 100 feet west of State Route 803, in a wooded area; Clover VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 45 minutes 46 seconds north and long. 78 degrees 41 minutes 25 seconds W.

A—0 to 5 inches; yellowish brown (10YR 5/4) silt loam; weak fine granular structure; friable, slightly sticky, nonplastic; common very fine and fine roots; strongly acid; clear smooth boundary.
BE—5 to 11 inches; strong brown (7.5YR 5/6) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common very fine and fine and few coarse roots; very strongly acid; clear smooth boundary.
Bt—11 to 34 inches; red (2.5YR 5/8) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; common fine roots; few prominent continuous clay films on faces of peds; very strongly acid; gradual wavy boundary.
BCt—34 to 49 inches; red (2.5YR 5/8) parachannery silty clay loam; weak fine and medium subangular blocky structure; firm, slightly sticky, slightly plastic; very few faint continuous clay films on faces of peds; 20 percent schist; very strongly acid; gradual wavy boundary.
Cr—49 to 59 inches; weathered argillite bedrock.

Range in Characteristics

Depth to soft bedrock: 40 to 60 inches
Depth to hard bedrock: More than 60 inches
Rock fragment content: 0 to 15 percent in the A and E horizons and 0 to 30 percent in the B and C horizons
Soil reaction: Very strongly acid or strongly acid

Ap horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 8
Texture—silt loam or loam

A horizon:
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 2 to 4
Texture—silt loam

E horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 3 to 6
Texture—silt loam or loam

BA or BE horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—silt loam, 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)—clay, silty clay, silty clay loam, or clay loam

BCt or BC horizon:
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
Non-redoximorphic mottles (in some pedons)—in shades of yellow or brown

C horizon (if it occurs):
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—silt loam, loam, or silty clay loam saprolite
Non-redoximorphic mottles—in shades of yellow, brown, gray, or red in some pedons

Cr horizon:
Bedrock—moderately fractured, highly weathered argillite

Toast Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve backslopes
Parent material: Granite gneiss residuum
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 15 to 25 percent

Associated Soils

- Devotion soils, which have bedrock at a depth of 20 to 40 inches
- Fairview soils, which have subsoils that are redder than those of the Toast soils
- Nathalie soils, which have clayey subsoils that are thicker than those of the Toast soils
- Rhodhiss soils, which have less clay in the subsoil than the Toast soils

Taxonomic Classification

Fine, kaolinitic, mesic Typic Kanhapludults

Typical Pedon

Toast sandy loam, 15 to 25 percent slopes; 2,500 feet south on State Route 848 from its junction with State Route 682, on the east side of State Route 848, in mixed woodland; South Boston VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 42 minutes 32 seconds N. and long. 78 degrees 53 minutes 39 seconds W.

A—0 to 6 inches; yellowish brown (10YR 5/4) sandy loam; moderate fine granular structure; very friable, nonsticky, nonplastic; few fine and medium roots; slightly acid; clear smooth boundary.

E—6 to 12 inches; light yellowish brown (10YR 6/4) sandy loam; moderate fine granular structure; very friable, slightly sticky, nonplastic; many fine and medium roots; strongly acid; clear smooth boundary.

Bt—12 to 29 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; few prominent continuous clay films on all faces of peds; few fine mica flakes; very strongly acid; gradual wavy boundary.

BCt—29 to 38 inches; strong brown (7.5YR 5/8) sandy clay loam; weak fine subangular blocky structure; firm, slightly sticky, slightly plastic; very few faint continuous clay films on all faces of peds; common fine mica flakes; very strongly acid; gradual wavy boundary.

C—38 to 62 inches; brownish yellow (10YR 6/6) sandy loam; massive; friable, nonsticky, nonplastic; common medium and coarse mica flakes; strongly acid.

Range in Characteristics

Depth to top of argillic horizon: 1 to 15 inches
Depth to base of argillic horizon: 15 inches or more
Depth to bedrock: More than 60 inches
Rock fragments (content, size): 0 to 15 percent throughout the profile; mostly gravel
Mica flakes: 0 to 20 percent, by volume, in the A and E horizons and the upper part of the B horizon; 0 to 30 percent in the lower part of the B horizon and in the C horizon
Soil reaction: Extremely acid to strongly acid, except in limed areas; limed areas are typically moderately acid or slightly acid in the upper part
Other characteristics: Clayey part (more than 35 percent clay) of the argillic horizon extends to a depth of less than 30 inches and is less than 25 inches thick

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 8
Texture—sandy loam

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—coarse sandy loam, sandy loam, or loam

BE or BA horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—dominantly hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8; in some pedons, there is not a dominant color and hue of 5YR or 2.5YR is included; the redder hues make up less than 50 percent of the matrix
Texture—sandy clay loam, clay loam, sandy clay, or clay
Non-redoximorphic mottles (if they occur)—masses of saprolite in shades of shades of red, brown, or yellow

BC, BCt, or CB horizon:
Color—dominantly hue of 5YR to 10YR, value of 4 to 7, and chroma of 4 to 8; some pedons have hue of 2.5YR

Texture—loam, sandy clay loam, clay loam, or sandy clay
Non-redoximorphic mottles—in most pedons

C/B horizon (if it occurs):
Color—horizon has hue of 5YR to 10YR, value of 5 or 6, and chroma of 4 to 8, or it is multicolored in shades of red, brown, and yellow
Texture—sandy loam, coarse sandy loam, or sandy clay loam with clay seams in relict rock fractures

C horizon:
Color—multicolored in shades of red, brown, yellow, and gray
Texture—loamy sand, loamy coarse sand, sandy loam, coarse sandy loam, loam, or sandy clay loam saprolite

Toccoa Series

Physiographic province: Southern Piedmont, thermic
Landform: Flood plains
Parent material: Alluvium
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderately rapid
Slope: 0 to 3 percent

Associated Soils

- Chewacla soils, which are somewhat poorly drained
- Riverview soils, which have subsoils that are heavier textured than those of the Toccoa soils
- Wehadkee soils, which are poorly drained

Taxonomic Classification

Coarse-loamy, mixed, active, nonacid, thermic Typic Udifluvents

Typical Pedon

Toccoa fine sandy loam, 0 to 3 percent slopes, occasionally flooded; about 4.8 miles west of Bracy, 8,400 feet southwest of the intersection of State Route 615 and U.S. Highway 1, about 5,600 feet southwest of State Route 615, in a cultivated field; lat. 36 degrees 36 minutes 22.3 seconds N. and long. 78 degrees 14 minutes 34.3 seconds W.

Ap—0 to 12 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine and medium granular structure; very friable, nonsticky, nonplastic; many very fine and fine roots; many very fine irregular pores; few fine mica flakes; slightly acid; clear smooth boundary.
C1—12 to 41 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; few very fine and fine roots; many very fine and fine irregular pores; few fine mica flakes; moderately acid; clear smooth boundary.
C2—41 to 47 inches; dark yellowish brown (10YR 4/4) loam; single grain; very friable, slightly sticky, slightly plastic; few very fine roots; many very fine and fine irregular pores; few fine distinct strong brown (7.5YR 5/6) masses of oxidized iron and few fine distinct very pale brown (10YR 7/3) iron depletions; few fine mica flakes; moderately acid; clear wavy boundary.
C3—47 to 55 inches; dark yellowish brown (10YR 4/4) fine sandy loam; very friable, nonsticky, nonplastic; common very fine irregular pores; few fine distinct very pale

brown (10YR 7/3) iron depletions and few fine distinct strong brown (7.5YR 5/6) masses of oxidized iron; few fine mica flakes; moderately acid; clear wavy boundary.

C4—55 to 62 inches; dark yellowish brown (10YR 4/4) loam; very friable, slightly sticky, slightly plastic; few very fine irregular pores; few fine distinct very pale brown (10YR 7/3) iron depletions and few fine distinct yellowish brown (10YR 5/6) masses of oxidized iron; few fine mica flakes; moderately acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to seasonal high water table: More than 30 inches
Rock fragment content: 0 to 15 percent in the A horizon and 0 to 35 in the C horizon
Mica content: 0 to 20 percent throughout the profile
Soil reaction: Strongly acid to slightly acid

A or Ap horizon:
Color—hue of 5YR or 10YR, value of 3 to 5, and chroma of 2 to 6; where value is 3, the horizon is less than 6 inches thick
Texture—fine sandy loam

C horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture (fine-earth fraction)—loamy fine sand, loamy sand, sand, fine sandy loam, or sandy loam
Redoximorphic features—iron accumulations in shades of yellow or brown and iron depletions in shades of brown or gray may occur at a depth of 30 to 60 inches

Turbeville Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluve summits
Parent material: Old alluvium
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 2 to 8 percent

Associated Soils

- Dogue soils, which are moderately well drained
- Masada soils, which have a seasonal high water table

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kandiudults

Typical Pedon

Turbeville loam, 2 to 8 percent slopes; in Warren County, North Carolina; approximately 5.7 miles east of Bracey on State Route 903, about 2.5 miles south on 612, about 0.3 mile west at the intersection, approximately 200 feet west, in woodland; lat. 36 degrees 32 minutes 18 seconds N. and long. 78 degrees 2 minutes 41.66 seconds W.

A—0 to 8 inches; reddish brown (5YR 4/4) loam; moderate medium granular structure; very friable, slightly sticky, slightly plastic; many very fine, fine, and medium and few coarse roots; moderately acid; clear wavy boundary.

Bt1—8 to 25 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; many very fine, fine, and medium and few coarse roots; few distinct continuous clay films on all faces of peds; very strongly acid; gradual wavy boundary.
Bt2—25 to 40 inches; reddish brown (2.5YR 4/4) clay; moderate medium subangular blocky structure; firm, very sticky, moderately plastic; few very fine, fine, and medium roots; few distinct continuous clay films on all faces of peds; very strongly acid; gradual wavy boundary.
Bt3—40 to 60 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, very sticky, moderately plastic; few very fine, fine, and medium roots; few distinct continuous clay films on all faces of peds; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Surface rock fragments (content, size): 0 to 2 percent; mostly gravel and cobbles
Rock fragment content: 0 to 15 percent in the A and E horizons and 0 to 10 percent in the B horizon
Mica content: 0 to 20 percent throughout the profile
Soil reaction: Very strongly acid to moderately acid

Ap or A horizon:
Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 2 to 4
Texture—fine sandy loam or loam

E horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 5 to 7, and chroma of 4 to 8
Texture—fine sandy loam, sandy loam, or loam

Bt horizon:
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8; value of 3 occurs in some pedons
Texture—sandy clay loam, clay loam, sandy clay, or clay

BCt horizon (if it occurs):
Color—hue of 2.5YR to 5YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Virgilina Series

Physiographic province: Southern Piedmont, thermic
Landform: Interfluve summits
Parent material: Greenstone residuum
Drainage class: Somewhat poorly drained
Depth class: Moderately deep
Slowest permeability class: Very slow
Slope: 2 to 15 percent

Associated Soils

- Poindexter soils, which are well drained and have loamy subsoils

Taxonomic Classification

Fine, smectitic, mesic Aquertic Hapludalfs

Typical Pedon

Virgilina gravelly silt loam, 2 to 8 percent slopes; 1,500 feet south of State Route 794 from the junction with State Route 601, about 200 feet east off State Route 794, in a forested area; Omega VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 38 minutes 28 seconds N. and long. 78 degrees 45 minutes 37 seconds W.

A—0 to 3 inches; olive brown (2.5Y 4/3) gravelly silt loam; weak fine and medium granular structure; very friable, slightly sticky, nonplastic; many very fine and fine roots; 20 percent angular greenstone gravel; slightly acid; abrupt smooth boundary.

E—3 to 11 inches; light yellowish brown (2.5Y 6/4) gravelly silt loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; many very fine and fine roots; 20 percent angular greenstone gravel; slightly acid; abrupt smooth boundary.

Btss—11 to 28 inches; yellowish brown (10YR 5/6) clay; strong medium angular blocky structure; extremely firm, very sticky, very plastic; common fine roots; few very fine moderate-continuity tubular pores; few distinct continuous clay films on all faces of peds and few distinct patchy slickensides (pedogenic) on vertical faces of peds; common fine prominent irregular light brownish gray (10YR 6/2) iron depletions with diffuse boundaries; slightly acid; gradual wavy boundary.

Bt—28 to 32 inches; light olive brown (2.5Y 5/4) clay; strong fine and medium angular blocky structure; very firm, very sticky, very plastic; very few distinct continuous clay films on all faces of peds; common fine prominent irregular light brownish gray (10YR 6/2) iron depletions with diffuse boundaries; slightly acid; gradual wavy boundary.

R—32 to 42 inches; unweathered greenstone bedrock.

Range in Characteristics

Depth to hard bedrock: 20 to 40 inches
Depth to seasonal high water table: 12 to 18 inches
Rock fragment content: 15 to 25 percent in the A, E, BA, and BE horizons and 0 to 10 percent in the B and C horizons
Soil reaction: Very strongly acid to slightly acid

A horizon:
Color—hue of 10YR to 2.5Y, value of 4 to 6, and chroma of 2 to 6
Texture (fine-earth fraction)—silt loam or loam

Ap horizon (if it occurs):
Color—hue of 10YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture (fine-earth fraction)—silt loam or loam

E horizon:
Color—hue of 10YR to 2.5Y, value of 4 to 7, and chroma of 2 to 6
Texture (fine-earth fraction)—silt loam or loam

BA or BE horizon (if it occurs):
Color—hue of 10YR to 2.5Y, value of 5 to 7, and chroma of 2 to 6
Texture (fine-earth fraction)—silt loam, 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—clay, silty clay, or silty clay loam

BC horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 3 to 8
Texture—silty clay loam or clay loam

C horizon (if it occurs):
Color—multicolored
Texture—loam or silt loam saprolite

Wehadkee Series

Physiographic province: Southern Piedmont, thermic
Landform: Flood-plain treads
Parent material: Recent alluvium
Drainage class: Poorly drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 0 to 2 percent

Associated Soils

- Chewacla soils, which are somewhat poorly drained
- Riverview soils, which are well drained
- Toccoa soils, which are well drained

Taxonomic Classification

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; approximately 1.5 miles west of the Greensville County line on State Route 603, about 2,000 feet north of State Route 603; lat. 36 degrees 38 minutes 48 seconds N. and long. 77 degrees 43 minutes 51 seconds W.

A—0 to 4 inches; brown (10YR 4/3) silt loam; friable; many very fine, fine, and medium and few coarse roots; very strongly acid; clear smooth boundary.
Bg1—4 to 16 inches; gray (10YR 6/1) loam; friable; many very fine, fine, and medium and few coarse roots; strongly acid; clear wavy boundary.
Bg2—16 to 26 inches; gray (10YR 6/1) sandy clay loam; friable; moderately acid; gradual wavy boundary.
Bg3—26 to 48 inches; gray (10YR 6/1) clay loam; firm; moderately acid; gradual wavy boundary.
Bg4—48 to 62 inches; gray (10YR 6/1) clay loam; friable; strongly acid; gradual wavy boundary.
Cg—62 to 72 inches; gray (10YR 6/1) sandy clay loam; friable; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 0 to 12 inches
Rock fragment content: 0 to 5 percent in the A and B horizons and 0 to 20 percent in the C horizon
Mica flakes: 1 to more than 20 percent, by volume, throughout the solum
Soil reaction: Very strongly acid to neutral

Ap or A horizon:
Color—horizon has hue of 10YR or 2.5Y or is neutral in hue, has value of 3 to 6, and has chroma of 0 to 4
Texture—silt loam

Bg horizon:
Color—horizon has hue of 10YR to 5Y or is neutral in hue, has value of 4 to 6, and has chroma of 0 to 2
Texture—loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Cg horizon:
Color—horizon has hue of 10YR to 5Y or is neutral in hue, has value of 4 to 7, and has chroma of 0 to 2
Texture (fine-earth fraction)—loam, sandy loam, sandy clay loam, or silt loam

Wolftrap Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Residuum from Triassic sedimentary rock
Drainage class: Moderately well drained
Depth class: Very deep
Slowest permeability class: Very slow
Slope: 2 to 8 percent

Associated Soils

- Clover soils, which are well drained
- Easthamlet soils, which have bedrock at a depth of 20 to 40 inches
- Lackstown soils, which are moderately well drained
- Straightstone soils, which are well drained

Taxonomic Classification

Fine, mixed, active, mesic Oxyaquic Vertic Hapludalfs

Typical Pedon

Wolftrap fine sandy loam in an area of Wolftrap-Easthamlet complex, 2 to 8 percent slopes; 5,750 feet south of the junction of State Routes 613 and 344, about 50 feet south of State Route 613, about 1.1 miles southwest of Scottsburg, in pine woods; Scottsburg VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 45 minutes 2 seconds N. and long. 78 degrees 45 minutes 43 seconds W.

A—0 to 8 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; friable, slightly sticky, nonplastic; many fine and few medium and coarse roots; very strongly acid; abrupt smooth boundary.

Btss1—8 to 19 inches; 60 percent light olive brown (2.5Y 5/6) and 40 percent light yellowish brown (2.5Y 6/4) clay; weak coarse angular blocky structure; very firm, very sticky, very plastic; common fine and few medium roots; few very fine moderate-continuity tubular pores; few prominent continuous clay films on all faces of peds and few distinct patchy slickensides (pedogenic) on vertical faces of peds; very strongly acid; clear wavy boundary.

Btss2—19 to 31 inches; brown (7.5YR 4/3) clay; weak medium and coarse angular blocky structure; very firm, very sticky, very plastic; few fine and medium roots; few very fine moderate-continuity tubular pores; few prominent continuous clay films on all faces of peds and few distinct patchy slickensides (pedogenic) on vertical faces of peds; common medium prominent irregular light brownish gray (2.5Y 6/2) iron depletions with diffuse boundaries; very strongly acid; clear wavy boundary.

BC—31 to 38 inches; reddish brown (2.5YR 4/3) clay loam; weak medium and coarse angular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; few very fine moderate-continuity tubular pores; common medium prominent irregular grayish brown (10YR 5/2) iron depletions with diffuse boundaries; very strongly acid; clear wavy boundary.

C—38 to 65 inches; reddish brown (2.5YR 4/3) loam; massive; friable, slightly sticky, nonplastic; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to seasonal high water table: 18 to 30 inches
Rock fragment content: 0 to 15 percent throughout the profile
Mica flakes: 0 to 20 percent, by volume, in the lower part of the Bt horizon
Soil reaction: Extremely acid to strongly acid
Other characteristics: Linear extensibility percentage (LEP) of the Btss horizon is 6 to 9 (high shrink-swell potential); exchangeable aluminum ranges from 15 to 25 milliequivalents per 100 grams of soil

Ap horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 4
Texture—fine sandy loam or sandy loam

A horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 4
Texture—fine sandy loam

E horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture—fine sandy loam, sandy loam, or silt loam

Btss horizon:
Color—2.5YR to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—clay
Redoximorphic features—iron accumulations in shades of red, yellow, or brown and iron depletions in shades of gray or white; redoximorphic depletions occur below the upper 10 inches of the argillic horizon

BC horizon:
Color—hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 3 to 8
Texture—sandy clay loam, clay loam, or silty clay loam
Redoximorphic features—iron accumulations in shades of red, yellow, or brown and iron depletions in shades of gray or white

C horizon:
Color—hue of 2.5YR to 2.5Y, value of 3 to 6, and chroma of 3 to 8
Texture—fine sandy loam, loam, or silt loam saprolite
Redoximorphic features—iron accumulations in shades of red, yellow, or brown and iron depletions in shades of gray or white

Cg horizon (if it occurs):
Color—hue of 2.5YR to 2.5Y, value of 3 to 6, and chroma of 1 or 2
Texture—variable; loamy sand to clay saprolite
Redoximorphic features—iron accumulations in shades of red, yellow, or brown

Yadkin Series

Physiographic province: Southern Piedmont, mesic
Landform: Interfluve summits
Parent material: Old alluvium
Drainage class: Well drained
Depth class: Very deep
Slowest permeability class: Moderate
Slope: 2 to 15 percent

Associated Soils

- Appomattox soils, which have a perched seasonal water table
- Clifford soils, which are residual soils
- Minnieville soils, which are residual soils

Taxonomic Classification

Very fine, kaolinitic, mesic Rhodic Kandiudults

Typical Pedon

Yadkin fine sandy loam, 2 to 8 percent slopes; 3,200 feet northwest of the junction of State Routes 658 and 792, about 400 feet west off State Route 792, in a hayfield; Oak Level VA USGS 7.5-minute topographic quadrangle; lat. 36 degrees 38 minutes 22.9 seconds N. and long. 79 degrees 3 minutes 53.9 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable, soft, nonsticky, nonplastic; many very fine and fine roots; very strongly acid; clear smooth boundary.

Bt1—8 to 11 inches; red (10R 4/6) sandy clay loam; moderate fine and medium subangular blocky structure; firm, slightly hard, moderately sticky, moderately plastic; common very fine and fine roots; very few distinct continuous clay films on all faces of peds; strongly acid; abrupt smooth boundary.

Bt2—11 to 33 inches; red (10R 4/6) clay; moderate medium subangular blocky structure; firm, hard, very sticky, moderately plastic; few fine roots; few distinct continuous clay films on all faces of peds; strongly acid; gradual wavy boundary.

Bt3—33 to 48 inches; red (10R 4/6) clay loam; moderate medium subangular blocky structure; firm, hard, very sticky, moderately plastic; few fine roots; few distinct continuous clay films on all faces of peds; very strongly acid; gradual wavy boundary.

Bt4—48 to 58 inches; red (10R 4/6) sandy clay loam; moderate fine and medium subangular blocky structure; firm, slightly hard, very sticky, moderately plastic; few distinct continuous clay films on all faces of peds; very strongly acid; gradual wavy boundary.

BCt—58 to 80 inches; red (10R 4/6) loam; weak fine and medium subangular blocky structure; friable, soft, slightly sticky, slightly plastic; very few faint continuous clay films on all faces of peds; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Surface rock fragments (content, size): 0 to 2 percent; mostly gravel and cobbles
Rock fragment content: 0 to 15 percent in the A and E horizons and 0 to 10 percent in the B horizon
Mica content: 0 to 20 percent throughout the profile
Soil reaction: Very strongly acid to moderately acid

Ap or A horizon:
Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 2 to 4
Texture—dominantly fine sandy loam; clay loam in eroded areas

E horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 5 to 7, and chroma of 4 to 8
Texture—fine sandy loam, sandy loam, or loam

Bt horizon:
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8; value of 3 may occur in some pedons
Texture—sandy clay loam, clay loam, sandy clay, or clay

BCt horizon:

Color—hue of 2.5YR to 5YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

The Yadkin soils in Halifax County are considered a taxadjunct to the series because they do not have rhodic colors throughout the upper 30 inches of the kandic horizon. This difference, however, does not affect the use and management of the soils.

Formation of the Soils

This section describes the factors of soil formation as they relate to Halifax County, discusses the morphology of the soil, and explains the important processes in the development of soil horizons.

Factors of Soil Formation

Soils form through weathering and other processes that act on parent material. The characteristics of the soil at any given point depend on the interaction of parent material, climate, plants and animals, relief, and time *(7)*.

Climate along with plants and animals are the active forces of soil formation. They act on the parent material that has accumulated through the weathering of rocks and slowly change it into a soil. All five factors contribute to the formation of every soil. The relative influence of each factor generally varies from one area to another. In extreme cases one factor dominates soil formation and determines most of the soil properties. In general, however, the combined action of the five soil-forming factors determines the character of each soil.

Parent Material

Parent material is the unconsolidated mass in which a soil forms. It is largely responsible for the chemical and mineralogical composition of the soil and, to some extent, the rate at which the soil forms. In the Piedmont uplands of Halifax County, the soils formed primarily in residuum from gneiss, schist, sandstone, siltstone, mudstone, shale, and greenstone. On the flood plains and stream valleys, soils formed in recent alluvium.

The oldest parent material is in the west-central part of Halifax County on the summits and side slopes of the Piedmont Plateau. Soils in this area formed in the residuum of granite-gneiss, granite, and mixed metamorphic rock. They are generally strongly or very strongly acid and have a clayey subsoil that is yellowish brown to red. Nathalie, Clifford, and Halifax soils are examples.

A second source of parent material is alluvium. This material was deposited by streams and rivers. The two largest rivers in Halifax County are the Dan and Staunton Rivers. The source of the parent material is from the Piedmont uplands of Halifax County and surrounding counties. Soils in these areas are on nearly level or gently sloping terrain and occupy the lowest elevations in the county. Soil drainage varies from poorly drained to somewhat excessively drained. The somewhat poorly drained Codorus soils and the poorly drained Hatboro soils are the dominant flood-plain soils. Dan River soils are moderately well drained, and Comus soils are well drained. Both of these soils occur on flood plains. The moderately well drained Banister soils and the well drained Danripple soils occur on stream terraces, on the higher landforms above the flood plains.

Climate

Precipitation and temperature are the main climatic factors that influence soil formation. Water dissolves minerals, promotes biological activity, and transports mineral and organic residue through the soil. Temperature determines the types of physical, chemical, and biological activities that take place in the soil and the speed at which the activities occur.

Halifax County has a warm, continental climate. The average rainfall and air temperature are relatively high. Much of the soluble material that was originally in the soils or was released through weathering has been leached out by percolating water. Water also moves the small colloidal clay particles from the upper part of the soil into the subsoil. The soils in Halifax County are frozen for only a very short period each year and rarely freeze in wooded areas. Consequently, weathering and translocation of leachable material continues all year.

Plant and Animal Life

The presence or lack of vegetation influences the amount of organic matter in the soil, the color of the surface layer, and, to some extent, the content of plant nutrients. Earthworms and burrowing animals help to keep the soil open and porous. Microorganisms such as bacteria and fungi decompose plant material into organic residues and thus incorporate it into the soil. The organic residues are available as nutrients to be absorbed by plant roots.

The original native vegetation in Halifax County consisted mainly of hardwoods. After the hardwoods are harvested, many areas converted to pine trees, which reach saw timber size quicker. Human activities, including the clearing of forests, cultivation, the introduction of new plants, and the alteration of natural drainage patterns, have affected soil character. The most significant effects of these activities are evident in areas where the upper soil layers have been mixed and a compacted plow layer has formed, where cultivation has accelerated erosion on strongly sloping soils, and where applications of lime and fertilizer have changed the content of plant nutrients, especially in the upper soil layers.

Topography

Topography refers to the relief and land surface configuration of an area. Over eons of time, the effects of rainfall and subsequent surface runoff change the topography and landscapes evolve. Land that was once flat is dissected and carved by natural erosion to form drainage basins or watersheds that are separated by drainage divides. Intermittent streams form where surface runoff from the higher landscape positions concentrates. The intermittent streams flow into and supply perennial streams and rivers. They act as transport mechanisms carrying soil that has eroded during rain events.

The relief or differences in elevation and landscape position affect water infiltration, the rate of surface water runoff, soil drainage, soil temperature, and kind of vegetation present. Soil drainage is commonly related to landscape position. Soils on slightly concave, nearly level or flat slopes are typically not as well drained as those in convex sloping areas. Low areas of the landscape receive surface runoff from higher surrounding slopes. Soils with poor drainage commonly occur in these areas. Drainage may narrow the variety of vegetation species adapted to grow at a specific site.

Nearly level soils are common on stream terraces. These soils may be wet because of frequent flooding or a seasonal high water table, and the rate of surface water runoff is typically slow. The wetter soils typically have a subsoil or substratum that is gray or mottled gray and are moderately well drained or poorly drained. Banister soils are an example of soils which have a high water table and the associated gray colors.

Time

The degree of horizon development within a soil is related to the amount of time that the soil has been subject to the other soil-forming factors. A soil that is characterized by little or no horizon development is considered young, and one that has developed diagnostic horizons is considered relatively older.

The oldest soils in the survey area are those that formed on well drained uplands at the higher elevations. These older soils, such as Clifford and Nathalie, have a strong degree of horizon differentiation or development. Soils that formed in recent alluvium, such as Codorus and Dan River, have been in place only a relatively short period of time and show very weak profile development (except for an accumulation of organic matter in the surface horizon and a slight change in subsoil color). Their textures are commonly stratified, and they have an irregular distribution of organic matter in the profile. Soils that formed on stream terraces, such as Banister and Danripple, are intermediate in degree of horizon development between the very old residual Clifford soils and the young alluvial Dan River soils.

Morphology of the Soils

The results of the soil-forming factors can be distinguished by the different layers, or soil horizons, in a soil profile. The soil profile extends from the surface down to materials that have been altered very little by the soil-forming processes.

Soils of the Piedmont uplands, such as Clifford soils, may have as many as four master horizons, including the A, E, B, and C horizons. These horizons may be further subdivided by the use of letters and numbers to indicate changes within one type of horizon. For example, a Bt horizon may consist of a Bt1 horizon, which has a clay texture, and a Bt2 horizon, which has a clay loam texture.

The A horizon is the surface layer and has the largest accumulation of organic matter. The E horizon is below the surface layer and is the layer of maximum leaching, or eluviation, of clay and iron. It also has much less organic matter than the A horizon.

The B horizon underlies the A or E horizon and is commonly called the subsoil. It is the horizon of maximum accumulation, or illuviation, of clay, iron, aluminum, or other compounds leached from the surface layer. In some soils the B horizon formed by alteration in place rather than by illuviation. The alteration can be caused by the oxidation and reduction of iron or by the weathering of clay minerals. The B horizon commonly has blocky structure, and it generally is firmer and brighter in color than the A horizon but darker in color than the C horizon.

The C horizon is typically below the B horizon. In some cases, it is below the A horizon, such as in the young Toccoa soils that occur on flood plains. The C horizon consists of materials that are little altered by the soil-forming processes, but it can be modified by weathering when enough time is provided.

Processes of Soil Horizon Differentiation

In this survey area several processes are involved in the formation of soil horizons. Among these are the accumulation of organic matter, the leaching of soluble salts, the reduction and transfer of iron, the formation of soil structure, and the formation and translocation of clay minerals. These processes are continually taking place and generally at the same time throughout the profile. Such processes have been going on for thousands of years.

The accumulation and incorporation of organic matter takes place with the decomposition of plant residue. These additions darken the surface layer and help to form the A horizon. Most of the soils in Halifax County soils formed under forest vegetation. Forest vegetation has fewer and coarser roots as compared to grassland vegetation and thus contributes little organic residue from root decomposition. Some organic matter is added through leaf litter decomposition, especially in areas of wet soils where anaerobic conditions exist most of the time and organic matter accumulates.

For soils to have distinct subsoil horizons, some of the lime and soluble salts must be leached before the translocation of clay minerals can occur. Among the factors that affect this leaching are the kinds of salts originally present, the depth to which the soil solution percolates, and the texture of the soil profile.

Well drained and moderately well drained soils in the survey area have a yellowish brown to yellowish red subsoil. These colors are caused mainly by thin coatings of iron oxides on sand and silt grains. In some soils the colors are inherited from the materials in which they formed. The structure is weak to moderate subangular blocky, and the subsoil contains more clay than the overlying surface horizons.

The reduction and transfer of iron is associated mainly with the wetter, more poorly drained soils. This process is called gleying or gleization. Moderately well drained or somewhat poorly drained soils, such as Halifax and Codorus, have yellowish brown and strong brown mottles, which indicate the reduction, segregation, and reoxidation of iron. In poorly drained soils, such as Hatboro, the subsoil and underlying material are grayish, which indicates reduction and transfer of iron by removal in solution.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

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

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

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

Bottom land. An informal term loosely applied to various portions of a flood plain.

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

Breaks. A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.
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.
Cement rock. Shaly limestone used in the manufacture of cement.
Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.
Chemical treatment. Control of unwanted vegetation through the use of chemicals.
Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
Clay depletions. See Redoximorphic features.
Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
Claypan. A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.
Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
Concretions. See Redoximorphic features.
Coarse textured soil. Sand or loamy sand.
Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.
Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
COLE (coefficient of linear extensibility). See Linear extensibility.
Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.
Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.
Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.
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.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Crusts, soil. Relatively thin, somewhat continuous layers of the soil surface that often restrict water movement, air entry, and seedling emergence from the soil. They generally are less than 2 inches thick and are massive.

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.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

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

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.

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 soils, 20 to 40 inches; shallow soils, 10 to 20 inches; and very shallow soils, less than 10 inches.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

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.

Draw. A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

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.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.
Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.
Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

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.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan (alluvial). A generic term for constructional landforms that are built of stratified alluvium with or without debris-flow deposits and that occur on the pediment slope, downslope from their source of alluvium.

Fan remnant. A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

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

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

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

Flooding frequency class. Flooding frequency class is the number of times flooding occurs over a period of time and expressed as a class. The classes of flooding are defined as follows:

None.—There is no reasonable possibility of flooding; the chance of flooding is near 0 percent in any year or less than 1 time in 500 years.

Very rare.—Flooding is very unlikely but possible under extremely unusual weather conditions; the chance of flooding is less than 1 percent in any year or less than 1 time in 100 years but is at least 1 time in 500 years.

Rare.—Flooding is unlikely but possible under unusual weather conditions; the chance of flooding is 1 to 5 percent in any year or nearly 1 to 5 times in 100 years.

Occasional.—Flooding is expected infrequently under usual weather conditions; the chance of flooding is 5 to 50 percent in any year or more than 5 to 50 times in 100 years.

Frequent.—Flooding is likely to occur often under usual weather conditions; the chance of flooding is more than a 50 percent in any year or more than 50 times in 100 years but is less than 50 percent in all months in any year.

Very frequent.—Flooding is likely to occur very often under usual weather conditions; the chance of flooding is more than 50 percent in all months of any year.

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

Low level flood plain.—A flood plain that is susceptible to frequent flooding.

Low to intermediate level flood plain.—A flood plain that is susceptible to occasional flooding.

High level flood plain.—A flood plain that is susceptible to rare flooding.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.
A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.
E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.
B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.
C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.
Cr horizon.—Soft, consolidated bedrock beneath the soil.
R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

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.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^{1}/_{3}$- or $^{1}/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

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.

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.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

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).

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

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon. The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

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.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse-grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

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. The redoximorphic features are defined as follows:

1. *Redoximorphic concentrations.*—These are zones of apparent accumulation of iron-manganese oxides and include nodules and concretions, masses, and pore linings. *Nodules and concretions* 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. *Masses* are noncemented concentrations of substances within the soil matrix. *Pore linings* are 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. They include iron depletions and clay depletions. *Iron depletions* are zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix. *Clay depletions* are zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. *Reduced matrix.*—This is a soil matrix that has low chroma in situ but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments ranging from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk denisty, and the lowest water content at saturation of all organic soil material.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Saturated hydraulic conductivity (K_{sat}). The amount of water that would move vertically through a unit area of saturated soil in unit time under unit hydraulic gradient. Terms describing saturated hydraulic conductivity, measured in inches per hour (micrometers per second), are as follows:

Very low	0.0 to 0.001417 (0.0 to 0.01)
Low	0.001417 to 0.01417 (0.01 to 0.1)
Moderately low	0.01417 to 0.1417 (0.1 to 1.0)
Moderately high	0.1417 to 1.417 (1.0 to 10)
High	1.417 to 14.7 (10 to 100)
Very high	more than 14.7 (more than 100)

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 6 percent
Strongly sloping	6 to 12 percent
Moderately steep	12 to 20 percent or more

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

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. A terrace susceptible to flooding is subdivided as follows:

Low stream terrace.—A terrace that is susceptible to flooding.

High stream terrace.—A terrace that is not susceptible to flooding.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse-grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1971-2000 at Chase City, Virginia)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temp. higher than--	2 years in 10 will have-- Minimum temp. 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 snow-fall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January--	48.6	25.8	37.2	73	3	74	3.51	1.64	5.41	6	3.1
February-	53.2	28.0	40.6	77	8	116	3.18	1.42	4.93	6	1.7
March----	60.8	35.0	47.9	84	15	265	4.20	2.20	5.83	7	0.9
April----	71.1	43.0	57.0	91	23	492	3.76	1.80	5.52	6	0.0
May------	77.9	52.6	65.2	93	34	765	4.10	2.28	5.55	7	0.0
June-----	85.6	61.7	73.7	98	44	969	14.37	1.80	6.12	5	0.0
July-----	89.8	66.3	78.1	100	53	1,147	4.00	2.30	5.61	7	0.0
August---	88.3	64.6	76.5	100	43	1,109	3.71	1.68	5.64	5	0.0
September	82.0	57.9	69.9	96	41	890	4.23	1.43	6.73	5	0.0
October--	71.4	44.7	58.1	88	27	547	3.95	1.85	5.88	5	0.0
November-	61.7	36.8	49.2	82	18	285	3.63	1.99	5.11	6	0.1
December-	52.3	29.0	40.6	75	8	122	3.07	1.20	4.97	5	0.7
Yearly:											
Average	70.2	45.4	57.8	---	---	---	---	---	---	---	---
Extreme	105	-12	---	101	1	---	---	---	---	---	---
Total--	---	---	---	---	---	6,781	55.71	32.98	53.61	70	6.6

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Chase City, Virginia)

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. 6	Apr. 14	May 1
2 years in 10 later than--	Mar. 31	Apr. 9	Apr. 25
5 years in 10 later than--	Mar. 19	Mar. 31	Apr. 14
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 4	Oct. 16	Oct. 8
2 years in 10 earlier than--	Nov. 11	Oct. 22	Oct. 14
5 years in 10 earlier than-	Nov. 22	Nov. 2	Oct. 24

Table 3.—Growing Season

(Recorded in the period 1971-2000 at Chase City, Virginia)

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	216	195	169
8 years in 10	227	203	177
5 years in 10	247	217	192
2 years in 10	267	231	207
1 year in 10	277	238	215

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1B3	Appomattox clay loam, 2 to 8 percent slopes, severely eroded	2,803	0.5
1C3	Appomattox clay loam, 8 to 15 percent slopes, severely eroded	776	0.1
2B	Banister-Kinkora complex, 0 to 4 percent slopes, rarely flooded	3,592	0.7
3B	Bentley loamy sand, 2 to 8 percent slopes	2,551	0.5
3C	Bentley loamy sand, 8 to 15 percent slopes	726	0.1
4A	Chewacla silt loam, 0 to 2 percent slopes, occasionally flooded	1,432	0.3
5A	Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded	4,675	0.9
6C	Cid silt loam, 8 to 15 percent slopes	6,350	1.2
7B	Cid-Lignum complex, 2 to 8 percent slopes	7,822	1.5
8B	Clifford sandy loam, 2 to 8 percent slopes	44,186	8.3
8C	Clifford sandy loam, 8 to 15 percent slopes	37,993	7.2
9B3	Clifford clay loam, 2 to 8 percent slopes, severely eroded	31,798	6.0
9C3	Clifford clay loam, 8 to 15 percent slopes, severely eroded	23,314	4.4
10B	Clifford-Urban land complex, 2 to 8 percent slopes	1,117	0.2
10D	Clifford-Urban land complex, 8 to 20 percent slopes	350	*
11C	Clover fine sandy loam, 8 to 15 percent slopes	1,175	0.2
11D	Clover fine sandy loam, 15 to 25 percent slopes	352	*
12B	Clover-Bentley complex, 2 to 8 percent slopes	1,045	0.2
13A	Codorus loam, 0 to 2 percent slopes, occasionally flooded	4,637	0.9
14A	Codorus and Hatboro soils, 0 to 2 percent slopes, frequently flooded	22,831	4.3
15A	Comus fine sandy loam, 0 to 2 percent slopes, occasionally flooded	2,884	0.5
16A	Dan River loam, 0 to 2 percent slopes, occasionally flooded	3,584	0.7
17B	Danripple sandy loam, 2 to 8 percent slopes, very rarely flooded	1,684	0.3
18B	Delila sandy loam, 0 to 4 percent	124	*
19C	Devotion-Rhodhiss complex, 4 to 15 percent slopes	1,450	0.3
19D	Devotion-Rhodhiss complex, 15 to 25 percent slopes	4,134	0.8
20B	Dogue silt loam, 2 to 8 percent slopes, rarely flooded	542	0.1
21D	Fairview sandy loam, 15 to 25 percent slopes	36,450	6.9
21E	Fairview sandy loam, 25 to 45 percent slopes	2,664	0.5
22B	Georgeville silt loam, 2 to 8 percent slopes	3,702	0.7
22C	Georgeville silt loam, 8 to 15 percent slopes	964	0.2
23D	Goldston-Montonia complex, 15 to 25 percent slopes	6,463	1.2
23E	Goldston-Montonia complex, 25 to 45 percent slopes	2,179	0.4
24B	Halifax sandy loam, 2 to 8 percent slopes	12,109	2.3
24C	Halifax sandy loam, 8 to 15 percent slopes	8,260	1.6
25B	Herndon silt loam, 2 to 8 percent slopes	726	0.1
25C	Herndon silt loam, 8 to 15 percent slopes	604	0.1
26B	Jackland-Orange complex, 2 to 8 percent slopes	3,134	0.6
27B	Lackstown fine sandy loam, 2 to 8 percent slopes	2,993	0.6
27C	Lackstown fine sandy loam, 8 to 15 percent slopes	1,949	0.4
28B	Masada sandy loam, 2 to 8 percent slopes, rarely flooded	190	*
29B	Mattaponi sandy loam, 2 to 8 percent slopes	57	*
30B	Meadows gravelly loam, 2 to 8 percent slopes	80	*
31B	Minnieville loam, 2 to 8 percent slopes	3,051	0.6
32B3	Minnieville clay loam, 2 to 8 percent slopes, severely eroded	5,004	0.9
32C3	Minnieville clay loam, 8 to 15 percent slopes, severely eroded	5,326	1.0
33C	Montonia-Goldston complex, 8 to 15 percent slopes	7,748	1.5
34B	Montonia-Nanford complex, 2 to 8 percent slopes	2,556	0.5
35B	Nanford-Badin complex, 2 to 8 percent slopes	2,763	0.5
35C	Nanford-Badin complex, 8 to 15 percent slopes	4,099	0.8
35D	Nanford-Badin complex, 15 to 25 percent slopes	2,406	0.5
36B	Nathalie sandy loam, 2 to 8 percent slopes	28,105	5.3
36C	Nathalie sandy loam, 8 to 15 percent slopes	42,563	8.0
37B	Oak Level loam, 2 to 8 percent slopes	1,969	0.4
37C	Oak Level loam, 8 to 15 percent slopes	1,555	0.3
38C	Pinkston fine sandy loam, 8 to 15 percent slopes	91	*
38D	Pinkston fine sandy loam, 15 to 25 percent slopes	221	*
39D	Poindexter gravelly silt loam, 15 to 25 percent slopes, very stony	702	0.1
40B	Rasalo-Orange complex, 2 to 8 percent slopes	12,055	2.3
41A	Riverview loam, 0 to 2 percent slopes, occasionally flooded	1,190	0.2

See footnote at end of table.

Table 4.—Acreage and Proportionate Extent of the Soils—Continued

Map symbol	Soil name	Acres	Percent
42C	Spriggs sandy loam, 8 to 15 percent slopes	1,611	0.3
42D	Spriggs sandy loam, 15 to 25 percent slopes	3,631	0.7
42E	Spriggs sandy loam, 25 to 45 percent slopes	812	0.2
43B	Spriggs-Rasalo complex, 2 to 8 percent slopes	2,526	0.5
43C	Spriggs-Rasalo complex, 8 to 15 percent slopes	26,631	5.0
43D	Spriggs-Rasalo complex, 15 to 25 percent slopes	9,320	1.8
44B	Spriggs-Urban land complex, 2 to 8 percent slopes	154	*
44D	Spriggs-Urban land complex, 8 to 20 percent slopes	152	*
45C	Stoneville loam, 8 to 15 percent slopes	457	*
46B	Straightstone loam, 2 to 8 percent slopes	380	*
47B	Tarrus-Badin complex, 2 to 8 percent slopes	7,493	1.4
47C	Tarrus-Badin complex, 8 to 15 percent slopes	6,114	1.2
47D	Tarrus-Badin complex, 15 to 25 percent slopes	2,610	0.5
48D	Toast sandy loam, 15 to 25 percent slopes	19,617	3.7
49A	Toccoa fine sandy loam, 0 to 3 percent slopes, occasionally flooded	278	*
50B	Turbeville fine sandy loam, 2 to 8 percent slopes	308	*
50C	Turbeville fine sandy loam, 8 to 15 percent slopes	25	*
51B	Udorthents loamy, 2 to 8 percent slopes	1,470	0.3
52B	Urban land	375	*
53B	Virgilina gravelly silt loam, 2 to 8 percent slopes	6,845	1.3
54B	Virgilina gravelly silt loam, 2 to 8 percent slopes, very stony	1,515	0.3
55C	Virgilina-Poindexter complex, 8 to 15 percent slopes, very stony	6,756	1.3
56B	Wolftrap-Easthamlet complex, 2 to 8 percent slopes	1,828	0.3
57B	Yadkin fine sandy loam, 2 to 8 percent slopes	2,227	0.4
57C	Yadkin fine sandy loam, 8 to 15 percent slopes	731	0.1
58B3	Yadkin clay loam, 2 to 8 percent slopes, severely eroded	598	0.1
58C3	Yadkin clay loam, 8 to 15 percent slopes, severely eroded	106	*
W	Water	8,375	1.6
	Total	530,800	100.0

* Less than 0.1 percent.

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Pasture	Soybeans	Tobacco
			Bu	Tons	AUM	Bu	Lbs
1B3:							
Appomattox--------	3e	O	91	2.8	5.5	25	2000
1C3:							
Appomattox--------	4e	O	80	2.5	5.5	23	1800
2B:							
Banister----------	2e	K	130	5.0	9.5	40	2300
Kinkora-----------	4w	NN	65	2.0	4.0	20	---
3B:							
Bentley-----------	2e	R	120	3.5	6.0	40	2500
3C:							
Bentley-----------	3e	R	106	3.0	5.0	26	2000
4A:							
Chewacla----------	4w	I	140	4.0	8.1	34	---
5A:							
Chewacla----------	6w	I	---	---	8.1	---	---
Wehadkee----------	6w	MM	---	---	5.0	---	---
6C:							
Cid---------------	3e	KK	57	3.0	5.0	18	1400
7B:							
Cid---------------	2e	KK	65	3.2	5.5	20	1500
Lignum------------	4w	KK	65	2.5	5.5	20	---
8B:							
Clifford----------	2e	X	100	3.4	8.0	35	2500
8C:							
Clifford----------	3e	X	88	3.0	7.5	31	2000
9B3:							
Clifford----------	3e	X	70	2.4	5.5	25	1800
9C3:							
Clifford----------	4e	X	62	2.1	5.0	22	1700
10B:							
Clifford----------	2e	X	100	3.4	8.0	35	2500
Urban land--------	8s	---	---	---	---	---	---
10D:							
Clifford----------	3e	X	80	3.1	7.5	28	1600
Urban land--------	8s	---	---	---	---	---	---

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Pasture	Soybeans	Tobacco
			Bu	Tons	AUM	Bu	Lbs
11C:							
Clover------------	3e	V	88	3.4	5.8	31	1850
11D:							
Clover------------	4e	V	80	2.8	5.0	28	---
12B:							
Clover------------	2e	V	100	3.4	5.8	35	2000
Bentley-----------	2e	R	120	3.5	6.0	40	2500
13A:							
Codorus-----------	4w	I	140	5.0	8.1	40	---
14A:							
Codorus-----------	6w	I	---	---	8.1	---	---
Hatboro-----------	6w	MM	---	---	3.5	---	---
15A:							
Comus-------------	1	A	160	4.0	7.0	50	---
16A:							
Dan River---------	2w	G	140	5.0	8.0	40	---
17B:							
Danripple---------	2e	L	130	4.0	10.6	40	2300
18B:							
Delila------------	4w	HH	85	2.0	5.3	25	---
19C:							
Devotion----------	3e	FF	75	2.0	5.0	22	---
Rhodhiss----------	3e	X	88	2.0	6.5	31	---
19D:							
Devotion----------	4e	FF	68	1.8	4.0	20	---
Rhodhiss----------	4e	X	80	2.0	4.0	28	---
20B:							
Dogue-------------	2e	K	130	4.5	9.5	40	2300
21D:							
Fairview----------	4e	X	80	2.8	3.8	28	---
21E:							
Fairview----------	7e	X	---	---	---	---	---
22B:							
Georgeville-------	2e	V	100	3.0	9.0	35	2200
22C:							
Georgeville-------	3e	V	88	2.8	8.5	31	1900
23D:							
Goldston----------	7s	JJ	---	---	---	---	---
Montonia----------	4e	FF	68	3.5	3.5	20	---

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Pasture	Soybeans	Tobacco
			Bu	Tons	AUM	Bu	Lbs
23E:							
Goldston----------	7s	JJ	---	---	---	---	---
Montonia----------	7e	FF	---	---	---	---	---
24B:							
Halifax-----------	2e	KK	65	3.0	5.8	20	2000
24C:							
Halifax-----------	3e	KK	57	2.6	5.0	18	1800
25B:							
Herndon-----------	2e	V	100	3.4	8.0	35	2200
25C:							
Herndon-----------	3e	V	88	3.1	7.5	31	2000
26B:							
Jackland----------	4w	KK	65	2.8	5.0	20	1500
Orange------------	4w	KK	65	2.7	4.7	20	1500
27B:							
Lackstown---------	2e	KK	65	3.0	5.0	20	2000
27C:							
Lackstown---------	3e	KK	57	2.5	4.5	18	1800
28B:							
Masada------------	2e	L	130	4.0	8.0	40	2300
29B:							
Mattaponi---------	2e	R	120	3.5	6.0	40	2500
30B:							
Meadows-----------	3s	JJ	65	2.5	5.0	20	---
31B:							
Minnieville-------	2e	N	130	4.7	9.0	40	2500
32B3:							
Minnieville-------	3e	N	91	2.8	6.5	28	2000
32C3:							
Minnieville-------	4e	N	80	2.5	5.5	20	1800
33C:							
Montonia----------	3e	FF	75	3.2	5.0	22	1700
Goldston----------	4s	JJ	57	3.7	3.0	18	1500
34B:							
Montonia----------	2e	FF	85	3.4	5.5	25	1900
Nanford-----------	2e	V	100	3.0	8.0	35	2200
35B:							
Nanford-----------	2e	V	100	3.0	8.0	35	2200
Badin-------------	2e	X	100	3.0	8.0	35	2200

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Pasture	Soybeans	Tobacco
			Bu	Tons	AUM	Bu	Lbs
35C:							
Nanford	3e	V	88	2.8	7.0	31	2000
Badin	3e	X	88	3.0	8.0	31	2200
35D:							
Nanford	4e	V	80	2.4	5.5	28	---
Badin	4e	X	80	2.5	5.5	28	---
36B:							
Nathalie	2e	V	100	4.2	8.0	35	2500
36C:							
Nathalie	3e	V	88	4.0	7.5	31	2200
37B:							
Oak Level	2e	V	100	3.4	5.5	35	2100
37C:							
Oak Level	3e	V	88	3.0	5.0	31	1800
38C:							
Pinkston	4s	JJ	57	2.0	3.5	18	---
38D:							
Pinkston	4e	JJ	52	1.8	3.0	16	---
39D:							
Poindexter	7s	FF	---	---	---	---	---
40B:							
Rasalo	2e	Y	100	3.4	6.0	35	1900
Orange	4w	KK	65	2.0	4.7	20	2300
41A:							
Riverview	2w	A	160	9.0	10.0	50	---
42C:							
Spriggs	3e	FF	75	3.1	6.5	22	---
42D:							
Spriggs	4e	FF	68	2.8	6.0	20	---
42E:							
Spriggs	7e	FF	---	---	---	---	---
43B:							
Spriggs	2e	FF	86	3.4	6.0	25	---
Rasalo	2e	Y	100	3.5	8.5	35	1900
43C:							
Spriggs	3e	FF	75	3.2	5.5	22	---
Rasalo	3e	Y	88	3.1	8.5	31	1900

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Pasture	Soybeans	Tobacco
			Bu	Tons	AUM	Bu	Lbs
43D:							
Spriggs-----------	4e	FF	68	2.8	5.0	20	---
Rasalo------------	4e	Y	80	2.8	5.5	28	---
44B:							
Spriggs-----------	2e	FF	85	3.4	6.0	25	---
Urban land--------	8s	---	---	---	---	---	---
44D:							
Spriggs-----------	3e	FF	68	2.8	5.5	20	---
Urban land--------	8s	---	---	---	---	---	---
45C:							
Stoneville--------	3e	X	88	3.1	6.0	31	1300
46B:							
Straightstone-----	2e	V	100	3.5	6.0	35	1600
47B:							
Tarrus------------	2e	X	100	3.3	6.0	35	2400
Badin-------------	2e	X	100	3.0	7.0	35	2100
47C:							
Tarrus------------	3e	X	88	2.8	5.5	31	1800
Badin-------------	3e	X	88	2.7	7.0	31	2100
47D:							
Tarrus------------	4e	X	80	2.5	5.0	28	---
Badin-------------	4e	X	80	2.5	5.0	28	---
48D:							
Toast-------------	4e	V	80	2.8	4.5	28	---
49A:							
Toccoa------------	2s	II	65	2.0	3.4	20	---
50B:							
Turbeville--------	2e	O	130	4.0	8.5	40	2400
50C:							
Turbeville--------	3e	O	115	3.5	7.5	35	2100
51B.							
Udorthents							
52B:							
Urban land--------	8s	---	---	---	---	---	---
53B:							
Virgilina---------	4w	KK	65	2.5	4.0	20	1500
54B:							
Virgilina---------	6s	KK	---	---	3.0	---	---

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Pasture	Soybeans	Tobacco
			Bu	Tons	AUM	Bu	Lbs
55C:							
Virgilina----------	6s	KK	---	---	3.0	---	---
Poindexter---------	6s	FF	---	---	3.0	---	---
56B:							
Wolftrap-----------	2e	KK	65	3.0	5.5	20	1500
Easthamlet---------	4w	KK	65	3.0	5.0	20	1700
57B:							
Yadkin-------------	2e	O	130	4.0	8.5	40	2400
57C:							
Yadkin-------------	3e	O	115	3.5	7.5	35	2100
58B3:							
Yadkin-------------	3e	O	91	3.3	6.5	28	2100
58C3:							
Yadkin-------------	4e	O	80	3.1	5.5	25	2000
W.							
Water							

Table 6.—Prime Farmland

(Only the soils considered prime are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Map unit name
2B	Banister-Kinkora complex, 0 to 4 percent slopes, rarely flooded (if drained)
3B	Bentley loamy sand, 2 to 8 percent slopes
4A	Chewacla silt loam, 0 to 2 percent slopes, occasionally flooded (if drained)
8B	Clifford sandy loam, 2 to 8 percent slopes
12B	Clover-Bentley complex, 2 to 8 percent slopes
13A	Codorus loam, 0 to 2 percent slopes, occasionally flooded (if drained)
15A	Comus fine sandy loam, 0 to 2 percent slopes, occasionally flooded
16A	Dan River loam, 0 to 2 percent slopes, occasionally flooded
17B	Danripple fine sandy loam, 2 to 8 percent slopes, very rarely flooded
20B	Dogue silt loam, 2 to 8 percent slopes, rarely flooded
22B	Georgeville silt loam, 2 to 8 percent slopes
24B	Halifax sandy loam, 2 to 8 percent slopes
25B	Herndon silt loam, 2 to 8 percent slopes
28B	Masada sandy loam, 2 to 8 percent slopes, rarely flooded
29B	Mattaponi sandy loam, 2 to 8 percent slopes
31B	Minnieville loam, 2 to 8 percent slopes
34B	Montonia-Nanford complex, 2 to 8 percent slopes
35B	Nanford-Badin complex, 2 to 8 percent slopes
36B	Nathalie sandy loam, 2 to 8 percent slopes
37B	Oak Level loam, 2 to 8 percent slopes
41A	Riverview loam, 0 to 2 percent slopes, occasionally flooded
43B	Spriggs-Rasalo complex, 2 to 8 percent slopes
46B	Straightstone loam, 2 to 8 percent slopes
47B	Tarrus-Badin complex, 2 to 8 percent slopes
49A	Toccoa fine sandy loam, 0 to 3 percent slopes, occasionally flooded
50B	Turbeville fine sandy loam, 2 to 8 percent slopes
57B	Yadkin fine sandy loam, 2 to 8 percent slopes

Table 7.—Agricultural Waste Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
1B3:					
Appomattox----------	85	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.46	Too acid	0.77
		Too acid	0.22	Depth to saturated zone	0.46
		Slow water movement	0.07	Slow water movement	0.05
1C3:					
Appomattox----------	85	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.46	Too acid	0.77
		Too acid	0.22	Depth to saturated zone	0.46
		Slope	0.16	Slope	0.16
2B:					
Banister------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.32	Too acid	0.91
		Slow water movement	0.30	Flooding	0.40
Kinkora-------------	10	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	0.68	Too acid	1.00
3B:					
Bentley-------------	90	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.46	Depth to saturated zone	0.46
		Slow water movement	0.30	Slow water movement	0.22
		Too acid	0.03	Too acid	0.14
3C:					
Bentley-------------	90	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.46	Depth to saturated zone	0.46
		Slow water movement	0.30	Slow water movement	0.22
		Slope	0.16	Slope	0.16
4A:					
Chewacla------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Flooding	1.00
		Too acid	0.11	Too acid	0.42

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
5A:					
Chewacla	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.11	Too acid	0.42
Wehadkee	20	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
6C:					
Cid	85	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
		Depth to bedrock	0.35	Slow water movement	1.00
7B:					
Cid	70	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
		Depth to bedrock	0.35	Slow water movement	1.00
Lignum	25	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
8B:					
Clifford	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.24	Too acid	0.42
		Too acid	0.11	Low adsorption	0.01
8C:					
Clifford	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.24	Too acid	0.42
		Slope	0.16	Slope	0.16
		Too acid	0.11	Low adsorption	0.01
9B3:					
Clifford	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.62	Too acid	0.67
		Too acid	0.18	Low adsorption	0.58
9C3:					
Clifford	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.62	Too acid	0.67
		Too acid	0.18	Low adsorption	0.58
		Slope	0.16	Slope	0.16

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
10B:					
Clifford	75	Somewhat limited		Somewhat limited	
		Low adsorption	0.24	Too acid	0.42
		Too acid	0.11	Low adsorption	0.01
Urban land	20	Not rated		Not rated	
10D:					
Clifford	75	Somewhat limited		Somewhat limited	
		Low adsorption	0.24	Too acid	0.42
		Slope	0.16	Slope	0.16
		Too acid	0.11	Low adsorption	0.01
Urban land	20	Not rated		Not rated	
11C:					
Clover	85	Somewhat limited		Somewhat limited	
		Slope	0.63	Too acid	0.91
		Too acid	0.32	Slope	0.63
11D:					
Clover	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
12B:					
Clover	80	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
Bentley	15	Somewhat limited		Very limited	
		Too acid	0.50	Too acid	0.99
		Depth to saturated zone	0.46	Depth to saturated zone	0.46
		Slow water movement	0.30	Slow water movement	0.22
13A:					
Codorus	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Flooding	1.00
		Too acid	0.11	Too acid	0.42
14A:					
Codorus	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.11	Too acid	0.42
Hatboro	15	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
15A:					
Comus	85	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
		Too acid	0.11	Too acid	0.42

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
16A:					
Dan River-----------	85	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
		Depth to saturated zone	0.46	Depth to saturated zone	0.46
		Too acid	0.01	Too acid	0.03
17B:					
Danripple-----------	85	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
		Slow water movement	0.30	Depth to saturated zone	0.22
		Depth to saturated zone	0.22	Slow water movement	0.22
18B:					
Delila--------------	90	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
		Runoff	0.40	Too acid	0.91
19C:					
Devotion------------	60	Somewhat limited		Very limited	
		Droughty	0.93	Low adsorption	1.00
		Depth to bedrock	0.46	Droughty	0.93
		Too acid	0.32	Too acid	0.91
Rhodhiss------------	30	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
		Slope	0.16	Slope	0.16
19D:					
Devotion------------	60	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	0.93	Slope	1.00
		Depth to bedrock	0.46	Droughty	0.93
Rhodhiss------------	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Too acid	0.32	Too acid	0.91
20B:					
Dogue---------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.11	Too acid	0.42
				Flooding	0.40
21D:					
Fairview------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.37	Too acid	0.91
		Too acid	0.32	Low adsorption	0.10
21E:					
Fairview------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.37	Too acid	0.91
		Too acid	0.32	Low adsorption	0.10

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
22B:					
Georgeville	85	Somewhat limited		Somewhat limited	
		Low adsorption	0.72	Too acid	0.91
		Too acid	0.32	Low adsorption	0.71
22C:					
Georgeville	85	Somewhat limited		Somewhat limited	
		Low adsorption	0.72	Too acid	0.91
		Too acid	0.32	Low adsorption	0.71
		Slope	0.16	Slope	0.16
23D:					
Goldston	55	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
Montonia	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.46	Slope	1.00
		Droughty	0.36	Too acid	0.91
23E:					
Goldston	70	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
Montonia	20	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.46	Slope	1.00
		Droughty	0.36	Too acid	0.91
24B:					
Halifax	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too acid	0.11	Too acid	0.42
24C:					
Halifax	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Slope	0.16	Too acid	0.42
25B:					
Herndon	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.61	Too acid	0.91
		Too acid	0.32	Low adsorption	0.28
25C:					
Herndon	85	Somewhat limited		Somewhat limited	
		Low adsorption	0.61	Too acid	0.91
		Too acid	0.32	Low adsorption	0.28
		Slope	0.16	Slope	0.16

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
26B:					
Jackland	70	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
		Runoff	0.40	Too acid	0.91
Orange	20	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
		Runoff	0.40	Slow water movement	1.00
27B:					
Lackstown	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.93	Depth to saturated zone	0.93
		Too acid	0.01	Too acid	0.03
27C:					
Lackstown	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.93	Depth to saturated zone	0.93
		Slope	0.63	Slope	0.63
28B:					
Masada	90	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
		Depth to saturated zone	0.05	Flooding	0.40
				Depth to saturated zone	0.05
29B:					
Mattaponi	90	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.53	Depth to saturated zone	0.53
		Slow water movement	0.30	Slow water movement	0.22
30B:					
Meadows	85	Very limited		Very limited	
		Depth to bedrock	1.00	Droughty	1.00
		Droughty	1.00	Depth to bedrock	1.00
		Runoff	0.40	Low adsorption	1.00
31B:					
Minnieville	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.51	Too acid	0.91
		Too acid	0.32	Low adsorption	0.29
32B3:					
Minnieville	85	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
		Low adsorption	0.30	Low adsorption	0.46

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
32C3:					
Minnieville	85	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
		Low adsorption	0.30	Low adsorption	0.46
		Slope	0.16	Slope	0.16
33C:					
Montonia	70	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Depth to bedrock	0.46	Too acid	0.91
		Droughty	0.36	Slope	0.63
Goldston	20	Very limited		Very limited	
		Depth to bedrock	1.00	Droughty	1.00
		Droughty	1.00	Depth to bedrock	1.00
		Too acid	0.68	Low adsorption	1.00
34B:					
Montonia	70	Somewhat limited		Very limited	
		Depth to bedrock	0.46	Low adsorption	1.00
		Droughty	0.36	Too acid	0.91
		Too acid	0.32	Depth to bedrock	0.46
Nanford	20	Somewhat limited		Very limited	
		Too acid	0.32	Low adsorption	1.00
		Low adsorption	0.21	Too acid	0.91
35B:					
Nanford	80	Somewhat limited		Very limited	
		Too acid	0.32	Low adsorption	1.00
		Low adsorption	0.21	Too acid	0.91
Badin	15	Somewhat limited		Very limited	
		Too acid	0.32	Low adsorption	1.00
		Depth to bedrock	0.01	Too acid	0.91
				Depth to bedrock	0.01
35C:					
Nanford	75	Somewhat limited		Very limited	
		Too acid	0.32	Low adsorption	1.00
		Low adsorption	0.21	Too acid	0.91
		Slope	0.16	Slope	0.16
Badin	20	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Too acid	0.32	Too acid	0.91
		Depth to bedrock	0.01	Slope	0.63
35D:					
Nanford	55	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Low adsorption	0.21	Too acid	0.91
Badin	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Depth to bedrock	0.01	Too acid	0.91

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
36B:					
Nathalie	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.05	Too acid	0.07
		Too acid	0.02		
36C:					
Nathalie	85	Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63
		Low adsorption	0.05	Too acid	0.07
		Too acid	0.02		
37B:					
Oak Level	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.30	Slow water movement	0.22
		Too acid	0.01	Too acid	0.03
37C:					
Oak Level	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.30	Slow water movement	0.22
		Slope	0.16	Slope	0.16
		Too acid	0.01	Too acid	0.03
38C:					
Pinkston	85	Very limited		Very limited	
		Droughty	1.00	Low adsorption	1.00
		Depth to bedrock	0.95	Droughty	1.00
		Slope	0.63	Depth to bedrock	0.95
38D:					
Pinkston	85	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Droughty	1.00	Slope	1.00
		Depth to bedrock	0.95	Droughty	1.00
39D:					
Poindexter	85	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.20	Slope	1.00
		Large stones content	0.19	Too acid	0.42
40B:					
Rasalo	70	Somewhat limited		Somewhat limited	
		Slow water movement	0.89	Too acid	0.91
		Too acid	0.32	Slow water movement	0.78
Orange	20	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
		Runoff	0.40	Slow water movement	1.00

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
41A:					
Riverview----------	85	Somewhat limited		Very limited	
		Depth to saturated zone	0.62	Flooding	1.00
		Flooding	0.60	Depth to saturated zone	0.62
		Too acid	0.11	Too acid	0.42
42C:					
Spriggs------------	85	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Depth to bedrock	0.01	Slope	0.63
		Too acid	0.01	Too acid	0.03
42D:					
Spriggs------------	85	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.01	Slope	1.00
		Too acid	0.01	Too acid	0.03
42E:					
Spriggs------------	85	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.01	Slope	1.00
		Too acid	0.01	Too acid	0.03
43B:					
Spriggs------------	70	Somewhat limited		Very limited	
		Depth to bedrock	0.01	Low adsorption	1.00
		Too acid	0.01	Too acid	0.03
				Depth to bedrock	0.01
Rasalo-------------	20	Somewhat limited		Somewhat limited	
		Slow water movement	0.89	Too acid	0.91
		Too acid	0.32	Slow water movement	0.78
43C:					
Spriggs------------	75	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Depth to bedrock	0.01	Slope	0.63
		Too acid	0.01	Too acid	0.03
Rasalo-------------	15	Somewhat limited		Somewhat limited	
		Slow water movement	0.89	Too acid	0.91
		Slope	0.63	Slow water movement	0.78
		Too acid	0.32	Slope	0.63
43D:					
Spriggs------------	80	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Depth to bedrock	0.01	Slope	1.00
		Too acid	0.01	Too acid	0.03
Rasalo-------------	15	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.89	Too acid	0.91
		Too acid	0.32	Slow water movement	0.78

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
44B:					
Spriggs	70	Somewhat limited		Very limited	
		Depth to bedrock	0.01	Low adsorption	1.00
		Too acid	0.01	Too acid	0.03
				Depth to bedrock	0.01
Urban land	15	Not rated		Not rated	
44D:					
Spriggs	70	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Depth to bedrock	0.01	Slope	0.63
		Too acid	0.01	Too acid	0.03
Urban land	15	Not rated		Not rated	
45C:					
Stoneville	85	Somewhat limited		Very limited	
		Slope	0.37	Low adsorption	1.00
		Too acid	0.32	Too acid	0.91
				Slope	0.37
46B:					
Straightstone	85	Somewhat limited		Somewhat limited	
		Too acid	0.32	Too acid	0.91
47B:					
Tarrus	75	Somewhat limited		Very limited	
		Low adsorption	0.61	Low adsorption	1.00
		Too acid	0.32	Too acid	0.91
Badin	20	Somewhat limited		Very limited	
		Too acid	0.32	Low adsorption	1.00
		Depth to bedrock	0.01	Too acid	0.91
				Depth to bedrock	0.01
47C:					
Tarrus	70	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Low adsorption	0.61	Too acid	0.91
		Too acid	0.32	Slope	0.63
Badin	20	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Too acid	0.32	Too acid	0.91
		Depth to bedrock	0.01	Slope	0.63
47D:					
Tarrus	55	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Low adsorption	0.61	Slope	1.00
		Too acid	0.32	Too acid	0.91
Badin	35	Very limited		Very limited	
		Slope	1.00	Low adsorption	1.00
		Too acid	0.32	Slope	1.00
		Depth to bedrock	0.01	Too acid	0.91

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
48D:					
Toast	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Low adsorption	0.26	Too acid	0.07
		Too acid	0.02		
49A:					
Toccoa	85	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
		Depth to saturated zone	0.02	Too acid	0.07
		Too acid	0.02	Depth to saturated zone	0.02
50B:					
Turbeville	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.33	Too acid	0.42
		Too acid	0.11		
50C:					
Turbeville	85	Somewhat limited		Somewhat limited	
		Low adsorption	0.33	Too acid	0.42
		Slope	0.16	Slope	0.16
		Too acid	0.11		
51B:					
Udorthents	90	Not rated		Not rated	
52B:					
Urban land	90	Not rated		Not rated	
53B:					
Virgilina	85	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
		Depth to bedrock	0.29	Low adsorption	1.00
54B:					
Virgilina	85	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
		Depth to bedrock	0.29	Low adsorption	1.00
55C:					
Virgilina	50	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	0.63	Low adsorption	1.00
Poindexter	40	Somewhat limited		Very limited	
		Slope	0.63	Low adsorption	1.00
		Depth to bedrock	0.20	Slope	0.63
		Too acid	0.11	Too acid	0.42

Table 7.—Agricultural Waste Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
56B:					
Wolftrap	75	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	0.68	Too acid	1.00
Easthamlet	15	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
		Depth to bedrock	0.46	Low adsorption	1.00
57B:					
Yadkin	90	Somewhat limited		Very limited	
		Too acid	0.68	Too acid	1.00
		Low adsorption	0.24		
57C:					
Yadkin	90	Somewhat limited		Very limited	
		Too acid	0.68	Too acid	1.00
		Low adsorption	0.24	Slope	0.16
		Slope	0.16		
58B3:					
Yadkin	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.71	Too acid	0.67
		Too acid	0.18	Low adsorption	0.54
58C3:					
Yadkin	90	Somewhat limited		Somewhat limited	
		Low adsorption	0.71	Too acid	0.67
		Too acid	0.18	Low adsorption	0.54
		Slope	0.16	Slope	0.16
W:					
Water	100	Not rated		Not rated	

Table 7.—Agricultural Waste Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
1B3:					
Appomattox	85	Somewhat limited		Very limited	
		Too acid	0.77	Seepage	1.00
		Depth to saturated zone	0.46	Too acid	0.77
		Too steep for surface application	0.32	Depth to saturated zone	0.46
1C3:					
Appomattox	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.77	Too steep for surface application	0.78
		Depth to saturated zone	0.46	Too acid	0.77
2B:					
Banister	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.91	Seepage	1.00
		Slow water movement	0.22	Too acid	0.91
Kinkora	10	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
3B:					
Bentley	90	Somewhat limited		Very limited	
		Depth to saturated zone	0.46	Seepage	1.00
		Too steep for surface application	0.32	Depth to saturated zone	0.46
		Slow water movement	0.22	Too acid	0.14
3C:					
Bentley	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Depth to saturated zone	0.46	Too steep for surface application	0.78
		Too steep for sprinkler application	0.40	Depth to saturated zone	0.46

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
4A:					
Chewacla	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.60	Seepage	1.00
		Too acid	0.42	Depth to saturated zone	1.00
5A:					
Chewacla	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Seepage	1.00
		Too acid	0.42	Depth to saturated zone	1.00
Wehadkee	20	Very limited		Very limited	
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Ponding	1.00
6C:					
Cid	85	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
7B:					
Cid	70	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	0.91	Seepage	1.00
Lignum	25	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
8B:					
Clifford	90	Somewhat limited		Very limited	
		Too acid	0.42	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.42
		Low adsorption	0.24	Low adsorption	0.24

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
8C:					
Clifford	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.42	Too steep for surface application	0.78
		Too steep for sprinkler application	0.40	Too acid	0.42
9B3:					
Clifford	90	Somewhat limited		Very limited	
		Too acid	0.67	Seepage	1.00
		Low adsorption	0.62	Too acid	0.67
		Too steep for surface application	0.32	Low adsorption	0.62
9C3:					
Clifford	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.67	Too steep for surface application	0.78
		Low adsorption	0.62	Too acid	0.67
10B:					
Clifford	75	Somewhat limited		Very limited	
		Too acid	0.42	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.42
		Low adsorption	0.24	Low adsorption	0.24
Urban land	20	Not rated		Not rated	
10D:					
Clifford	75	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.42	Too steep for surface application	0.78
		Too steep for sprinkler application	0.40	Too acid	0.42
Urban land	20	Not rated		Not rated	
11C:					
Clover	85	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	0.78	Too acid	0.91

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
11D:					
Clover	85	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
12B:					
Clover	80	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.91
Bentley	15	Very limited		Very limited	
		Too acid	0.99	Seepage	1.00
		Depth to saturated zone	0.46	Too acid	0.99
		Too steep for surface application	0.32	Depth to saturated zone	0.46
13A:					
Codorus	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.60	Seepage	1.00
		Too acid	0.42	Depth to saturated zone	1.00
14A:					
Codorus	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Seepage	1.00
		Too acid	0.42	Depth to saturated zone	1.00
Hatboro	15	Very limited		Very limited	
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Flooding	1.00	Ponding	1.00
15A:					
Comus	85	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
		Too acid	0.42	Seepage	1.00
				Too acid	0.42
16A:					
Dan River	85	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
		Depth to saturated zone	0.46	Seepage	1.00
		Too acid	0.03	Depth to saturated zone	0.46

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
17B:					
Danripple-----------	85	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Depth to saturated zone	0.22	Too acid	0.91
		Slow water movement	0.22	Depth to saturated zone	0.22
18B:					
Delila--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	0.91
		Too acid	0.91	Seepage	0.77
19C:					
Devotion------------	60	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Droughty	0.93	Depth to bedrock	1.00
		Too acid	0.91	Too acid	0.91
Rhodhiss------------	30	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	0.40	Too steep for surface application	0.78
19D:					
Devotion------------	60	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Droughty	0.93	Too steep for surface application	1.00
Rhodhiss------------	30	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
20B:					
Dogue---------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.42	Seepage	1.00
				Too acid	0.42

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
21D:					
Fairview	85	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
21E:					
Fairview	85	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
22B:					
Georgeville	85	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Low adsorption	0.72	Too acid	0.91
		Too steep for surface application	0.32	Low adsorption	0.72
22C:					
Georgeville	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
		Low adsorption	0.72	Too steep for surface application	0.78
23D:					
Goldston	55	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
Montonia	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.91	Too steep for surface application	1.00
23E:					
Goldston	70	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

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
23E:					
Montonia	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.91	Too steep for surface application	1.00
24B:					
Halifax	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too acid	0.42	Too acid	0.42
24C:					
Halifax	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Slow water movement	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Too steep for surface application	0.78
25B:					
Herndon	90	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Low adsorption	0.61	Too acid	0.91
		Too steep for surface application	0.32	Low adsorption	0.61
25C:					
Herndon	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
		Low adsorption	0.61	Too steep for surface application	0.78
26B:					
Jackland	70	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	0.91	Too acid	0.91
Orange	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
27B:					
Lackstown-----------	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	0.93	Depth to saturated zone	0.93
		Too steep for surface application	0.08	Too acid	0.03
27C:					
Lackstown-----------	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Too steep for surface application	1.00	Too steep for surface application	1.00
		Depth to saturated zone	0.93	Depth to saturated zone	0.93
28B:					
Masada--------------	90	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.08	Too acid	0.91
		Depth to saturated zone	0.05	Flooding	0.40
29B:					
Mattaponi-----------	90	Somewhat limited		Very limited	
		Depth to saturated zone	0.53	Seepage	1.00
		Too steep for surface application	0.32	Depth to saturated zone	0.53
		Slow water movement	0.22		
30B:					
Meadows-------------	85	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	0.32	Too acid	0.03
31B:					
Minnieville---------	90	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Low adsorption	0.51	Too acid	0.91
		Too steep for surface application	0.32	Low adsorption	0.51

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
32B3:					
Minnieville----------	85	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.32	Too acid	0.91
		Low adsorption	0.30	Low adsorption	0.30
32C3:					
Minnieville----------	85	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	0.40	Too steep for surface application	0.78
33C:					
Montonia------------	70	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
Goldston------------	20	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
34B:					
Montonia------------	70	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Depth to bedrock	0.46	Depth to bedrock	1.00
		Droughty	0.36	Too acid	0.91
Nanford-------------	20	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.32	Depth to bedrock	0.96
		Low adsorption	0.21	Too acid	0.91
35B:					
Nanford-------------	80	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.32	Depth to bedrock	0.96
		Low adsorption	0.21	Too acid	0.91

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
35B:					
Badin	15	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.08	Depth to bedrock	1.00
		Depth to bedrock	0.01	Too acid	0.91
35C:					
Nanford	75	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	0.96
		Too steep for sprinkler application	0.40	Too acid	0.91
Badin	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
35D:					
Nanford	55	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	Depth to bedrock	0.96
Badin	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.91	Too steep for surface application	1.00
36B:					
Nathalie	90	Somewhat limited		Very limited	
		Too steep for surface application	0.32	Seepage	1.00
		Too acid	0.07	Too acid	0.07
		Low adsorption	0.05	Low adsorption	0.05

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
36C:					
Nathalie------------	85	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	0.07	Too acid	0.07
37B:					
Oak Level-----------	85	Somewhat limited		Very limited	
		Too steep for surface application	0.32	Seepage	1.00
		Slow water movement	0.22	Too acid	0.03
		Too acid	0.03		
37C:					
Oak Level-----------	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.40	Too steep for surface application	0.78
		Slow water movement	0.22	Too acid	0.03
38C:					
Pinkston------------	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Droughty	1.00	Depth to bedrock	1.00
		Depth to bedrock	0.95	Too steep for surface application	1.00
38D:					
Pinkston------------	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Droughty	1.00	Too steep for surface application	1.00
39D:					
Poindexter----------	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.42	Too steep for surface application	1.00

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
40B:					
Rasalo	70	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Slow water movement	0.78	Too acid	0.91
		Too steep for surface application	0.08		
Orange	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	1.00
		Too acid	0.91	Too acid	0.91
41A:					
Riverview	85	Somewhat limited		Very limited	
		Depth to saturated zone	0.62	Flooding	1.00
		Flooding	0.60	Seepage	1.00
		Too acid	0.42	Depth to saturated zone	0.62
42C:					
Spriggs	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.78	Depth to bedrock	1.00
		Too acid	0.03	Too steep for surface application	1.00
42D:					
Spriggs	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.03	Too steep for surface application	1.00
42E:					
Spriggs	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.03	Too steep for surface application	1.00
43B:					
Spriggs	70	Somewhat limited		Very limited	
		Too steep for surface application	0.08	Seepage	1.00
		Too acid	0.03	Depth to bedrock	1.00
		Depth to bedrock	0.01	Too acid	0.03

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
43B:					
Rasalo	20	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Slow water movement	0.78	Too acid	0.91
		Too steep for surface application	0.08		
43C:					
Spriggs	75	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Depth to bedrock	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	0.78		
		Too acid	0.03		
Rasalo	15	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Too steep for surface application	1.00
		Too acid	0.91		
		Too steep for sprinkler application	0.78	Too acid	0.91
43D:					
Spriggs	80	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
				Depth to bedrock	1.00
				Too steep for surface application	1.00
		Too steep for sprinkler application	1.00		
		Too acid	0.03		
Rasalo	15	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	1.00		
				Too acid	0.91
		Too acid	0.91		
44B:					
Spriggs	70	Somewhat limited		Very limited	
		Too steep for surface application	0.68	Seepage	1.00
				Depth to bedrock	1.00
				Too acid	0.03
		Too acid	0.03		
		Depth to bedrock	0.01		
Urban land	15	Not rated		Not rated	

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
44D:					
Spriggs	70	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.78	Depth to bedrock	1.00
		Too acid	0.03	Too steep for surface application	1.00
Urban land	15	Not rated		Not rated	
45C:					
Stoneville	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Too steep for surface application	0.94
		Too steep for sprinkler application	0.60	Too acid	0.91
46B:					
Straightstone	85	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.08	Too acid	0.91
47B:					
Tarrus	75	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Low adsorption	0.61	Too acid	0.91
		Too steep for surface application	0.32	Low adsorption	0.61
Badin	20	Somewhat limited		Very limited	
		Too acid	0.91	Seepage	1.00
		Too steep for surface application	0.32	Depth to bedrock	1.00
		Depth to bedrock	0.01	Too acid	0.91
47C:					
Tarrus	70	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	0.78	Too acid	0.91

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
47C:					
Badin	20	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.91	Depth to bedrock	1.00
		Too steep for sprinkler application	0.78	Too steep for surface application	1.00
47D:					
Tarrus	55	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
Badin	35	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	1.00	Depth to bedrock	1.00
		Too acid	0.91	Too steep for surface application	1.00
48D:					
Toast	85	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
		Low adsorption	0.26	Low adsorption	0.26
49A:					
Toccoa	85	Somewhat limited		Very limited	
		Flooding	0.60	Flooding	1.00
		Too acid	0.07	Seepage	1.00
		Depth to saturated zone	0.02	Too acid	0.07
50B:					
Turbeville	90	Somewhat limited		Very limited	
		Too acid	0.42	Seepage	1.00
		Low adsorption	0.33	Too acid	0.42
				Low adsorption	0.33
50C:					
Turbeville	85	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	0.42	Too steep for surface application	0.78
		Too steep for sprinkler application	0.40	Too acid	0.42

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
51B:					
Udorthents	90	Not rated		Not rated	
52B:					
Urban land	90	Not rated		Not rated	
53B:					
Virgilina	85	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	0.29	Seepage	1.00
54B:					
Virgilina	85	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	0.29	Seepage	1.00
55C:					
Virgilina	50	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
		Too steep for surface application	1.00	Seepage	1.00
Poindexter	40	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too steep for sprinkler application	0.78	Depth to bedrock	1.00
		Too acid	0.42	Too steep for surface application	1.00
56B:					
Wolftrap	75	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	1.00	Too acid	1.00
Easthamlet	15	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
		Too acid	0.91	Seepage	1.00

Table 7.—Agricultural Waste Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Disposal of wastewater by irrigation		Overland flow of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
57B:					
Yadkin--------------	90	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Low adsorption	0.24	Too acid	1.00
				Low adsorption	0.24
57C:					
Yadkin--------------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Too acid	1.00	Too acid	1.00
		Too steep for sprinkler application	0.40	Too steep for surface application	0.78
58B3:					
Yadkin--------------	90	Somewhat limited		Very limited	
		Low adsorption	0.71	Seepage	1.00
		Too acid	0.67	Low adsorption	0.71
		Too steep for surface application	0.32	Too acid	0.67
58C3:					
Yadkin--------------	90	Very limited		Very limited	
		Too steep for surface application	1.00	Seepage	1.00
		Low adsorption	0.71	Too steep for surface application	0.78
		Too acid	0.67	Low adsorption	0.71
W:					
Water---------------	100	Not rated		Not rated	

Table 7.—Agricultural Waste Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
1B3:					
Appomattox----------	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.77
		Depth to saturated zone	0.47	Depth to saturated zone	0.46
		Slope	0.12	Too steep for surface application	0.32
1C3:					
Appomattox----------	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	0.78
		Depth to saturated zone	0.47	Too acid	0.77
2B:					
Banister------------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	0.91
				Slow water movement	0.15
Kinkora-------------	10	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	1.00
		Too acid	0.07	Slow water movement	0.94
3B:					
Bentley-------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.46
		Depth to saturated zone	0.47	Too steep for surface application	0.32
		Slope	0.12	Slow water movement	0.15
3C:					
Bentley-------------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	0.78
		Depth to saturated zone	0.47	Depth to saturated zone	0.46

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
4A:					
Chewacla	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	0.60
		Flooding	0.60	Too acid	0.42
5A:					
Chewacla	75	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	0.42
Wehadkee	20	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
6C:					
Cid	85	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
7B:					
Cid	70	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	0.94
Lignum	25	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
8B:					
Clifford	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.42
		Slope	0.12	Too steep for surface application	0.32
				Low adsorption	0.24

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
8C:					
Clifford------------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	0.78
				Too acid	0.42
9B3:					
Clifford------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.67
		Slope	0.12	Low adsorption	0.62
				Too steep for surface application	0.32
9C3:					
Clifford------------	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	0.78
				Too acid	0.67
10B:					
Clifford------------	75	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.42
		Slope	0.12	Too steep for surface application	0.32
				Low adsorption	0.24
Urban land----------	20	Not rated		Not rated	
10D:					
Clifford------------	75	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	0.78
				Too acid	0.42
Urban land----------	20	Not rated		Not rated	
11C:					
Clover--------------	85	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	0.07	Too acid	0.91

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
11D:					
Clover	85	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	0.07	Too acid	0.91
12B:					
Clover	80	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Too steep for surface application	0.32
		Too acid	0.07		
Bentley	15	Very limited		Very limited	
		Slow water movement	1.00	Too acid	0.99
		Depth to saturated zone	0.47	Depth to saturated zone	0.46
		Slope	0.12	Too steep for surface application	0.32
13A:					
Codorus	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	0.60
		Flooding	0.60	Too acid	0.42
14A:					
Codorus	80	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	0.42
Hatboro	15	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
15A:					
Comus	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Flooding	0.60
		Flooding	0.60	Too acid	0.42
16A:					
Dan River	85	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Flooding	0.60
		Slow water movement	1.00	Depth to saturated zone	0.46
		Flooding	0.60	Too acid	0.03

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
17B:					
Danripple	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Depth to saturated zone	1.00	Depth to saturated zone	0.22
				Slow water movement	0.15
18B:					
Delila	90	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	0.07	Too acid	0.91
19C:					
Devotion	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too acid	0.91
Rhodhiss	30	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too acid	0.91
		Too acid	0.07	Too steep for sprinkler irrigation	0.78
19D:					
Devotion	60	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
Rhodhiss	30	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	0.07	Too acid	0.91
20B:					
Dogue	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.42
		Too acid	0.07		

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
21D:					
Fairview	85	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	0.07	Too acid	0.91
21E:					
Fairview	85	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	0.07	Too acid	0.91
22B:					
Georgeville	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Low adsorption	0.72
				Too steep for surface application	0.32
22C:					
Georgeville	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	0.91
				Too steep for sprinkler irrigation	0.78
23D:					
Goldston	55	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
Montonia	35	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

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
23E:					
Goldston	70	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
Montonia	20	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
24B:					
Halifax	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Slow water movement	0.94
		Slope	0.12	Too acid	0.42
24C:					
Halifax	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Slow water movement	0.94
25B:					
Herndon	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Low adsorption	0.61
		Too acid	0.07	Too steep for surface application	0.32
25C:					
Herndon	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	0.91
		Too acid	0.07	Too steep for sprinkler irrigation	0.78

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
26B:					
Jackland------------	70	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 acid	0.91
Orange--------------	20	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
		Depth to bedrock	1.00	Too acid	0.91
27B:					
Lackstown-----------	85	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.93	Depth to saturated zone	0.93
		Too acid	0.14	Too steep for surface application	0.08
27C:					
Lackstown-----------	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00		
		Depth to saturated zone	0.93	Slow water movement	1.00
				Too steep for sprinkler irrigation	1.00
28B:					
Masada--------------	90	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Too acid	0.91
		Slow water movement	1.00	Too steep for surface application	0.08
				Depth to saturated zone	0.05
29B:					
Mattaponi-----------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.53
		Depth to saturated zone	0.53	Too steep for surface application	0.32
		Slope	0.12	Slow water movement	0.15

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
30B:					
Meadows	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	0.32	Too steep for surface application	0.32
		Slope	0.12	Too acid	0.03
31B:					
Minnieville	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Low adsorption	0.51
				Too steep for surface application	0.32
32B3:					
Minnieville	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Too steep for surface application	0.32
				Low adsorption	0.30
32C3:					
Minnieville	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	0.91
				Too steep for sprinkler irrigation	0.78
33C:					
Montonia	70	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
Goldston	20	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
34B:					
Montonia	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Too steep for surface application	0.32

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
34B:					
Nanford	20	Very limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	0.96
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Too steep for surface application	0.32
35B:					
Nanford	80	Very limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	0.96
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Too steep for surface application	0.32
Badin	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too acid	0.91
		Too acid	0.07	Too steep for surface application	0.08
35C:					
Nanford	75	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.96
		Slow water movement	1.00	Too acid	0.91
Badin	20	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
35D:					
Nanford	55	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	Depth to bedrock	0.96
Badin	35	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

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
36B:					
Nathalie------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too steep for surface application	0.32
		Slope	0.12	Too acid	0.07
		Too acid	0.07	Low adsorption	0.05
36C:					
Nathalie------------	85	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	0.07	Too acid	0.07
37B:					
Oak Level-----------	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Too steep for surface application	0.32
		Slope	0.12	Slow water movement	0.15
				Too acid	0.03
37C:					
Oak Level-----------	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	0.78
				Slow water movement	0.15
38C:					
Pinkston------------	85	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
38D:					
Pinkston------------	85	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

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
39D:					
Poindexter----------	85	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
40B:					
Rasalo--------------	70	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
				Slow water movement	0.60
				Too steep for surface application	0.08
Orange--------------	20	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
		Depth to bedrock	1.00	Too acid	0.91
41A:					
Riverview-----------	85	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.62
		Slow water movement	1.00	Flooding	0.60
		Flooding	0.60	Too acid	0.42
42C:					
Spriggs-------------	85	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
42D:					
Spriggs-------------	85	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

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
42E:					
Spriggs-------------	85	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
43B:					
Spriggs-------------	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	0.08
				Too acid	0.03
Rasalo--------------	20	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
				Slow water movement	0.60
				Too steep for surface application	0.08
43C:					
Spriggs-------------	75	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
Rasalo--------------	15	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
43D:					
Spriggs-------------	80	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

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
43D:					
Rasalo	15	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
44B:					
Spriggs	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too steep for surface application	0.68
		Slope	0.50	Too acid	0.03
Urban land	15	Not rated		Not rated	
44D:					
Spriggs	70	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
Urban land	15	Not rated		Not rated	
45C:					
Stoneville	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Depth to bedrock	1.00	Too steep for sprinkler irrigation	0.94
		Slow water movement	1.00	Too acid	0.91
46B:					
Straightstone	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.91
		Too acid	0.07	Too steep for surface application	0.08
47B:					
Tarrus	75	Very limited		Somewhat limited	
		Depth to bedrock	1.00	Too acid	0.91
		Slow water movement	1.00	Low adsorption	0.61
		Slope	0.12	Depth to bedrock	0.54

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
47B:					
Badin	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00
		Slow water movement	1.00	Too acid	0.91
		Slope	0.12	Too steep for surface application	0.32
47C:					
Tarrus	70	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	0.91
Badin	20	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
47D:					
Tarrus	55	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	0.91
Badin	35	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
48D:					
Toast	85	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	0.07	Low adsorption	0.26

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
49A:					
Toccoa	85	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Flooding	0.60
		Flooding	0.60	Too acid	0.07
		Slow water movement	0.32	Depth to saturated zone	0.02
50B:					
Turbeville	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.42
		Too acid	0.01	Low adsorption	0.33
50C:					
Turbeville	85	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	0.78
		Too acid	0.01	Too acid	0.42
51B:					
Udorthents	90	Not rated		Not rated	
52B:					
Urban land	90	Not rated		Not rated	
53B:					
Virgilina	85	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
		Depth to bedrock	1.00	Depth to bedrock	1.00
54B:					
Virgilina	85	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
		Depth to bedrock	1.00	Depth to bedrock	1.00
55C:					
Virgilina	50	Very limited		Very limited	
		Slope	1.00	Slow water movement	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to bedrock	1.00

Table 7.—Agricultural Waste Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
55C:					
Poindexter	40	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
56B:					
Wolftrap	75	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	0.07	Too acid	1.00
Easthamlet	15	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	1.00
57B:					
Yadkin	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.07	Low adsorption	0.24
57C:					
Yadkin	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.07	Too steep for sprinkler irrigation	0.78
58B3:					
Yadkin	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Low adsorption	0.71
		Slope	0.12	Too acid	0.67
				Too steep for surface application	0.32
58C3:					
Yadkin	90	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	1.00	Too steep for sprinkler irrigation	0.78
				Low adsorption	0.71
W:					
Water	100	Not rated		Not rated	

Table 8.—Forestland Productivity

(Absence of an entry indicates information was not available)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
1B3:				
Appomattox	loblolly pine	80	114	loblolly pine
	yellow-poplar	90	86	
	northern red oak	70	57	
	Virginia pine	76	114	
	shortleaf pine	76	114	
1C3:				
Appomattox	loblolly pine	80	114	loblolly pine
	yellow-poplar	90	86	
	northern red oak	70	57	
	Virginia pine	76	114	
	shortleaf pine	76	114	
2B:				
Banister	loblolly pine	90	129	loblolly pine
	yellow-poplar	93	100	
	sweetgum	90	100	
	white oak	80	57	
	southern red oak	80	57	
Kinkora	sweetgum	90	100	sweetgum
	willow oak	76	57	
	white oak	75	57	
3B:				
Bentley	loblolly pine	80	114	loblolly pine
	white oak	70	57	
	Virginia pine	70	114	
	sweetgum	76	72	
3C:				
Bentley	loblolly pine	80	114	loblolly pine
	white oak	70	57	
	Virginia pine	70	114	
	sweetgum	76	72	
4A:				
Chewacla	yellow-poplar	95	100	yellow-poplar
	loblolly pine	95	143	
	sweetgum	97	129	
	water oak	80	72	
5A:				
Chewacla	yellow-poplar	95	100	yellow-poplar
	loblolly pine	95	143	
	sweetgum	97	129	
	water oak	80	72	
Wehadkee	yellow-poplar	95	93	yellow-poplar
	red maple	60	43	
	American sycamore	60	43	
	pin oak	60	43	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
6C:				
Cid	loblolly pine	85	120	loblolly pine
	shortleaf pine	60	88	
	white oak	52	29	
7B:				
Cid	loblolly pine	85	120	loblolly pine
	shortleaf pine	60	88	
	white oak	52	29	
Lignum	loblolly pine	87	125	loblolly pine
	shortleaf pine	67	103	
	southern red oak	74	56	
8B:				
Clifford	loblolly pine	83	114	loblolly pine
	yellow-poplar	92	86	
	white oak	79	57	
	southern red oak	79	57	
	northern red oak	81	57	
	post oak	72	57	
	sweetgum	76	72	
	scarlet oak	81	57	
	Virginia pine	71	114	
	shortleaf pine	69	114	
8C:				
Clifford	loblolly pine	83	114	loblolly pine
	yellow-poplar	92	86	
	white oak	79	57	
	southern red oak	79	57	
	northern red oak	81	57	
	post oak	72	57	
	sweetgum	76	72	
	scarlet oak	81	57	
	Virginia pine	71	114	
	shortleaf pine	69	114	
9B3:				
Clifford	loblolly pine	83	114	loblolly pine
	yellow-poplar	92	86	
	white oak	79	57	
	southern red oak	79	57	
	northern red oak	81	57	
	post oak	72	57	
	sweetgum	76	72	
	scarlet oak	81	57	
	Virginia pine	71	114	
	shortleaf pine	69	114	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
9C3:				
Clifford	loblolly pine	83	114	loblolly pine
	yellow-poplar	92	86	
	white oak	79	57	
	southern red oak	79	57	
	northern red oak	81	57	
	post oak	72	57	
	sweetgum	76	72	
	scarlet oak	81	57	
	Virginia pine	71	114	
	shortleaf pine	69	114	
10B:				
Clifford	loblolly pine	83	114	loblolly pine
	yellow-poplar	92	86	
	white oak	79	57	
	southern red oak	79	57	
	northern red oak	81	57	
	post oak	72	57	
	sweetgum	76	72	
	scarlet oak	81	57	
	Virginia pine	71	114	
	shortleaf pine	69	114	
Urban land.				
10D:				
Clifford	loblolly pine	83	114	loblolly pine
	yellow-poplar	92	86	
	white oak	79	57	
	southern red oak	79	57	
	northern red oak	81	57	
	post oak	72	57	
	sweetgum	76	72	
	scarlet oak	81	57	
	Virginia pine	71	114	
	shortleaf pine	69	114	
Urban land.				
11C:				
Clover	loblolly pine	87	129	loblolly pine
	shortleaf pine	70	114	
	Virginia pine	60	86	
	white oak	54	43	
11D:				
Clover	loblolly pine	87	129	loblolly pine
	shortleaf pine	70	114	
	Virginia pine	60	86	
	white oak	54	43	
12B:				
Clover	loblolly pine	87	129	loblolly pine
	shortleaf pine	70	114	
	Virginia pine	60	86	
	white oak	54	43	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
12B:				
Bentley----------------	loblolly pine-------	80	114	loblolly pine
	white oak-----------	70	57	
	Virginia pine-------	70	114	
	sweetgum------------	76	72	
13A:				
Codorus----------------	yellow-poplar-------	95	100	yellow-poplar
	loblolly pine-------	95	143	
	sweetgum------------	97	129	
	water oak-----------	80	72	
14A:				
Codorus----------------	yellow-poplar-------	95	100	yellow-poplar
	loblolly pine-------	95	143	
	sweetgum------------	97	129	
	water oak-----------	80	72	
Hatboro----------------	yellow-poplar-------	95	93	yellow-poplar
	red maple-----------	60	43	
	American sycamore---	60	43	
	pin oak-------------	60	43	
15A:				
Comus------------------	loblolly pine-------	90	131	yellow-poplar
	yellow-poplar-------	107	119	
16A:				
Dan River--------------	yellow-poplar-------	107	114	yellow-poplar
	loblolly pine-------	90	129	
	black walnut--------	100	---	
	sweetgum------------	100	143	
	American sycamore---	89	100	
	willow oak----------	95	86	
	scarlet oak---------	100	86	
	cherrybark oak------	107	172	
	eastern cottonwood--	107	143	
17B:				
Danripple--------------	loblolly pine-------	80	114	loblolly pine
	yellow-poplar-------	80	72	
	Virginia pine-------	70	114	
	shortleaf pine------	85	143	
	southern red oak----	70	57	
18B:				
Delila-----------------	yellow-poplar-------	93	95	yellow-poplar
19C:				
Devotion---------------	loblolly pine-------	85	114	loblolly pine
	northern red oak----	60	43	
	Virginia pine-------	70	114	
	shortleaf pine------	70	114	
Rhodhiss---------------	loblolly pine-------	80	110	loblolly pine
	yellow-poplar-------	98	104	
	Virginia pine-------	76	119	
	shortleaf pine------	75	120	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
19D:				
Devotion----------------	loblolly pine-------	85	114	loblolly pine
	northern red oak----	60	43	
	Virginia pine-------	70	114	
	shortleaf pine------	70	114	
Rhodhiss----------------	loblolly pine-------	80	110	loblolly pine
	yellow-poplar-------	98	104	
	Virginia pine-------	76	119	
	shortleaf pine------	75	120	
20B:				
Dogue-------------------	loblolly pine-------	90	129	loblolly pine
	yellow-poplar-------	93	100	
	white oak-----------	80	57	
	southern red oak----	80	57	
	sweetgum------------	90	100	
21D:				
Fairview----------------	loblolly pine-------	78	114	loblolly pine
	yellow-poplar-------	90	86	
	shortleaf pine------	70	114	
21E:				
Fairview----------------	loblolly pine-------	78	114	loblolly pine
	yellow-poplar-------	90	86	
	shortleaf pine------	70	114	
22B:				
Georgeville-------------	loblolly pine-------	81	114	loblolly pine
	longleaf pine-------	67	72	
	scarlet oak---------	70	57	
	shortleaf pine------	63	100	
	southern red oak----	67	43	
	white oak-----------	69	57	
22C:				
Georgeville-------------	loblolly pine-------	81	114	loblolly pine
	longleaf pine-------	67	72	
	scarlet oak---------	70	57	
	shortleaf pine------	63	100	
	southern red oak----	67	43	
	white oak-----------	69	57	
23D:				
Goldston----------------	loblolly pine-------	76	100	loblolly pine
	white oak-----------	69	57	
	shortleaf pine------	68	100	
	southern red oak----	66	43	
Montonia----------------	shortleaf pine------	66	101	loblolly pine
	white oak-----------	70	53	
	chestnut oak--------	71	55	
23E:				
Goldston----------------	loblolly pine-------	76	100	loblolly pine
	white oak-----------	69	57	
	shortleaf pine------	68	100	
	southern red oak----	66	43	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
23E:				
Montonia	shortleaf pine	66	101	loblolly pine
	white oak	70	53	
	chestnut oak	71	55	
24B:				
Halifax	loblolly pine	84	114	loblolly pine
	shortleaf pine	66	100	
24C:				
Halifax	loblolly pine	84	114	loblolly pine
	shortleaf pine	66	100	
25B:				
Herndon	loblolly pine	81	114	loblolly pine
	longleaf pine	67	72	
	scarlet oak	70	57	
	shortleaf pine	63	100	
	southern red oak	67	43	
	white oak	69	57	
25C:				
Herndon	loblolly pine	80	114	loblolly pine
	shortleaf pine	61	86	
	southern red oak	72	57	
	white oak	65	43	
	yellow-poplar	91	86	
26B:				
Jackland	loblolly pine	70	86	loblolly pine
	northern red oak	60	43	
	Virginia pine	60	86	
	yellow-poplar	74	57	
Orange	loblolly pine	75	100	loblolly pine
	Virginia pine	60	86	
	shortleaf pine	60	86	
	northern red oak	60	43	
27B:				
Lackstown	loblolly pine	87	129	loblolly pine
	yellow-poplar	97	100	
	Virginia pine	64	100	
27C:				
Lackstown	loblolly pine	87	129	loblolly pine
	yellow-poplar	97	100	
	Virginia pine	64	100	
28B:				
Masada	loblolly pine	80	114	loblolly pine
	yellow-poplar	80	72	
	southern red oak	70	57	
	Virginia pine	70	114	
	shortleaf pine	85	143	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
29B:				
Mattaponi	loblolly pine	80	114	loblolly pine
	white oak	70	57	
	sweetgum	76	72	
	Virginia pine	70	114	
30B:				
Meadows	Virginia pine	60	86	Virginia pine
	northern red oak	60	43	
31B:				
Minnieville	loblolly pine	85	120	loblolly pine
	yellow-poplar	75	62	
	northern red oak	70	52	
	chestnut oak	70	52	
	Virginia pine	70	109	
32B3:				
Minnieville	loblolly pine	85	120	loblolly pine
	yellow-poplar	75	62	
	northern red oak	70	52	
	chestnut oak	70	52	
	Virginia pine	70	109	
32C3:				
Minnieville	loblolly pine	85	120	loblolly pine
	yellow-poplar	75	62	
	northern red oak	70	52	
	chestnut oak	70	52	
	Virginia pine	70	109	
33C:				
Montonia	shortleaf pine	66	101	loblolly pine
	white oak	70	57	
	chestnut oak	71	53	
	yellow-poplar	---	55	
Goldston	loblolly pine	76	100	loblolly pine
	white oak	69	57	
	shortleaf pine	68	100	
	southern red oak	66	43	
34B:				
Montonia	shortleaf pine	66	101	loblolly pine
	white oak	70	---	
	chestnut oak	71	---	
Nanford	loblolly pine	80	114	loblolly pine
	northern red oak	66	43	
	shortleaf pine	66	100	
	Virginia pine	69	114	
35B:				
Nanford	loblolly pine	80	114	loblolly pine
	northern red oak	66	43	
	shortleaf pine	66	100	
	Virginia pine	69	114	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
35B:				
Badin	loblolly pine	80	110	loblolly pine
	shortleaf pine	69	108	
	white oak	68	50	
35C:				
Nanford	loblolly pine	80	114	loblolly pine
	northern red oak	66	43	
	shortleaf pine	66	100	
	Virginia pine	69	114	
Badin	loblolly pine	80	110	loblolly pine
	shortleaf pine	69	108	
	white oak	68	50	
35D:				
Nanford	loblolly pine	80	114	loblolly pine
	northern red oak	66	43	
	shortleaf pine	66	100	
	Virginia pine	69	114	
Badin	loblolly pine	80	110	loblolly pine
	shortleaf pine	69	108	
	white oak	68	50	
36B:				
Nathalie	loblolly pine	84	114	loblolly pine
	yellow-poplar	88	86	
	white oak	64	43	
	Virginia pine	74	114	
	scarlet oak	74	57	
	shortleaf pine	65	100	
36C:				
Nathalie	loblolly pine	84	114	loblolly pine
	yellow-poplar	88	86	
	white oak	64	43	
	Virginia pine	74	114	
	scarlet oak	74	57	
	shortleaf pine	65	100	
37B:				
Oak Level	loblolly pine	79	114	loblolly pine
	yellow-poplar	97	100	
	shortleaf pine	64	100	
	Virginia pine	62	100	
37C:				
Oak Level	loblolly pine	79	114	loblolly pine
	yellow-poplar	97	100	
	shortleaf pine	64	100	
	Virginia pine	62	100	
38C:				
Pinkston	loblolly pine	70	93	loblolly pine
38D:				
Pinkston	loblolly pine	70	93	loblolly pine

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
39D:				
Poindexter	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
40B:				
Rasalo	loblolly pine	85	100	loblolly pine
	sweetgum	87	100	
	yellow-poplar	88	86	
	shortleaf pine	63	100	
Orange	loblolly pine	75	100	loblolly pine
	Virginia pine	60	86	
	shortleaf pine	60	86	
	northern red oak	60	43	
41A:				
Riverview	yellow-poplar	107	114	yellow-poplar
	loblolly pine	90	129	
	black walnut	100	---	
	sweetgum	100	143	
	American sycamore	89	100	
	willow oak	95	86	
	scarlet oak	100	86	
	cherrybark oak	107	172	
	eastern cottonwood	107	143	
42C:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
42D:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
42E:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
43B:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
Rasalo	loblolly pine	85	100	loblolly pine
	yellow-poplar	88	86	
	sweetgum	87	100	
	shortleaf pine	63	100	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
43C:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
Rasalo	loblolly pine	85	100	loblolly pine
	yellow-poplar	88	86	
	sweetgum	87	100	
	shortleaf pine	63	100	
43D:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
Rasalo	loblolly pine	85	100	loblolly pine
	yellow-poplar	88	86	
	sweetgum	87	100	
	shortleaf pine	63	100	
44B:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
Urban land.				
44D:				
Spriggs	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
Urban land.				
45C:				
Stoneville	chestnut oak	76	57	loblolly pine
	scarlet oak	76	57	
	shortleaf pine	59	86	
	Virginia pine	63	100	
	white oak	79	57	
46B:				
Straightstone	chestnut oak	76	57	loblolly pine
	scarlet oak	76	57	
	shortleaf pine	59	86	
	Virginia pine	63	100	
	white oak	79	57	
47B:				
Tarrus	loblolly pine	78	114	loblolly pine
	northern red oak	72	57	
	Virginia pine	68	100	
	yellow-poplar	83	72	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
47B:				
Badin-------------------	loblolly pine-------	80	110	loblolly pine
	shortleaf pine------	69	108	
	white oak-----------	68	50	
47C:				
Tarrus------------------	loblolly pine-------	78	114	loblolly pine
	northern red oak----	72	57	
	Virginia pine-------	68	100	
	yellow-poplar-------	83	72	
Badin-------------------	loblolly pine-------	80	110	loblolly pine
	shortleaf pine------	69	108	
	white oak-----------	68	50	
47D:				
Tarrus------------------	loblolly pine-------	78	114	loblolly pine
	northern red oak----	72	57	
	Virginia pine-------	68	100	
	yellow-poplar-------	83	72	
Badin-------------------	loblolly pine-------	80	110	loblolly pine
	shortleaf pine------	69	108	
	white oak-----------	68	50	
48D:				
Toast-------------------	loblolly pine-------	80	114	loblolly pine
	Virginia pine-------	70	114	
	shortleaf pine------	68	106	
	white oak-----------	62	45	
	southern red oak----	70	57	
	northern red oak----	64	47	
49A:				
Toccoa------------------	loblolly pine-------	90	129	loblolly pine
	yellow-poplar-------	107	114	
	sweetgum------------	100	143	
50B:				
Turbeville--------------	loblolly pine-------	79	108	loblolly pine
50C:				
Turbeville--------------	loblolly pine-------	79	108	loblolly pine
51B.				
Udorthents				
52B.				
Urban land.				
53B:				
Virgilina---------------	loblolly pine-------	70	86	loblolly pine
	northern red oak----	60	43	
	shortleaf pine------	60	86	
	Virginia pine-------	70	114	

Table 8.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
54B:				
Virgilina	loblolly pine	70	86	loblolly pine
	northern red oak	60	43	
	shortleaf pine	60	86	
	Virginia pine	70	114	
55C:				
Virgilina	loblolly pine	70	86	loblolly pine
	northern red oak	60	43	
	shortleaf pine	60	86	
	Virginia pine	70	114	
Poindexter	loblolly pine	75	101	loblolly pine
	Virginia pine	65	100	
	yellow-poplar	70	54	
	northern red oak	62	45	
56B:				
Wolftrap	loblolly pine	75	100	loblolly pine
	Virginia pine	65	100	
Easthamlet	loblolly pine	86	129	loblolly pine
57B:				
Yadkin	loblolly pine	79	108	loblolly pine
57C:				
Yadkin	loblolly pine	79	108	loblolly pine
58B3:				
Yadkin	loblolly pine	71	100	loblolly pine
	northern red oak	75	57	
	shortleaf pine	68	100	
	southern red oak	75	57	
	white oak	70	57	
58C3:				
Yadkin	loblolly pine	71	100	loblolly pine
	northern red oak	75	57	
	shortleaf pine	68	100	
	southern red oak	75	57	
	white oak	70	57	
W.				
Water				

Table 9.—Forestland Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
1B3:							
Appomattox	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
1C3:							
Appomattox	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
2B:							
Banister	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Kinkora	10	Moderate		Poorly suited		Severe	
		Low strength	0.50	Wetness	1.00	Low strength	1.00
				Low strength	0.50		
3B:							
Bentley	90	Slight		Well suited		Moderate	
						Low strength	0.50
3C:							
Bentley	90	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
4A:							
Chewacla	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
				Low strength	0.50		
5A:							
Chewacla	75	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
				Low strength	0.50		
Wehadkee	20	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00		
				Wetness	1.00		
6C:							
Cid	85	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
				Wetness	0.50		
7B:							
Cid	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Restrictive layer	0.50	Wetness	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
7B:							
Lignum	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
8B:							
Clifford	90	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
8C:							
Clifford	90	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
9B3:							
Clifford	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
9C3:							
Clifford	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
10B:							
Clifford	75	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
10D:							
Clifford	75	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
Urban land	20	Not rated		Not rated		Not rated	
11C:							
Clover	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
11D:							
Clover	85	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
12B:							
Clover	80	Slight		Well suited		Moderate	
						Low strength	0.50
Bentley	15	Slight		Well suited		Moderate	
						Low strength	0.50
13A:							
Codorus	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
				Low strength	0.50		
14A:							
Codorus	80	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
				Low strength	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
14A:							
Hatboro-------------	15	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00		
		Low strength	0.50	Wetness	1.00		
15A:							
Comus---------------	85	Moderate		Moderately suited		Moderate	
		Flooding	0.50	Flooding	0.50	Low strength	0.50
16A:							
Dan River-----------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
17B:							
Danripple-----------	85	Slight		Well suited		Moderate	
						Low strength	0.50
18B:							
Delila--------------	90	Severe		Poorly suited		Moderate	
		Wetness	1.00	Wetness	1.00	Low strength	0.50
19C:							
Devotion------------	60	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Rhodhiss------------	30	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
19D:							
Devotion------------	60	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Restrictive layer	0.50				
Rhodhiss------------	30	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
20B:							
Dogue---------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
21D:							
Fairview------------	85	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
21E:							
Fairview------------	85	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
22B:							
Georgeville---------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
22C:							
Georgeville---------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23D:							
Goldston------------	55	Moderate		Poorly suited		Moderate	
		Restrictive layer	0.50	Slope	1.00	Low strength	0.50
		Slope	0.50				
Montonia------------	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
23E:							
Goldston------------	70	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
Montonia------------	20	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
				Low strength	0.50		
24B:							
Halifax-------------	85	Slight		Well suited		Moderate	
						Low strength	0.50
24C:							
Halifax-------------	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
25B:							
Herndon-------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
25C:							
Herndon-------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
26B:							
Jackland------------	70	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Orange--------------	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
27B:							
Lackstown-----------	85	Slight		Well suited		Moderate	
						Low strength	0.50
27C:							
Lackstown-----------	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
28B:							
Masada--------------	90	Slight		Well suited		Moderate	
						Low strength	0.50
29B:							
Mattaponi-----------	90	Slight		Well suited		Moderate	
						Low strength	0.50

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
30B:							
Meadows	85	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Low strength	0.50	Low strength	1.00
31B:							
Minnieville	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
32B3:							
Minnieville	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
32C3:							
Minnieville	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
33C:							
Montonia	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Goldston	20	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
34B:							
Montonia	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Nanford	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
35B:							
Nanford	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Badin	15	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
35C:							
Nanford	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Badin	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
35D:							
Nanford	55	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Badin	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
36B:							
Nathalie------------	90	Slight		Well suited		Moderate	
						Low strength	0.50
36C:							
Nathalie------------	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
37B:							
Oak Level-----------	85	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
37C:							
Oak Level-----------	85	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
38C:							
Pinkston------------	85	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.50
38D:							
Pinkston------------	85	Severe		Poorly suited		Moderate	
		Restrictive layer	1.00	Slope	1.00	Low strength	0.50
		Slope	0.50				
39D:							
Poindexter----------	85	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
		Restrictive layer	0.50				
40B:							
Rasalo--------------	70	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
Orange--------------	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
41A:							
Riverview-----------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
42C:							
Spriggs-------------	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
42D:							
Spriggs-------------	85	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
42E:							
Spriggs-------------	85	Severe		Poorly suited		Moderate	
		Slope	1.00	Slope	1.00	Low strength	0.50
		Low strength	0.50				

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
43B:							
Spriggs	70	Slight		Well suited		Moderate	
						Low strength	0.50
Rasalo	20	Moderate		Well suited		Moderate	
		Low strength	0.50			Low strength	0.50
43C:							
Spriggs	75	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Rasalo	15	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Slope	0.50	Low strength	0.50
43D:							
Spriggs	80	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Rasalo	15	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
44B:							
Spriggs	70	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
44D:							
Spriggs	70	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Urban land	15	Not rated		Not rated		Not rated	
45C:							
Stoneville	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
46B:							
Straightstone	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
47B:							
Tarrus	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Badin	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
47C:							
Tarrus	70	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Badin	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
47D:							
Tarrus	55	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
				Low strength	0.50		
Badin	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
48D:							
Toast	85	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
49A:							
Toccoa	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
50B:							
Turbeville	90	Slight		Well suited		Moderate	
						Low strength	0.50
50C:							
Turbeville	85	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
51B:							
Udorthents	90	Not rated		Not rated		Not rated	
52B:							
Urban land	90	Not rated		Not rated		Not rated	
53B:							
Virgilina	85	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Wetness	0.50	Low strength	0.50
54B:							
Virgilina	85	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Wetness	0.50	Low strength	0.50
55C:							
Virgilina	50	Moderate		Moderately suited		Moderate	
		Restrictive layer	0.50	Slope	0.50	Low strength	0.50
				Wetness	0.50		
Poindexter	40	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
56B:							
Wolftrap	75	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Easthamlet	15	Moderate		Moderately suited		Moderate	
		Low strength	0.50	Wetness	0.50	Low strength	0.50
57B:							
Yadkin	90	Slight		Well suited		Moderate	
						Low strength	0.50

Table 9.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
57C:							
Yadkin	90	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
58B3:							
Yadkin	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
58C3:							
Yadkin	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
W:							
Water	100	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: 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
1B3:							
Appomattox----------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
1C3:							
Appomattox----------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
						Low strength	0.50
2B:							
Banister------------	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
Kinkora-------------	10	Slight		Slight		Poorly suited	
						Wetness	1.00
						Low strength	0.50
3B:							
Bentley-------------	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
3C:							
Bentley-------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
4A:							
Chewacla------------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50
5A:							
Chewacla------------	75	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50
Wehadkee------------	20	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
6C:							
Cid-----------------	85	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
7B:							
Cid-----------------	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
7B:							
Lignum	25	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
8B:							
Clifford	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
8C:							
Clifford	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
9B3:							
Clifford	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
9C3:							
Clifford	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
10B:							
Clifford	75	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Urban land	20	Not rated		Not rated		Not rated	
10D:							
Clifford	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Urban land	20	Not rated		Not rated		Not rated	
11C:							
Clover	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
11D:							
Clover	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
12B:							
Clover	80	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Bentley	15	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
13A:							
Codorus	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50
14A:							
Codorus	80	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
14A:							
Hatboro-------------	15	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
15A:							
Comus---------------	85	Slight		Slight		Moderately suited	
						Flooding	0.50
16A:							
Dan River-----------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
17B:							
Danripple-----------	85	Slight		Slight		Well suited	
18B:							
Delila--------------	90	Slight		Slight		Poorly suited	
						Wetness	1.00
19C:							
Devotion------------	60	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Rhodhiss------------	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
19D:							
Devotion------------	60	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Rhodhiss------------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
20B:							
Dogue---------------	90	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
21D:							
Fairview------------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
21E:							
Fairview------------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
22B:							
Georgeville---------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
22C:							
Georgeville---------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
23D:							
Goldston	55	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Montonia	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
23E:							
Goldston	70	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Montonia	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
24B:							
Halifax	85	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
24C:							
Halifax	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
25B:							
Herndon	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
25C:							
Herndon	85	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
26B:							
Jackland	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
Orange	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
27B:							
Lackstown	85	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
27C:							
Lackstown	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
28B:							
Masada	90	Slight		Slight		Well suited	
29B:							
Mattaponi	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
30B:							
Meadows	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
31B:							
Minnieville---------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
32B3:							
Minnieville---------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
32C3:							
Minnieville---------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
33C:							
Montonia------------	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Goldston------------	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
34B:							
Montonia------------	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Nanford-------------	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
35B:							
Nanford-------------	80	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Badin---------------	15	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
35C:							
Nanford-------------	75	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Badin---------------	20	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
35D:							
Nanford-------------	55	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Badin---------------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
36B:							
Nathalie------------	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
36C:							
Nathalie------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
37B:							
Oak Level-----------	85	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
37C:							
Oak Level-----------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
38C:							
Pinkston------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
38D:							
Pinkston------------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
39D:							
Poindexter----------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
40B:							
Rasalo--------------	70	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Orange--------------	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
41A:							
Riverview-----------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
42C:							
Spriggs-------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
42D:							
Spriggs-------------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
42E:							
Spriggs-------------	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
43B:							
Spriggs-------------	70	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Rasalo--------------	20	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
43C:							
Spriggs-------------	75	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Rasalo--------------	15	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
43D:							
Spriggs	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Rasalo	15	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
44B:							
Spriggs	70	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Urban land	15	Not rated		Not rated		Not rated	
44D:							
Spriggs	70	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
Urban land	15	Not rated		Not rated		Not rated	
45C:							
Stoneville	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
46B:							
Straightstone	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
47B:							
Tarrus	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Badin	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
47C:							
Tarrus	70	Moderate		Severe		Moderately suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
Badin	20	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
47D:							
Tarrus	55	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
Badin	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
48D:							
Toast	85	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00

Table 9.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
49A:							
Toccoa---------------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
50B:							
Turbeville----------	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
50C:							
Turbeville----------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
51B:							
Udorthents----------	90	Not rated		Not rated		Not rated	
52B:							
Urban land----------	90	Not rated		Not rated		Not rated	
53B:							
Virgilina-----------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
54B:							
Virgilina-----------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
55C:							
Virgilina-----------	50	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Wetness	0.50
Poindexter----------	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
56B:							
Wolftrap------------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
Easthamlet----------	15	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Wetness	0.50
57B:							
Yadkin--------------	90	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
57C:							
Yadkin--------------	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
58B3:							
Yadkin--------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
58C3:							
Yadkin--------------	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
1B3:							
Appomattox----------	85	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		
1C3:							
Appomattox----------	85	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		
2B:							
Banister------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Kinkora-------------	10	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
3B:							
Bentley-------------	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
3C:							
Bentley-------------	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
4A:							
Chewacla------------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
5A:							
Chewacla------------	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Wehadkee------------	20	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
6C:							
Cid-----------------	85	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		
7B:							
Cid-----------------	70	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
Lignum--------------	25	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
8B:							
Clifford	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
8C:							
Clifford	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
9B3:							
Clifford	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
9C3:							
Clifford	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
10B:							
Clifford	75	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Urban land	20	Not rated		Not rated		Not rated	
10D:							
Clifford	75	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Urban land	20	Not rated		Not rated		Not rated	
11C:							
Clover	85	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
11D:							
Clover	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Slope	0.50
				Stickiness; high plasticity index	0.75		
12B:							
Clover	80	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
Bentley	15	Well suited		Moderately suited		Well suited	
				Slope	0.50		
13A:							
Codorus	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
14A:							
Codorus	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Hatboro	15	Moderately suited		Moderately suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Wetness	1.00
						Low strength	0.50

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
15A:							
Comus	85	Well suited		Well suited		Well suited	
16A:							
Dan River	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
17B:							
Danripple	85	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
18B:							
Delila	90	Moderately suited		Moderately suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Wetness	1.00
19C:							
Devotion	60	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Rhodhiss	30	Well suited		Moderately suited		Well suited	
				Slope	0.50		
19D:							
Devotion	60	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
Rhodhiss	30	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
20B:							
Dogue	90	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
21D:							
Fairview	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
21E:							
Fairview	85	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
22B:							
Georgeville	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
22C:							
Georgeville	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
23D:							
Goldston	55	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Slope	0.50
				Rock fragments	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
23D:							
Montonia	35	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		
23E:							
Goldston	70	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
		Rock fragments	0.50	Rock fragments	0.50		
Montonia	20	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
				Rock fragments	0.50		
24B:							
Halifax	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
24C:							
Halifax	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
25B:							
Herndon	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
25C:							
Herndon	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
26B:							
Jackland	70	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
Orange	20	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
27B:							
Lackstown	85	Well suited		Well suited		Well suited	
27C:							
Lackstown	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
28B:							
Masada	90	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
29B:							
Mattaponi	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
30B:							
Meadows	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
				Rock fragments	0.50		
31B:							
Minnieville	90	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		
32B3:							
Minnieville	85	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		
32C3:							
Minnieville	85	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		
33C:							
Montonia	70	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		
				Rock fragments	0.50		
Goldston	20	Moderately suited		Moderately suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.50		
				Slope	0.50		
34B:							
Montonia	70	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		
				Rock fragments	0.50		
Nanford	20	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		
35B:							
Nanford	80	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	15	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
35C:							
Nanford	75	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	20	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		
35D:							
Nanford	55	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	35	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
36B:							
Nathalie	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
36C:							
Nathalie	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
37B:							
Oak Level	85	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
37C:							
Oak Level	85	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
38C:							
Pinkston	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
38D:							
Pinkston	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
39D:							
Poindexter	85	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Slope	0.50
				Rock fragments	0.50		
				Stickiness; high plasticity index	0.50		

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
40B:							
Rasalo	70	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
Orange	20	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
41A:							
Riverview	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
42C:							
Spriggs	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
42D:							
Spriggs	85	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
42E:							
Spriggs	85	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
43B:							
Spriggs	70	Well suited		Well suited		Well suited	
Rasalo	20	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
43C:							
Spriggs	75	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Rasalo	15	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
43D:							
Spriggs	80	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
Rasalo	15	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Slope	0.50
				Stickiness; high plasticity index	0.75		
44B:							
Spriggs	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Urban land	15	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
44D:							
Spriggs	70	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Urban land	15	Not rated		Not rated		Not rated	
45C:							
Stoneville	85	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
46B:							
Straightstone	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
47B:							
Tarrus	75	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Badin	20	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		
47C:							
Tarrus	70	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Badin	20	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		
47D:							
Tarrus	55	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
Badin	35	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
48D:							
Toast	85	Well suited		Poorly suited		Well suited	
				Slope	0.75		
49A:							
Toccoa	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
50B:							
Turbeville	90	Well suited		Well suited		Well suited	
50C:							
Turbeville	85	Well suited		Moderately suited		Well suited	
				Slope	0.50		
51B:							
Udorthents	90	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
52B:							
Urban land	90	Not rated		Not rated		Not rated	
53B:							
Virgilina	85	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
54B:							
Virgilina	85	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Rock fragments	0.50		
55C:							
Virgilina	50	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
				Slope	0.50		
				Rock fragments	0.50		
Poindexter	40	Moderately suited		Moderately suited		Well suited	
		Stickiness; high plasticity index	0.50	Slope	0.50		
				Rock fragments	0.50		
				Stickiness; high plasticity index	0.50		
56B:							
Wolftrap	75	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
Easthamlet	15	Poorly suited		Poorly suited		Well suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
57B:							
Yadkin	90	Well suited		Well suited		Well suited	
57C:							
Yadkin	90	Well suited		Moderately suited		Well suited	
				Slope	0.50		
58B3:							
Yadkin	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
58C3:							
Yadkin	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
W:							
Water	100	Not rated		Not rated		Not rated	

Table 9.—Forestland Management, Part IV

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1B3:					
Appomattox----------	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
1C3:					
Appomattox----------	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
2B:					
Banister-----------	85	Well suited		Well suited	
Kinkora------------	10	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
3B:					
Bentley------------	90	Well suited		Well suited	
3C:					
Bentley------------	90	Well suited		Well suited	
4A:					
Chewacla-----------	85	Well suited		Well suited	
5A:					
Chewacla-----------	75	Well suited		Well suited	
Wehadkee-----------	20	Well suited		Unsuited	
				Wetness	1.00
6C:					
Cid----------------	85	Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50
7B:					
Cid----------------	70	Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50
Lignum-------------	25	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
8B:					
Clifford-----------	90	Well suited		Well suited	
8C:					
Clifford-----------	90	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
9B3:					
Clifford-----------	90	Well suited		Well suited	
9C3:					
Clifford-----------	90	Well suited		Well suited	
10B:					
Clifford-----------	75	Well suited		Well suited	
Urban land----------	20	Not rated		Not rated	
10D:					
Clifford-----------	75	Well suited		Well suited	
Urban land----------	20	Not rated		Not rated	
11C:					
Clover--------------	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
11D:					
Clover--------------	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
12B:					
Clover--------------	80	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Bentley-------------	15	Well suited		Well suited	
13A:					
Codorus-------------	85	Well suited		Well suited	
14A:					
Codorus-------------	80	Well suited		Well suited	
Hatboro-------------	15	Well suited		Unsuited	
				Wetness	1.00
15A:					
Comus---------------	85	Well suited		Well suited	
16A:					
Dan River-----------	85	Well suited		Well suited	
17B:					
Danripple-----------	85	Well suited		Well suited	
18B:					
Delila--------------	90	Poorly suited		Unsuited	
		Stickiness; high plasticity index	0.50	Wetness	1.00

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
19C:					
Devotion	60	Well suited		Unsuited	
				Restrictive layer	1.00
Rhodhiss	30	Well suited		Well suited	
19D:					
Devotion	60	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
				Slope	0.50
Rhodhiss	30	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
20B:					
Dogue	90	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
21D:					
Fairview	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
21E:					
Fairview	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
22B:					
Georgeville	85	Well suited		Well suited	
22C:					
Georgeville	85	Well suited		Well suited	
23D:					
Goldston	55	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		
Montonia	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
23E:					
Goldston	70	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		
Montonia	20	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
24B:					
Halifax	85	Well suited		Well suited	
24C:					
Halifax	85	Well suited		Well suited	
25B:					
Herndon	90	Well suited		Well suited	
25C:					
Herndon	85	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
26B:					
Jackland-----------	70	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Orange-------------	20	Well suited		Well suited	
27B:					
Lackstown----------	85	Well suited		Well suited	
27C:					
Lackstown----------	85	Well suited		Well suited	
28B:					
Masada-------------	90	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
29B:					
Mattaponi----------	90	Well suited		Well suited	
30B:					
Meadows------------	85	Well suited		Poorly suited	
				Restrictive layer	0.50
31B:					
Minnieville--------	90	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
32B3:					
Minnieville--------	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
32C3:					
Minnieville--------	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
33C:					
Montonia-----------	70	Well suited		Well suited	
Goldston-----------	20	Poorly suited		Well suited	
		Rock fragments	0.50		
34B:					
Montonia-----------	70	Well suited		Well suited	
Nanford------------	20	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
35B:					
Nanford------------	80	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Badin--------------	15	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
35C:					
Nanford	75	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Badin	20	Well suited		Well suited	
35D:					
Nanford	55	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
Badin	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
36B:					
Nathalie	90	Well suited		Well suited	
36C:					
Nathalie	85	Well suited		Well suited	
37B:					
Oak Level	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
37C:					
Oak Level	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
38C:					
Pinkston	85	Well suited		Unsuited	
				Restrictive layer	1.00
38D:					
Pinkston	85	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
				Slope	0.50
39D:					
Poindexter	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
				Restrictive layer	0.50
40B:					
Rasalo	70	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Orange	20	Well suited		Well suited	
41A:					
Riverview	85	Well suited		Well suited	
42C:					
Spriggs	85	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
42D:					
Spriggs	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
42E:					
Spriggs	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
43B:					
Spriggs	70	Well suited		Well suited	
Rasalo	20	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
43C:					
Spriggs	75	Well suited		Well suited	
Rasalo	15	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
43D:					
Spriggs	80	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Rasalo	15	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Stickiness; high plasticity index	0.50		
44B:					
Spriggs	70	Well suited		Well suited	
Urban land	15	Not rated		Not rated	
44D:					
Spriggs	70	Well suited		Well suited	
Urban land	15	Not rated		Not rated	
45C:					
Stoneville	85	Well suited		Well suited	
46B:					
Straightstone	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
47B:					
Tarrus	75	Well suited		Well suited	
Badin	20	Well suited		Well suited	
47C:					
Tarrus	70	Well suited		Well suited	
Badin	20	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
47D:					
Tarrus	55	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Badin	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
48D:					
Toast	85	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
49A:					
Toccoa	85	Well suited		Well suited	
50B:					
Turbeville	90	Well suited		Well suited	
50C:					
Turbeville	85	Well suited		Well suited	
51B:					
Udorthents	90	Not rated		Not rated	
52B:					
Urban land	90	Not rated		Not rated	
53B:					
Virgilina	85	Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50
54B:					
Virgilina	85	Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50
55C:					
Virgilina	50	Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.50	Restrictive layer	0.50
Poindexter	40	Well suited		Poorly suited	
				Restrictive layer	0.50
56B:					
Wolftrap	75	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Easthamlet	15	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
57B:					
Yadkin	90	Well suited		Well suited	
57C:					
Yadkin	90	Well suited		Well suited	

Table 9.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
58B3:					
Yadkin	90	Well suited		Well suited	
58C3:					
Yadkin	90	Well suited		Well suited	
W:					
Water	100	Not rated		Not rated	

Table 9.—Forestland Management, Part V

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Potential for damage to soil by fire: Value	Potential for seedling mortality: Rating class and limiting features	Potential for seedling mortality: Value
1B3:					
Appomattox	85	Low		Low	
1C3:					
Appomattox	85	Low		Low	
2B:					
Banister	85	Moderate		Low	
		Texture/rock fragments	0.50		
Kinkora	10	Moderate		High	
		Texture/surface depth/rock fragments	0.50	Wetness	1.00
3B:					
Bentley	90	High		Low	
		Texture/rock fragments	1.00		
3C:					
Bentley	90	High		Low	
		Texture/rock fragments	1.00		
4A:					
Chewacla	85	Low		Low	
		Texture/rock fragments	0.10		
5A:					
Chewacla	75	Low		Low	
		Texture/rock fragments	0.10		
Wehadkee	20	Low		High	
		Texture/surface depth/rock fragments	0.10	Wetness	1.00
6C:					
Cid	85	Moderate		Low	
		Texture/rock fragments	0.50		
7B:					
Cid	70	Moderate		Low	
		Texture/rock fragments	0.50		
Lignum	25	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
8B:					
Clifford------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
8C:					
Clifford------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
9B3:					
Clifford------------	90	Low		Low	
9C3:					
Clifford------------	90	Low		Low	
10B:					
Clifford------------	75	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	
10D:					
Clifford------------	75	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land----------	20	Not rated		Not rated	
11C:					
Clover--------------	85	Moderate		Low	
		Texture/rock fragments	0.50		
11D:					
Clover--------------	85	Moderate		Low	
		Texture/rock fragments	0.50		
12B:					
Clover--------------	80	Moderate		Low	
		Texture/rock fragments	0.50		
Bentley-------------	15	High		Low	
		Texture/rock fragments	1.00		
13A:					
Codorus-------------	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
14A:					
Codorus-------------	80	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
14A:					
Hatboro	15	Low		High	
		Texture/surface depth/rock fragments	0.10	Wetness	1.00
15A:					
Comus	85	Moderate		Low	
		Texture/rock fragments	0.50		
16A:					
Dan River	85	Low		Low	
		Texture/rock fragments	0.10		
17B:					
Danripple	85	Low		Low	
		Texture/rock fragments	0.10		
18B:					
Delila	90	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
19C:					
Devotion	60	Low		Low	
		Texture/rock fragments	0.10		
Rhodhiss	30	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
19D:					
Devotion	60	Low		Low	
		Texture/rock fragments	0.10		
Rhodhiss	30	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
20B:					
Dogue	90	Moderate		Low	
		Texture/rock fragments	0.50		
21D:					
Fairview	85	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
21E:					
Fairview	85	High		Low	
		Texture/slope/ surface depth/ rock fragments	1.00		
22B:					
Georgeville	85	Moderate		Low	
		Texture/rock fragments	0.50		
22C:					
Georgeville	85	Moderate		Low	
		Texture/rock fragments	0.50		
23D:					
Goldston	55	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
Montonia	35	Moderate		Low	
		Texture/rock fragments	0.50		
23E:					
Goldston	70	High		Low	
		Texture/slope/ surface depth/ rock fragments	1.00		
Montonia	20	Moderate		Low	
		Texture/slope/ rock fragments	0.50		
24B:					
Halifax	85	Moderate		Low	
		Texture/rock fragments	0.50		
24C:					
Halifax	85	Moderate		Low	
		Texture/rock fragments	0.50		
25B:					
Herndon	90	Moderate		Low	
		Texture/rock fragments	0.50		
25C:					
Herndon	85	Moderate		Low	
		Texture/rock fragments	0.50		
26B:					
Jackland	70	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
26B:					
Orange	20	Low		Low	
		Texture/rock fragments	0.10		
27B:					
Lackstown	85	Moderate		Low	
		Texture/rock fragments	0.50		
27C:					
Lackstown	85	Moderate		Low	
		Texture/rock fragments	0.50		
28B:					
Masada	90	Low		Low	
		Texture/rock fragments	0.10		
29B:					
Mattaponi	90	Moderate		Low	
		Texture/rock fragments	0.50		
30B:					
Meadows	85	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
31B:					
Minnieville	90	Moderate		Low	
		Texture/rock fragments	0.50		
32B3:					
Minnieville	85	Low		Low	
32C3:					
Minnieville	85	Low		Low	
33C:					
Montonia	70	Moderate		Low	
		Texture/rock fragments	0.50		
Goldston	20	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
34B:					
Montonia	70	Moderate		Low	
		Texture/rock fragments	0.50		
Nanford	20	Low		Low	
		Texture/rock fragments	0.10		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
35B:					
Nanford	80	Low		Low	
		Texture/rock fragments	0.10		
Badin	15	Low		Low	
		Texture/surface depth/rock fragments	0.10		
35C:					
Nanford	75	Low		Low	
		Texture/rock fragments	0.10		
Badin	20	Low		Low	
		Texture/surface depth/rock fragments	0.10		
35D:					
Nanford	55	Low		Low	
		Texture/rock fragments	0.10		
Badin	35	Low		Low	
		Texture/surface depth/rock fragments	0.10		
36B:					
Nathalie	90	Moderate		Low	
		Texture/rock fragments	0.50		
36C:					
Nathalie	85	Moderate		Low	
		Texture/rock fragments	0.50		
37B:					
Oak Level	85	Moderate		Low	
		Texture/rock fragments	0.50		
37C:					
Oak Level	85	Moderate		Low	
		Texture/rock fragments	0.50		
38C:					
Pinkston	85	Moderate		Low	
		Texture/rock fragments	0.50		
38D:					
Pinkston	85	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
39D:					
Poindexter	85	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
40B:					
Rasalo	70	Moderate		Low	
		Texture/rock fragments	0.50		
Orange	20	Low		Low	
		Texture/rock fragments	0.10		
41A:					
Riverview	85	Low		Low	
		Texture/rock fragments	0.10		
42C:					
Spriggs	85	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
42D:					
Spriggs	85	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
42E:					
Spriggs	85	High		Low	
		Texture/slope/ surface depth/ rock fragments	1.00		
43B:					
Spriggs	70	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
Rasalo	20	Moderate		Low	
		Texture/rock fragments	0.50		
43C:					
Spriggs	75	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
Rasalo	15	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
43D:					
Spriggs	80	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
Rasalo	15	Moderate		Low	
		Texture/rock fragments	0.50		
44B:					
Spriggs	70	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
Urban land	15	Not rated		Not rated	
44D:					
Spriggs	70	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
Urban land	15	Not rated		Not rated	
45C:					
Stoneville	85	Moderate		Low	
		Texture/rock fragments	0.50		
46B:					
Straightstone	85	Moderate		Low	
		Texture/rock fragments	0.50		
47B:					
Tarrus	75	Moderate		Low	
		Texture/rock fragments	0.50		
Badin	20	Low		Low	
		Texture/surface depth/rock fragments	0.10		
47C:					
Tarrus	70	Moderate		Low	
		Texture/rock fragments	0.50		
Badin	20	Low		Low	
		Texture/surface depth/rock fragments	0.10		
47D:					
Tarrus	55	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
47D:					
Badin	35	Low		Low	
		Texture/surface depth/rock fragments	0.10		
48D:					
Toast	85	Moderate		Low	
		Texture/rock fragments	0.50		
49A:					
Toccoa	85	Moderate		Low	
		Texture/rock fragments	0.50		
50B:					
Turbeville	90	Moderate		Low	
		Texture/rock fragments	0.50		
50C:					
Turbeville	85	Moderate		Low	
		Texture/rock fragments	0.50		
51B:					
Udorthents	90	Not rated		Not rated	
52B:					
Urban land	90	Not rated		Not rated	
53B:					
Virgilina	85	Moderate		High	
		Texture/surface depth/rock fragments	0.50	Wetness	1.00
54B:					
Virgilina	85	Moderate		High	
		Texture/surface depth/rock fragments	0.50	Wetness	1.00
55C:					
Virgilina	50	Moderate		High	
		Texture/surface depth/rock fragments	0.50	Wetness	1.00
Poindexter	40	Moderate		Low	
		Texture/surface depth/rock fragments	0.50		
56B:					
Wolftrap	75	Moderate		Low	
		Texture/rock fragments	0.50		

Table 9.—Forestland Management, Part V—Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Potential for damage to soil by fire: Value	Potential for seedling mortality: Rating class and limiting features	Potential for seedling mortality: Value
56B:					
Easthamlet----------	15	Moderate		High	
		Texture/rock fragments	0.50	Wetness	1.00
57B:					
Yadkin--------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
57C:					
Yadkin--------------	90	Moderate		Low	
		Texture/rock fragments	0.50		
58B3:					
Yadkin--------------	90	Low		Low	
58C3:					
Yadkin--------------	90	Low		Low	
W:					
Water---------------	100	Not rated		Not rated	

Table 10.—Recreational Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	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
1B3:							
Appomattox----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.04	Slow water movement	0.04	Slope	0.88
						Slow water movement	0.04
1C3:							
Appomattox----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
		Slow water movement	0.04	Slow water movement	0.04	Slow water movement	0.04
2B:							
Banister------------	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98	Slow water movement	0.15	Slow water movement	0.15
		Slow water movement	0.15				
Kinkora-------------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	0.94	Slow water movement	0.94
		Slow water movement	0.94				
3B:							
Bentley-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.88	Too sandy	0.88	Slope	0.88
		Slow water movement	0.15	Slow water movement	0.15	Too sandy	0.88
						Slow water movement	0.15
3C:							
Bentley-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.88	Too sandy	0.88	Slope	1.00
		Slope	0.16	Slope	0.16	Too sandy	0.88
		Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
4A:							
Chewacla------------	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98			Flooding	0.60
5A:							
Chewacla------------	75	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
		Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
5A:							
Wehadkee	20	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	Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
6C:							
Cid	85	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	0.16	Slope	0.16	Slow water movement	0.94
7B:							
Cid	70	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
Lignum	25	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	0.81	Depth to saturated zone	0.48	Depth to saturated zone	0.81
						Slope	0.50
8B:							
Clifford	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
8C:							
Clifford	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
9B3:							
Clifford	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
9C3:							
Clifford	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
10B:							
Clifford	75	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Urban land	20	Not rated		Not rated		Not rated	
10D:							
Clifford	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
11C:							
Clover	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
11D:							
Clover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
12B:							
Clover	80	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Bentley	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.88	Too sandy	0.88	Slope	0.88
		Slow water movement	0.15	Slow water movement	0.15	Too sandy	0.88
						Slow water movement	0.15
13A:							
Codorus	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00			Flooding	0.60
14A:							
Codorus	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
Hatboro	15	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	Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
15A:							
Comus	85	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
16A:							
Dan River	85	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
17B:							
Danripple	85	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.50
18B:							
Delila	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
19C:							
Devotion	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
						Depth to bedrock	0.46

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
19C:							
Rhodhiss------------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
						Gravel content	0.22
19D:							
Devotion------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.46
Rhodhiss------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.22
20B:							
Dogue---------------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98				
21D:							
Fairview------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.22
21E:							
Fairview------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.22
22B:							
Georgeville---------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.88
						Gravel content	0.22
22C:							
Georgeville---------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
						Gravel content	0.22
23D:							
Goldston------------	55	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	0.54	Gravel content	0.54	Gravel content	1.00
Montonia------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.02	Gravel content	0.02	Gravel content	1.00
						Depth to bedrock	0.46
23E:							
Goldston------------	70	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	0.54	Gravel content	0.54	Gravel content	1.00
Montonia------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.02	Gravel content	0.02	Gravel content	1.00
						Depth to bedrock	0.46

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
24B:							
Halifax	85	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	0.24	Depth to saturated zone	0.12	Slope	0.88
						Depth to saturated zone	0.24
24C:							
Halifax	85	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
		Depth to saturated zone	0.24	Slope	0.16	Slow water movement	0.94
		Slope	0.16	Depth to saturated zone	0.12	Depth to saturated zone	0.24
25B:							
Herndon	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
25C:							
Herndon	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
26B:							
Jackland	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
						Slope	0.88
Orange	20	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
27B:							
Lackstown	85	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	0.03	Depth to saturated zone	0.02	Slope	0.50
						Depth to saturated zone	0.03
27C:							
Lackstown	85	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Slow water movement	1.00
		Depth to saturated zone	0.03	Depth to saturated zone	0.02	Depth to saturated zone	0.03
28B:							
Masada	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.50

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
29B:							
Mattaponi	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.15	Slow water movement	0.15	Slope	0.88
						Slow water movement	0.15
30B:							
Meadows	85	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Gravel content	0.50	Gravel content	0.50	Gravel content	1.00
						Slope	0.88
31B:							
Minnieville	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
32B3:							
Minnieville	85	Not limited		Not limited		Somewhat limited	
						Slope	0.88
32C3:							
Minnieville	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
33C:							
Montonia	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.02	Gravel content	0.02	Gravel content	1.00
						Depth to bedrock	0.46
Goldston	20	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
		Gravel content	0.54	Gravel content	0.54	Gravel content	1.00
34B:							
Montonia	70	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.02	Gravel content	0.02	Gravel content	1.00
						Slope	0.88
						Depth to bedrock	0.46
Nanford	20	Not limited		Not limited		Somewhat limited	
						Slope	0.88
35B:							
Nanford	80	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Badin	15	Not limited		Not limited		Somewhat limited	
						Slope	0.50
						Depth to bedrock	0.01
35C:							
Nanford	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Badin	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.01

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
35D:							
Nanford	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Badin	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01
36B:							
Nathalie	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
36C:							
Nathalie	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
37B:							
Oak Level	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.15	Slow water movement	0.15	Slope	0.88
						Slow water movement	0.15
37C:							
Oak Level	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
		Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
38C:							
Pinkston	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.95
						Gravel content	0.22
38D:							
Pinkston	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.95
						Gravel content	0.22
39D:							
Poindexter	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.19	Large stones content	0.19	Gravel content	1.00
						Depth to bedrock	0.20
		Gravel content	0.05	Gravel content	0.05		
40B:							
Rasalo	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
						Slope	0.50
Orange	20	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

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
41A:							
Riverview	85	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
42C:							
Spriggs	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.01
42D:							
Spriggs	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01
42E:							
Spriggs	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01
43B:							
Spriggs	70	Not limited		Not limited		Somewhat limited	
						Slope	0.50
						Depth to bedrock	0.01
Rasalo	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
						Slope	0.50
43C:							
Spriggs	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.01
Rasalo	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
43D:							
Spriggs	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01
Rasalo	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.60	Slow water movement	0.60	Slow water movement	0.60
44B:							
Spriggs	70	Not limited		Not limited		Very limited	
						Slope	1.00
						Depth to bedrock	0.01
Urban land	15	Not rated		Not rated		Not rated	

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
44D:							
Spriggs-------------	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.01
Urban land----------	15	Not rated		Not rated		Not rated	
45C:							
Stoneville----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.37	Slope	0.37	Slope	1.00
46B:							
Straightstone-------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
47B:							
Tarrus--------------	75	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Badin---------------	20	Not limited		Not limited		Somewhat limited	
						Slope	0.88
						Depth to bedrock	0.01
47C:							
Tarrus--------------	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Badin---------------	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
						Depth to bedrock	0.01
47D:							
Tarrus--------------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Badin---------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01
48D:							
Toast---------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
49A:							
Toccoa--------------	85	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
50B:							
Turbeville----------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
50C:							
Turbeville----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
51B:							
Udorthents----------	90	Not rated		Not rated		Not rated	
52B:							
Urban land----------	90	Not rated		Not rated		Not rated	

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
53B:							
Virgilina	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slow water movement	1.00
		Slow water movement	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
		Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
54B:							
Virgilina	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slow water movement	1.00
		Slow water movement	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
		Large stones content	0.29	Large stones content	0.29	Gravel content	1.00
55C:							
Virgilina	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slow water movement	1.00
		Slow water movement	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
		Slope	0.63	Slope	0.63	Slope	1.00
Poindexter	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Gravel content	0.05	Gravel content	0.05	Gravel content	1.00
						Depth to bedrock	0.20
56B:							
Wolftrap	75	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	0.95	Depth to saturated zone	0.68	Depth to saturated zone	0.95
						Slope	0.50
Easthamlet	15	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	0.88	Slow water movement	1.00
						Slope	0.50
57B:							
Yadkin	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
57C:							
Yadkin	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
58B3:							
Yadkin	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88

Table 10.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
58C3:							
Yadkin	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
W:							
Water	100	Not rated		Not rated		Not rated	

Table 10.—Recreational Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	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
1B3:							
Appomattox----------	85	Not limited		Not limited		Not limited	
1C3:							
Appomattox----------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.16
2B:							
Banister------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Kinkora-------------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
3B:							
Bentley-------------	90	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.88	Too sandy	0.88		
3C:							
Bentley-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.88	Too sandy	0.88	Slope	0.16
4A:							
Chewacla------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Flooding	0.60
5A:							
Chewacla------------	75	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
Wehadkee------------	20	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	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
6C:							
Cid-----------------	85	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to bedrock	0.35
						Slope	0.16
7B:							
Cid-----------------	70	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	0.35

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
7B:							
Lignum	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.11	Depth to saturated zone	0.11	Depth to saturated zone	0.48
8B:							
Clifford	90	Not limited		Not limited		Not limited	
8C:							
Clifford	90	Not limited		Not limited		Somewhat limited	
						Slope	0.16
9B3:							
Clifford	90	Not limited		Not limited		Not limited	
9C3:							
Clifford	90	Not limited		Not limited		Somewhat limited	
						Slope	0.16
10B:							
Clifford	75	Not limited		Not limited		Not limited	
Urban land	20	Not rated		Not rated		Not rated	
10D:							
Clifford	75	Not limited		Not limited		Somewhat limited	
						Slope	0.16
Urban land	20	Not rated		Not rated		Not rated	
11C:							
Clover	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
11D:							
Clover	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
12B:							
Clover	80	Not limited		Not limited		Not limited	
Bentley	15	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.88	Too sandy	0.88		
13A:							
Codorus	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
14A:							
Codorus	80	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
Hatboro	15	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	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
15A:							
Comus	85	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
16A:							
Dan River	85	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
17B:							
Danripple	85	Not limited		Not limited		Not limited	
18B:							
Delila	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
19C:							
Devotion	60	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.46
						Slope	0.16
						Droughty	0.12
Rhodhiss	30	Not limited		Not limited		Somewhat limited	
						Slope	0.16
19D:							
Devotion	60	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.46
						Droughty	0.12
Rhodhiss	30	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
20B:							
Dogue	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
21D:							
Fairview	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
21E:							
Fairview	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
22B:							
Georgeville	85	Not limited		Not limited		Not limited	
22C:							
Georgeville	85	Not limited		Not limited		Somewhat limited	
						Slope	0.16
23D:							
Goldston	55	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Depth to bedrock	1.00
						Slope	1.00
						Droughty	0.87

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
23D:							
Montonia------------	35	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.46
						Gravel content	0.02
23E:							
Goldston------------	70	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Depth to bedrock	1.00
						Slope	1.00
						Droughty	0.87
Montonia------------	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Depth to bedrock	0.46
						Gravel content	0.02
24B:							
Halifax-------------	85	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.12
24C:							
Halifax-------------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.16
						Depth to saturated zone	0.12
25B:							
Herndon-------------	90	Not limited		Not limited		Not limited	
25C:							
Herndon-------------	85	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.16
26B:							
Jackland------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Orange--------------	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
27B:							
Lackstown-----------	85	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.02
27C:							
Lackstown-----------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to saturated zone	0.02
28B:							
Masada--------------	90	Not limited		Not limited		Not limited	
29B:							
Mattaponi-----------	90	Not limited		Not limited		Not limited	

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
30B:							
Meadows	85	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	0.99
						Gravel content	0.50
31B:							
Minnieville	90	Not limited		Not limited		Not limited	
32B3:							
Minnieville	85	Not limited		Not limited		Not limited	
32C3:							
Minnieville	85	Not limited		Not limited		Somewhat limited	
						Slope	0.16
33C:							
Montonia	70	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.46
						Gravel content	0.02
Goldston	20	Not limited		Not limited		Very limited	
						Depth to bedrock	1.00
						Droughty	0.87
						Slope	0.63
34B:							
Montonia	70	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.46
						Gravel content	0.02
Nanford	20	Not limited		Not limited		Not limited	
35B:							
Nanford	80	Not limited		Not limited		Not limited	
Badin	15	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.01
35C:							
Nanford	75	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.16
Badin	20	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.63
						Depth to bedrock	0.01
35D:							
Nanford	55	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.50				
Badin	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.50			Depth to bedrock	0.01
36B:							
Nathalie	90	Not limited		Not limited		Not limited	

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
36C:							
Nathalie	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
37B:							
Oak Level	85	Not limited		Not limited		Not limited	
37C:							
Oak Level	85	Not limited		Not limited		Somewhat limited	
						Slope	0.16
38C:							
Pinkston	85	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.95
						Droughty	0.71
						Slope	0.63
38D:							
Pinkston	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.95
						Droughty	0.71
39D:							
Poindexter	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.50	Large stones content	0.19	Slope	1.00
		Large stones content	0.19			Depth to bedrock	0.20
						Gravel content	0.05
40B:							
Rasalo	70	Not limited		Not limited		Not limited	
Orange	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
41A:							
Riverview	85	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
42C:							
Spriggs	85	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.01
42D:							
Spriggs	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.01
42E:							
Spriggs	85	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.78	Slope	1.00
						Depth to bedrock	0.01
43B:							
Spriggs	70	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.01
Rasalo	20	Not limited		Not limited		Not limited	

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
43C:							
Spriggs	75	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.01
Rasalo	15	Not limited		Not limited		Somewhat limited	
						Slope	0.63
43D:							
Spriggs	80	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
						Depth to bedrock	0.01
Rasalo	15	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
44B:							
Spriggs	70	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.01
Urban land	15	Not rated		Not rated		Not rated	
44D:							
Spriggs	70	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.01
Urban land	15	Not rated		Not rated		Not rated	
45C:							
Stoneville	85	Not limited		Not limited		Somewhat limited	
						Slope	0.37
46B:							
Straightstone	85	Not limited		Not limited		Not limited	
47B:							
Tarrus	75	Not limited		Not limited		Not limited	
Badin	20	Not limited		Not limited		Somewhat limited	
						Depth to bedrock	0.01
47C:							
Tarrus	70	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.63
Badin	20	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.63
						Depth to bedrock	0.01
47D:							
Tarrus	55	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.50				
Badin	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.50			Depth to bedrock	0.01

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
48D:							
Toast	85	Somewhat limited		Not limited		Very limited	
		Slope	0.18			Slope	1.00
49A:							
Toccoa	85	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
50B:							
Turbeville	90	Not limited		Not limited		Not limited	
50C:							
Turbeville	85	Not limited		Not limited		Somewhat limited	
						Slope	0.16
51B:							
Udorthents	90	Not rated		Not rated		Not rated	
52B:							
Urban land	90	Not rated		Not rated		Not rated	
53B:							
Virgilina	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Depth to bedrock	0.29
						Gravel content	0.08
54B:							
Virgilina	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones content	0.29	Large stones content	0.29	Depth to bedrock	0.29
						Gravel content	0.08
55C:							
Virgilina	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Large stones content	0.29	Large stones content	0.29	Slope	0.63
						Depth to bedrock	0.29
Poindexter	40	Not limited		Not limited		Somewhat limited	
						Slope	0.63
						Depth to bedrock	0.20
						Gravel content	0.05
56B:							
Wolftrap	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.32	Depth to saturated zone	0.32	Depth to saturated zone	0.68
Easthamlet	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.73	Depth to saturated zone	0.73	Depth to saturated zone	0.88
						Depth to bedrock	0.46
57B:							
Yadkin	90	Not limited		Not limited		Not limited	

Table 10.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
57C:							
Yadkin	90	Not limited		Not limited		Somewhat limited	
						Slope	0.16
58B3:							
Yadkin	90	Not limited		Not limited		Not limited	
58C3:							
Yadkin	90	Not limited		Not limited		Somewhat limited	
						Slope	0.16
W:							
Water	100	Not rated		Not rated		Not rated	

Table 11.—Building Site Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B3:							
Appomattox----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.06	Depth to saturated zone	0.95	Slope	0.12
				Shrink-swell	0.06	Shrink-swell	0.06
1C3:							
Appomattox----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Depth to saturated zone	0.95	Slope	1.00
		Shrink-swell	0.06	Slope	0.16	Shrink-swell	0.06
				Shrink-swell	0.06		
2B:							
Banister------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
Kinkora-------------	10	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
3B:							
Bentley-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.95	Shrink-swell	0.50
				Shrink-swell	0.50	Slope	0.12
3C:							
Bentley-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Depth to saturated zone	0.95	Slope	1.00
		Slope	0.16	Shrink-swell	0.50	Shrink-swell	0.50
				Slope	0.16		
4A:							
Chewacla------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
5A:							
Chewacla------------	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
5A:							
Wehadkee	20	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
6C:							
Cid	85	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
		Slope	0.16	Shrink-swell	0.50	Shrink-swell	0.50
7B:							
Cid	70	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	Shrink-swell	0.50	Depth to hard bedrock	0.10
Lignum	25	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.81	Depth to saturated zone	1.00	Depth to saturated zone	0.81
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8B:							
Clifford	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
8C:							
Clifford	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
9B3:							
Clifford	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
9C3:							
Clifford	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
10B:							
Clifford	75	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Urban land	20	Not rated		Not rated		Not rated	
10D:							
Clifford	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Urban land	20	Not rated		Not rated		Not rated	
11C:							
Clover	85	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

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
11D:							
Clover	85	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
12B:							
Clover	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12
Bentley	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.95	Shrink-swell	0.50
				Shrink-swell	0.50	Slope	0.12
13A:							
Codorus	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
14A:							
Codorus	80	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
Hatboro	15	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
15A:							
Comus	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
16A:							
Dan River	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.95		
17B:							
Danripple	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.89	Shrink-swell	0.50
				Shrink-swell	0.50		
18B:							
Delila	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.06	Shrink-swell	0.50

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
19C:							
Devotion	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Depth to soft bedrock	0.46	Slope	1.00
				Depth to hard bedrock	0.26		
				Slope	0.16		
Rhodhiss	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
19D:							
Devotion	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.46		
				Depth to hard bedrock	0.26		
Rhodhiss	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
20B:							
Dogue	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
21D:							
Fairview	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
21E:							
Fairview	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
22B:							
Georgeville	85	Not limited		Not limited		Somewhat limited	
						Slope	0.12
22C:							
Georgeville	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
23D:							
Goldston	55	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
				Depth to hard bedrock	0.99		
Montonia	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.99		
				Depth to soft bedrock	0.46		

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
23E:							
Goldston	70	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
				Depth to hard bedrock	0.99		
Montonia	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.99		
				Depth to soft bedrock	0.46		
24B:							
Halifax	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.24	Shrink-swell	1.00	Depth to saturated zone	0.24
						Slope	0.12
24C:							
Halifax	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.24	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.16	Slope	0.16	Depth to saturated zone	0.24
25B:							
Herndon	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
25C:							
Herndon	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
26B:							
Jackland	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00			Shrink-swell	1.00
						Slope	0.12
Orange	20	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
27B:							
Lackstown	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.99	Depth to saturated zone	1.00	Shrink-swell	0.99
		Depth to saturated zone	0.03	Shrink-swell	0.99	Depth to saturated zone	0.03
27C:							
Lackstown	85	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.99	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Shrink-swell	0.99	Shrink-swell	0.99
		Depth to saturated zone	0.03	Slope	0.63	Depth to saturated zone	0.03

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
28B:							
Masada	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.78	Shrink-swell	0.50
				Shrink-swell	0.50		
29B:							
Mattaponi	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.97	Shrink-swell	0.50
				Shrink-swell	0.50	Slope	0.12
30B:							
Meadows	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to hard bedrock	0.90
						Slope	0.12
31B:							
Minnieville	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
						Slope	0.12
32B3:							
Minnieville	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
						Slope	0.12
32C3:							
Minnieville	85	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.78	Shrink-swell	0.78	Slope	1.00
		Slope	0.16	Slope	0.16	Shrink-swell	0.78
33C:							
Montonia	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Depth to hard bedrock	0.99	Slope	1.00
				Slope	0.63		
				Depth to soft bedrock	0.46		
Goldston	20	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Depth to hard bedrock	0.99	Depth to soft bedrock	1.00
				Slope	0.63		
34B:							
Montonia	70	Not limited		Somewhat limited		Somewhat limited	
				Depth to hard bedrock	0.99	Slope	0.12
				Depth to soft bedrock	0.46		
Nanford	20	Not limited		Not limited		Somewhat limited	
						Slope	0.12

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
35B:							
Nanford	80	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Badin	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to hard bedrock	0.61	Shrink-swell	0.50
				Shrink-swell	0.50		
				Depth to soft bedrock	0.01		
35C:							
Nanford	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Badin	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	0.61	Shrink-swell	0.50
				Shrink-swell	0.50		
35D:							
Nanford	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Badin	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	0.61	Shrink-swell	0.50
				Shrink-swell	0.50		
36B:							
Nathalie	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
36C:							
Nathalie	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
37B:							
Oak Level	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
						Slope	0.12
37C:							
Oak Level	85	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.78	Shrink-swell	0.78	Slope	1.00
		Slope	0.16	Slope	0.16	Shrink-swell	0.78
38C:							
Pinkston	85	Somewhat limited		Very limited		Very limited	
		Depth to hard bedrock	0.95	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.63	Slope	0.63	Depth to hard bedrock	0.95
38D:							
Pinkston	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.95	Depth to hard bedrock	1.00	Depth to hard bedrock	0.95

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
39D:							
Poindexter----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Depth to hard bedrock	0.99	Shrink-swell	0.22
				Shrink-swell	0.22		
40B:							
Rasalo--------------	70	Very limited		Not limited		Very limited	
		Shrink-swell	1.00			Shrink-swell	1.00
Orange--------------	20	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
41A:							
Riverview-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.98		
42C:							
Spriggs-------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
				Depth to soft bedrock	0.01		
42D:							
Spriggs-------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
				Depth to soft bedrock	0.01		
42E:							
Spriggs-------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
				Depth to soft bedrock	0.01		
43B:							
Spriggs-------------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
				Depth to soft bedrock	0.01		
Rasalo--------------	20	Very limited		Not limited		Very limited	
		Shrink-swell	1.00			Shrink-swell	1.00
43C:							
Spriggs-------------	75	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
				Depth to soft bedrock	0.01		

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
43C:							
Rasalo	15	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Slope	0.63	Slope	1.00
		Slope	0.63			Shrink-swell	1.00
43D:							
Spriggs	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
				Depth to soft bedrock	0.01		
Rasalo	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00			Shrink-swell	1.00
44B:							
Spriggs	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.22	Shrink-swell	0.22	Slope	0.50
				Depth to soft bedrock	0.01	Shrink-swell	0.22
Urban land	15	Not rated		Not rated		Not rated	
44D:							
Spriggs	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
				Depth to soft bedrock	0.01		
Urban land	15	Not rated		Not rated		Not rated	
45C:							
Stoneville	85	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.37	Slope	0.37	Shrink-swell	0.50
46B:							
Straightstone	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
47B:							
Tarrus	75	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Badin	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to hard bedrock	0.61	Shrink-swell	0.50
				Shrink-swell	0.50	Slope	0.12
				Depth to soft bedrock	0.01		
47C:							
Tarrus	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
47C:							
Badin	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	0.61	Shrink-swell	0.50
				Shrink-swell	0.50		
47D:							
Tarrus	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Badin	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to hard bedrock	0.61	Shrink-swell	0.50
				Shrink-swell	0.50		
48D:							
Toast	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
49A:							
Toccoa	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.73		
50B:							
Turbeville	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
50C:							
Turbeville	85	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.16	Slope	0.16	Shrink-swell	0.50
51B:							
Udorthents	90	Not rated		Not rated		Not rated	
52B:							
Urban land	90	Not rated		Not rated		Not rated	
53B:							
Virgilina	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29
54B:							
Virgilina	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29

Table 11.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
55C:							
Virgilina	50	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	0.63	Depth to hard bedrock	1.00	Shrink-swell	1.00
Poindexter	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Depth to hard bedrock	0.99	Slope	1.00
		Shrink-swell	0.22	Slope	0.63	Shrink-swell	0.22
				Shrink-swell	0.22		
56B:							
Wolftrap	75	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.95			Depth to saturated zone	0.95
Easthamlet	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.99		
57B:							
Yadkin	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
57C:							
Yadkin	90	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.16	Slope	0.16	Shrink-swell	0.50
58B3:							
Yadkin	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
						Slope	0.12
58C3:							
Yadkin	90	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.22	Shrink-swell	0.22	Slope	1.00
		Slope	0.16	Slope	0.16	Shrink-swell	0.22
W:							
Water	100	Not rated		Not rated		Not rated	

Table 11.—Building Site Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
1B3:							
Appomattox----------	85	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.95		
		Shrink-swell	0.06	Too clayey	0.28		
				Cutbanks cave	0.10		
1C3:							
Appomattox----------	85	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	0.95	Slope	0.16
		Slope	0.16	Too clayey	0.28		
		Shrink-swell	0.06	Slope	0.16		
2B:							
Banister------------	85	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Shrink-swell	0.78	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
Kinkora-------------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.28		
		Shrink-swell	0.50	Cutbanks cave	0.10		
3B:							
Bentley-------------	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.95		
		Shrink-swell	0.50	Too clayey	0.50		
				Cutbanks cave	0.10		
3C:							
Bentley-------------	90	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	0.95	Slope	0.16
		Shrink-swell	0.50	Too clayey	0.50		
		Slope	0.16	Slope	0.16		
4A:							
Chewacla------------	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Flooding	0.60	Flooding	0.60
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
5A:							
Chewacla------------	75	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	0.75
		Depth to saturated zone	0.75	Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
5A:							
Wehadkee	20	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
6C:							
Cid	85	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	0.35
		Shrink-swell	0.50	Depth to soft bedrock	0.35	Slope	0.16
7B:							
Cid	70	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	0.35
		Shrink-swell	0.50	Depth to soft bedrock	0.35		
Lignum	25	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.48
		Shrink-swell	0.50	Too clayey	0.88		
		Depth to saturated zone	0.48	Cutbanks cave	0.10		
8B:							
Clifford	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.72		
				Cutbanks cave	0.10		
8C:							
Clifford	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Too clayey	0.72	Slope	0.16
		Low strength	0.10	Slope	0.16		
				Cutbanks cave	0.10		
9B3:							
Clifford	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.72		
				Cutbanks cave	0.10		
9C3:							
Clifford	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Too clayey	0.72	Slope	0.16
		Low strength	0.10	Slope	0.16		
				Cutbanks cave	0.10		
10B:							
Clifford	75	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.72		
				Cutbanks cave	0.10		
Urban land	20	Not rated		Not rated		Not rated	

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
10D:							
Clifford	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Too clayey	0.72	Slope	0.16
		Low strength	0.10	Slope	0.16		
				Cutbanks cave	0.10		
Urban land	20	Not rated		Not rated		Not rated	
11C:							
Clover	85	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Too clayey	0.50		
		Shrink-swell	0.50	Cutbanks cave	0.10		
11D:							
Clover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.50		
		Shrink-swell	0.50	Cutbanks cave	0.10		
12B:							
Clover	80	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.50		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Bentley	15	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.95		
		Shrink-swell	0.50	Too clayey	0.50		
				Cutbanks cave	0.10		
13A:							
Codorus	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Low strength	1.00	Cutbanks cave	0.10		
14A:							
Codorus	80	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		
Hatboro	15	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
15A:							
Comus	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
				Flooding	0.60		
16A:							
Dan River	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.95	Flooding	0.60
				Flooding	0.60		
				Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
17B:							
Danripple-----------	85	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.89		
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Flooding	0.20	Too clayey	0.01		
18B:							
Delila--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Too clayey	0.03		
19C:							
Devotion------------	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Depth to soft bedrock	0.46	Depth to bedrock	0.46
				Depth to hard bedrock	0.26	Slope	0.16
				Slope	0.16	Droughty	0.12
Rhodhiss------------	30	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.16	Cutbanks cave	1.00	Slope	0.16
				Slope	0.16		
19D:							
Devotion------------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.46	Depth to bedrock	0.46
				Depth to hard bedrock	0.26	Droughty	0.12
Rhodhiss------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00		
20B:							
Dogue---------------	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Shrink-swell	0.78	Too clayey	0.12		
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
21D:							
Fairview------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Too clayey	0.12		
				Cutbanks cave	0.10		
21E:							
Fairview------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Too clayey	0.12		
				Cutbanks cave	0.10		
22B:							
Georgeville---------	85	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.50		
				Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
22C:							
Georgeville----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Too clayey	0.50	Slope	0.16
		Low strength	0.10	Slope	0.16		
				Cutbanks cave	0.10		
23D:							
Goldston------------	55	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
				Depth to hard bedrock	0.99	Droughty	0.87
Montonia------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.22	Depth to hard bedrock	0.99	Depth to bedrock	0.46
				Depth to soft bedrock	0.46	Gravel content	0.02
23E:							
Goldston------------	70	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
				Depth to hard bedrock	0.99	Droughty	0.87
Montonia------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.22	Depth to hard bedrock	0.99	Depth to bedrock	0.46
				Depth to soft bedrock	0.46	Gravel content	0.02
24B:							
Halifax-------------	85	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.12
		Low strength	1.00	Too clayey	0.28		
		Depth to saturated zone	0.12	Cutbanks cave	0.10		
24C:							
Halifax-------------	85	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	0.16
		Low strength	1.00	Too clayey	0.28	Depth to saturated zone	0.12
		Slope	0.16	Slope	0.16		
25B:							
Herndon-------------	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.50		
				Cutbanks cave	0.10		
25C:							
Herndon-------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Too clayey	0.50	Slope	0.16
		Low strength	0.10	Slope	0.16		
				Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
26B:							
Jackland	70	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too clayey	1.00		
		Low strength	1.00	Cutbanks cave	0.10		
Orange	20	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	Too clayey	0.28		
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
27B:							
Lackstown	85	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.02
		Shrink-swell	0.99	Too clayey	0.28		
		Depth to saturated zone	0.02	Cutbanks cave	0.10		
27C:							
Lackstown	85	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Slope	0.63
		Shrink-swell	0.99	Slope	0.63	Depth to saturated zone	0.02
		Slope	0.63	Too clayey	0.28		
28B:							
Masada	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.78		
		Shrink-swell	0.50	Too clayey	0.12		
		Flooding	0.40	Cutbanks cave	0.10		
29B:							
Mattaponi	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.97		
		Shrink-swell	0.50	Too clayey	0.50		
				Cutbanks cave	0.10		
30B:							
Meadows	85	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to hard bedrock	1.00	Depth to bedrock	1.00
		Depth to hard bedrock	0.90	Depth to soft bedrock	1.00	Droughty	0.99
		Low strength	0.22			Gravel content	0.50
31B:							
Minnieville	90	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.78	Too clayey	0.76		
		Low strength	0.10	Cutbanks cave	0.10		
32B3:							
Minnieville	85	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.78	Too clayey	0.76		
		Low strength	0.10	Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
32C3:							
Minnieville	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.78	Too clayey	0.76	Slope	0.16
		Slope	0.16	Slope	0.16		
		Low strength	0.10	Cutbanks cave	0.10		
33C:							
Montonia	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Depth to hard bedrock	0.99	Slope	0.63
		Low strength	0.22			Depth to bedrock	0.46
				Slope	0.63	Gravel content	0.02
				Depth to soft bedrock	0.46		
Goldston	20	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
						Droughty	0.87
		Slope	0.63	Depth to hard bedrock	0.99	Slope	0.63
				Slope	0.63		
34B:							
Montonia	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.22	Depth to hard bedrock	0.99	Depth to bedrock	0.46
						Gravel content	0.02
				Depth to soft bedrock	0.46		
				Cutbanks cave	0.10		
Nanford	20	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Cutbanks cave	0.10		
				Too clayey	0.03		
35B:							
Nanford	80	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Cutbanks cave	0.10		
				Too clayey	0.03		
Badin	15	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	0.61	Depth to bedrock	0.01
		Shrink-swell	0.50				
				Cutbanks cave	0.10		
				Depth to soft bedrock	0.01		
35C:							
Nanford	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Slope	0.16
		Low strength	0.10	Cutbanks cave	0.10		
				Too clayey	0.03		
Badin	20	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Depth to hard bedrock	0.61	Depth to bedrock	0.01
		Shrink-swell	0.50				
				Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
35D:							
Nanford	55	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		
Badin	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to hard bedrock	0.61	Depth to bedrock	0.01
		Shrink-swell	0.50	Cutbanks cave	0.10		
36B:							
Nathalie	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.28		
				Cutbanks cave	0.10		
36C:							
Nathalie	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Low strength	0.10	Too clayey	0.28		
				Cutbanks cave	0.10		
37B:							
Oak Level	85	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.32		
		Shrink-swell	0.78	Cutbanks cave	0.10		
37C:							
Oak Level	85	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Too clayey	0.32	Slope	0.16
		Shrink-swell	0.78	Slope	0.16		
		Slope	0.16	Cutbanks cave	0.10		
38C:							
Pinkston	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.95	Depth to hard bedrock	1.00	Depth to bedrock	0.95
						Droughty	0.71
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
				Slope	0.63		
38D:							
Pinkston	85	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.95			Depth to bedrock	0.95
				Slope	1.00	Droughty	0.71
				Cutbanks cave	1.00		
39D:							
Poindexter	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to hard bedrock	0.99	Depth to bedrock	0.20
		Shrink-swell	0.22			Gravel content	0.05
				Depth to soft bedrock	0.20		
40B:							
Rasalo	70	Very limited		Somewhat limited		Not limited	
		Shrink-swell	1.00	Too clayey	0.88		
		Low strength	1.00	Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
40B:							
Orange	20	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	Too clayey	0.28		
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
41A:							
Riverview	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
				Depth to saturated zone	0.98		
				Flooding	0.60		
42C:							
Spriggs	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Shrink-swell	0.22	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
42D:							
Spriggs	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
42E:							
Spriggs	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
43B:							
Spriggs	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.22	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Rasalo	20	Very limited		Somewhat limited		Not limited	
		Shrink-swell	1.00	Too clayey	0.88		
		Low strength	1.00	Cutbanks cave	0.10		
43C:							
Spriggs	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Shrink-swell	0.22	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Rasalo	15	Very limited		Somewhat limited		Somewhat limited	
		Shrink-swell	1.00	Too clayey	0.88	Slope	0.63
		Low strength	1.00	Slope	0.63		
		Slope	0.63	Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
43D:							
Spriggs	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.22	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Rasalo	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	0.88		
		Low strength	1.00	Cutbanks cave	0.10		
44B:							
Spriggs	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.22	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Urban land	15	Not rated		Not rated		Not rated	
44D:							
Spriggs	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Shrink-swell	0.22	Cutbanks cave	0.10	Depth to bedrock	0.01
				Depth to soft bedrock	0.01		
Urban land	15	Not rated		Not rated		Not rated	
45C:							
Stoneville	85	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.37	Slope	0.37
		Shrink-swell	0.50	Too clayey	0.28		
		Slope	0.37	Cutbanks cave	0.10		
46B:							
Straightstone	85	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	0.50	Cutbanks cave	0.10		
47B:							
Tarrus	75	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.02	Too clayey	0.12		
				Cutbanks cave	0.10		
Badin	20	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	0.61	Depth to bedrock	0.01
		Shrink-swell	0.50	Cutbanks cave	0.10		
				Depth to soft bedrock	0.01		
47C:							
Tarrus	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Low strength	0.02	Too clayey	0.12		
				Cutbanks cave	0.10		

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
47C:							
Badin	20	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Depth to hard bedrock	0.61	Depth to bedrock	0.01
		Shrink-swell	0.50	Cutbanks cave	0.10		
47D:							
Tarrus	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.02	Too clayey	0.12		
				Cutbanks cave	0.10		
Badin	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to hard bedrock	0.61	Depth to bedrock	0.01
		Shrink-swell	0.50	Cutbanks cave	0.10		
48D:							
Toast	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.08	Too clayey	0.12		
				Cutbanks cave	0.10		
49A:							
Toccoa	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.73	Flooding	0.60
				Flooding	0.60		
				Cutbanks cave	0.10		
50B:							
Turbeville	90	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Too clayey	0.12		
		Low strength	0.08	Cutbanks cave	0.10		
50C:							
Turbeville	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Slope	0.16	Slope	0.16
		Slope	0.16	Too clayey	0.12		
		Low strength	0.08	Cutbanks cave	0.10		
51B:							
Udorthents	90	Not rated		Not rated		Not rated	
52B:							
Urban land	90	Not rated		Not rated		Not rated	
53B:							
Virgilina	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.29
		Low strength	1.00	Too clayey	0.98	Gravel content	0.08

Table 11.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
54B:							
Virgilina	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.29
		Low strength	1.00	Too clayey	0.98	Gravel content	0.08
55C:							
Virgilina	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.63
		Low strength	1.00	Too clayey	0.98	Depth to bedrock	0.29
Poindexter	40	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	0.99	Slope	0.63
		Slope	0.63	Slope	0.63	Depth to bedrock	0.20
		Shrink-swell	0.22	Depth to soft bedrock	0.20	Gravel content	0.05
56B:							
Wolftrap	75	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.68
		Low strength	1.00	Too clayey	0.97		
		Depth to saturated zone	0.68	Cutbanks cave	0.10		
Easthamlet	15	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.88
		Low strength	1.00	Depth to hard bedrock	0.99	Depth to bedrock	0.46
		Depth to saturated zone	0.88	Too clayey	0.72		
57B:							
Yadkin	90	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Too clayey	0.12		
		Low strength	0.08	Cutbanks cave	0.10		
57C:							
Yadkin	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Slope	0.16	Slope	0.16
		Slope	0.16	Too clayey	0.12		
		Low strength	0.08	Cutbanks cave	0.10		
58B3:							
Yadkin	90	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.22	Too clayey	0.28		
		Low strength	0.10	Cutbanks cave	0.10		
58C3:							
Yadkin	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.22	Too clayey	0.28	Slope	0.16
		Slope	0.16	Slope	0.16		
		Low strength	0.10	Cutbanks cave	0.10		
W:							
Water	100	Not rated		Not rated		Not rated	

Table 12.—Sanitary Facilities, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1B3:					
Appomattox----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Slope	0.68
		Seepage, bottom layer	1.00		
1C3:					
Appomattox----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
2B:					
Banister------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.68
		Flooding	0.40	Flooding	0.40
Kinkora-------------	10	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Flooding	0.40
3B:					
Bentley-------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Slope	0.68
3C:					
Bentley-------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	1.00
		Slope	0.16		

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
4A:					
Chewacla------------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
5A:					
Chewacla------------	75	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
Wehadkee------------	20	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
6C:					
Cid-----------------	85	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
7B:					
Cid-----------------	70	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--------------	25	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.94
		Depth to saturated zone	1.00	Slope	0.32
		Depth to bedrock	0.47	Seepage	0.18
8B:					
Clifford------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
8C:					
Clifford------------	90	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.16	Seepage	0.50
9B3:					
Clifford------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
9C3:					
Clifford	90	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.16	Seepage	0.50
10B:					
Clifford	75	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
Urban land	20	Not rated		Not rated	
10D:					
Clifford	75	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.16	Seepage	0.50
Urban land	20	Not rated		Not rated	
11C:					
Clover	85	Somewhat limited		Very limited	
		Slow water movement	0.92	Slope	1.00
		Slope	0.63	Seepage	0.68
11D:					
Clover	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.92	Seepage	0.68
12B:					
Clover	80	Somewhat limited		Somewhat limited	
		Slow water movement	0.92	Slope	0.68
				Seepage	0.68
Bentley	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Slope	0.68
13A:					
Codorus	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
14A:					
Codorus	80	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

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
14A:					
Hatboro	15	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
15A:					
Comus	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46		
16A:					
Dan River	85	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	1.00
17B:					
Danripple	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.50
				Slope	0.32
		Flooding	0.20		
18B:					
Delila	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
19C:					
Devotion	60	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	0.16	Slope	1.00
Rhodhiss	30	Somewhat limited		Very limited	
		Slow water movement	0.92	Seepage	1.00
				Slope	1.00
		Slope	0.16		
19D:					
Devotion	60	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
Rhodhiss	30	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.92	Seepage	1.00

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
20B:					
Dogue---------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.68	Seepage	1.00
		Flooding	0.40	Flooding	0.40
21D:					
Fairview------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
21E:					
Fairview------------	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.50	Seepage	0.50
22B:					
Georgeville---------	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
22C:					
Georgeville---------	85	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.16	Seepage	0.50
23D:					
Goldston------------	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.99
Montonia------------	35	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	Depth to hard bedrock	0.99
23E:					
Goldston------------	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
				Depth to hard bedrock	0.99
Montonia------------	20	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	Depth to hard bedrock	0.99

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
24B:					
Halifax-------------	85	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Slope	0.68
				Depth to saturated zone	0.64
24C:					
Halifax-------------	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Slope	0.16	Depth to saturated zone	0.64
25B:					
Herndon-------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
25C:					
Herndon-------------	85	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.16	Seepage	0.50
26B:					
Jackland------------	70	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68
				Seepage	0.50
Orange--------------	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Seepage	0.50
		Depth to bedrock	0.59	Slope	0.32
27B:					
Lackstown-----------	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.36
		Depth to saturated zone	1.00	Seepage	0.32
				Slope	0.32
27C:					
Lackstown-----------	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.36
		Slope	0.63	Seepage	0.32

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
28B:					
Masada--------------	90	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Slow water movement	0.50	Seepage	0.50
		Flooding	0.40	Flooding	0.40
29B:					
Mattaponi-----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	1.00	Slope	0.68
				Depth to saturated zone	0.01
30B:					
Meadows-------------	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
				Seepage	1.00
31B:					
Minnieville---------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
32B3:					
Minnieville---------	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
32C3:					
Minnieville---------	85	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.16	Seepage	0.50
33C:					
Montonia------------	70	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	Depth to hard bedrock	0.99
Goldston------------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
				Depth to hard bedrock	0.99

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
34B:					
Montonia	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.50	Depth to hard bedrock	0.99
				Slope	0.68
Nanford	20	Somewhat limited		Somewhat limited	
		Depth to bedrock	0.99	Depth to soft bedrock	0.96
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
35B:					
Nanford	80	Somewhat limited		Somewhat limited	
		Depth to bedrock	0.99	Depth to soft bedrock	0.96
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
Badin	15	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.50	Depth to hard bedrock	0.61
				Seepage	0.50
35C:					
Nanford	75	Somewhat limited		Very limited	
		Depth to bedrock	0.99	Slope	1.00
		Slow water movement	0.50	Depth to soft bedrock	0.96
		Slope	0.16	Seepage	0.50
Badin	20	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	Depth to hard bedrock	0.61
35D:					
Nanford	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.99	Depth to soft bedrock	0.96
		Slow water movement	0.50	Seepage	0.50
Badin	35	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	Depth to hard bedrock	0.61

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
36B:					
Nathalie	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50	Slope	0.68
36C:					
Nathalie	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
		Slow water movement	0.50		
37B:					
Oak Level	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.68
				Seepage	0.50
37C:					
Oak Level	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.16	Seepage	0.50
38C:					
Pinkston	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	0.63	Seepage	1.00
38D:					
Pinkston	85	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
39D:					
Poindexter	85	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	Depth to hard bedrock	0.99
40B:					
Rasalo	70	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.32
Orange	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Seepage	0.50
		Depth to bedrock	0.59	Slope	0.32

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
41A:					
Riverview-----------	85	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	1.00
42C:					
Spriggs-------------	85	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
42D:					
Spriggs-------------	85	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
42E:					
Spriggs-------------	85	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
43B:					
Spriggs-------------	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
Rasalo--------------	20	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.32
43C:					
Spriggs-------------	75	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
Rasalo--------------	15	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	0.63		

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
43D:					
Spriggs-------------	80	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
Rasalo--------------	15	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
44B:					
Spriggs-------------	70	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.50	Slope	0.92
				Seepage	0.50
Urban land----------	15	Not rated		Not rated	
44D:					
Spriggs-------------	70	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
Urban land----------	15	Not rated		Not rated	
45C:					
Stoneville----------	85	Somewhat limited		Very limited	
		Depth to bedrock	0.86	Slope	1.00
		Slow water movement	0.50	Depth to soft bedrock	0.61
		Slope	0.37	Seepage	0.50
46B:					
Straightstone-------	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
47B:					
Tarrus--------------	75	Somewhat limited		Somewhat limited	
		Depth to bedrock	0.83	Slope	0.68
		Slow water movement	0.50	Depth to soft bedrock	0.54
				Seepage	0.50
Badin---------------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.50	Slope	0.68
				Depth to hard bedrock	0.61

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
47C:					
Tarrus	70	Somewhat limited		Very limited	
		Depth to bedrock	0.83	Slope	1.00
		Slope	0.63	Depth to soft	0.54
		Slow water	0.50	bedrock	
		movement		Seepage	0.50
Badin	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft	1.00
		Slope	0.63	bedrock	
		Slow water	0.50	Slope	1.00
		movement		Depth to hard	0.61
				bedrock	
47D:					
Tarrus	55	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.83	Depth to soft	0.54
		Slow water	0.50	bedrock	
		movement	0.50	Seepage	0.50
Badin	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft	1.00
		Slope	1.00	bedrock	
		Slow water	0.50	Slope	1.00
		movement		Depth to hard	0.61
				bedrock	
48D:					
Toast	85	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water	0.50	Seepage	0.50
		movement			
49A:					
Toccoa	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to	1.00	Seepage	1.00
		saturated zone		Depth to	0.92
		Seepage, bottom	1.00	saturated zone	
		layer			
50B:					
Turbeville	90	Somewhat limited		Somewhat limited	
		Slow water	0.50	Seepage	0.50
		movement		Slope	0.08
50C:					
Turbeville	85	Somewhat limited		Very limited	
		Slow water	0.50	Slope	1.00
		movement		Seepage	0.50
		Slope	0.16		
51B:					
Udorthents	90	Not rated		Not rated	
52B:					
Urban land	90	Not rated		Not rated	

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
53B:					
Virgilina-----------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.32
54B:					
Virgilina-----------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.32
55C:					
Virgilina-----------	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
Poindexter----------	40	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	Depth to hard bedrock	0.99
56B:					
Wolftrap------------	75	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Slope	0.32
Easthamlet----------	15	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	Depth to hard bedrock	0.99
57B:					
Yadkin--------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.08
57C:					
Yadkin--------------	90	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
		Slope	0.16	Seepage	0.50

Table 12.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
58B3:					
Yadkin--------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Slope	0.68
				Seepage	0.50
58C3:					
Yadkin--------------	90	Somewhat limited		Very limited	
		Slow water movement	0.50	Slope	1.00
				Seepage	0.50
		Slope	0.16		
W:					
Water---------------	100	Not rated		Not rated	

Table 12.—Sanitary Facilities, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		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
1B3:							
Appomattox----------	85	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
		Seepage, bottom layer	1.00			Hard to compact	1.00
		Depth to saturated zone	0.47			Depth to saturated zone	0.11
1C3:							
Appomattox----------	85	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.16	Too clayey	1.00
		Seepage, bottom layer	1.00			Hard to compact	1.00
		Depth to saturated zone	0.47			Slope	0.16
2B:							
Banister------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.40	Depth to saturated zone	0.99
		Flooding	0.40				
Kinkora-------------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
		Seepage, bottom layer	1.00			Hard to compact	1.00
3B:							
Bentley-------------	90	Very limited		Very limited		Very limited	
		Too clayey	1.00	Seepage	1.00	Too clayey	1.00
		Depth to saturated zone	0.47			Hard to compact	1.00
						Depth to saturated zone	0.11
3C:							
Bentley-------------	90	Very limited		Very limited		Very limited	
		Too clayey	1.00	Seepage	1.00	Too clayey	1.00
		Depth to saturated zone	0.47	Slope	0.16	Hard to compact	1.00
		Slope	0.16			Slope	0.16
4A:							
Chewacla------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
5A:							
Chewacla	75	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
Wehadkee	20	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	Too clayey	0.50
6C:							
Cid	85	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	0.16	Hard to compact	1.00
7B:							
Cid	70	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			Hard to compact	1.00
Lignum	25	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Too clayey	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.05	Hard to compact	1.00
		Too clayey	1.00			Depth to saturated zone	0.96
8B:							
Clifford	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
8C:							
Clifford	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.16	Too clayey	0.50
		Slope	0.16			Slope	0.16
9B3:							
Clifford	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
9C3:							
Clifford	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.16	Too clayey	0.50
		Slope	0.16			Slope	0.16
10B:							
Clifford	75	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
Urban land	20	Not rated		Not rated		Not rated	
10D:							
Clifford	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.16	Too clayey	0.50
		Slope	0.16			Slope	0.16

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Trench sanitary landfill: Value	Area sanitary landfill: Rating class and limiting features	Area sanitary landfill: Value	Daily cover for landfill: Rating class and limiting features	Daily cover for landfill: Value
10D:							
Urban land	20	Not rated		Not rated		Not rated	
11C:							
Clover	85	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.63	Too clayey	1.00
		Slope	0.63			Hard to compact	1.00
						Slope	0.63
11D:							
Clover	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
12B:							
Clover	80	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
Bentley	15	Very limited		Very limited		Very limited	
		Too clayey	1.00	Seepage	1.00	Too clayey	1.00
		Depth to saturated zone	0.47			Hard to compact	1.00
						Depth to saturated zone	0.11
13A:							
Codorus	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
14A:							
Codorus	80	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				
Hatboro	15	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	Too clayey	0.50
15A:							
Comus	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Too sandy	0.50
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.22
		Too sandy	0.50				
16A:							
Dan River	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.11
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00				

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
17B:							
Danripple-----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.20	Hard to compact	1.00
		Flooding	0.20			Depth to saturated zone	0.01
18B:							
Delila--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
19C:							
Devotion------------	60	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	Seepage	1.00	Seepage	0.50
		Slope	0.16	Slope	0.16	Slope	0.16
Rhodhiss------------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Slope	0.16
19D:							
Devotion------------	60	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	1.00	Seepage	0.50
Rhodhiss------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
20B:							
Dogue---------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Seepage	1.00	Hard to compact	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.99
21D:							
Fairview------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
21E:							
Fairview------------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
22B:							
Georgeville---------	85	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
22C:							
Georgeville---------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.16	Too clayey	0.50
		Slope	0.16			Slope	0.16

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
23D:							
Goldston------------	55	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
						Gravel content	1.00
Montonia------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
23E:							
Goldston------------	70	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
						Gravel content	1.00
Montonia------------	20	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
24B:							
Halifax-------------	85	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.64	Too clayey	1.00
		Depth to saturated zone	0.99			Hard to compact	1.00
						Depth to saturated zone	0.80
24C:							
Halifax-------------	85	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.64	Too clayey	1.00
		Depth to saturated zone	0.99	Slope	0.16	Hard to compact	1.00
		Slope	0.16			Depth to saturated zone	0.80
25B:							
Herndon-------------	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
25C:							
Herndon-------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.16	Too clayey	0.50
		Slope	0.16			Slope	0.16
26B:							
Jackland------------	70	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Orange--------------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Depth to bedrock	1.00	Depth to bedrock	0.14	Depth to bedrock	0.14
27B:							
Lackstown-----------	85	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.36	Too clayey	1.00
		Depth to saturated zone	0.93			Hard to compact	1.00
						Depth to saturated zone	0.62

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
27C:							
Lackstown	85	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.63	Too clayey	1.00
		Depth to saturated zone	0.93	Depth to saturated zone	0.36	Hard to compact	1.00
		Slope	0.63			Slope	0.63
28B:							
Masada	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.40		
		Flooding	0.40				
29B:							
Mattaponi	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.53	Depth to saturated zone	0.01	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.14
30B:							
Meadows	85	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			Seepage	0.50
						Gravel content	0.02
31B:							
Minnieville	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
32B3:							
Minnieville	85	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
32C3:							
Minnieville	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.16	Too clayey	0.50
		Slope	0.16			Slope	0.16
33C:							
Montonia	70	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
Goldston	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Gravel content	1.00
						Slope	0.63
34B:							
Montonia	70	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
						Gravel content	0.05
Nanford	20	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	0.96	Depth to bedrock	0.96
		Too clayey	0.50			Too clayey	0.50
						Hard to compact	0.50

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
35B:							
Nanford	80	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	0.96	Depth to bedrock	0.96
		Too clayey	0.50			Too clayey	0.50
						Hard to compact	0.50
Badin	15	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
						Gravel content	0.01
35C:							
Nanford	75	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	0.96	Depth to bedrock	0.96
		Too clayey	0.50	Slope	0.16	Too clayey	0.50
		Slope	0.16			Hard to compact	0.50
Badin	20	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
35D:							
Nanford	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.96	Depth to bedrock	0.96
		Too clayey	0.50			Too clayey	0.50
Badin	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
36B:							
Nathalie	90	Very limited		Not limited		Somewhat limited	
		Seepage, bottom layer	1.00			Too clayey	0.50
		Too clayey	0.50				
36C:							
Nathalie	85	Very limited		Somewhat limited		Somewhat limited	
		Seepage, bottom layer	1.00	Slope	0.63	Slope	0.63
		Slope	0.63			Too clayey	0.50
		Too clayey	0.50				
37B:							
Oak Level	85	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
37C:							
Oak Level	85	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.16	Too clayey	1.00
		Slope	0.16			Hard to compact	1.00
						Slope	0.16

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
38C:							
Pinkston	85	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	Seepage	1.00	Slope	0.63
				Slope	0.63	Seepage	0.50
		Slope	0.63				
38D:							
Pinkston	85	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	1.00	Seepage	0.50
39D:							
Poindexter	85	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
40B:							
Rasalo	70	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
Orange	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Depth to bedrock	1.00	Depth to bedrock	0.14	Depth to bedrock	0.14
41A:							
Riverview	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.50
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.20
		Seepage, bottom layer	1.00	Seepage	1.00		
42C:							
Spriggs	85	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
42D:							
Spriggs	85	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
42E:							
Spriggs	85	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
43B:							
Spriggs	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Rasalo	20	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
43C:							
Spriggs	75	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	0.63	Slope	0.63	Slope	0.63
Rasalo	15	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.63
		Slope	0.63	Slope	0.63	Seepage	0.50
43D:							
Spriggs	80	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
Rasalo	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.50
44B:							
Spriggs	70	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Urban land	15	Not rated		Not rated		Not rated	
44D:							
Spriggs	70	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
Urban land	15	Not rated		Not rated		Not rated	
45C:							
Stoneville	85	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.61	Too clayey	1.00
		Too clayey	1.00	Slope	0.37	Hard to compact	1.00
		Slope	0.37			Depth to bedrock	0.61
46B:							
Straightstone	85	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
47B:							
Tarrus	75	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	0.54	Depth to bedrock	0.54
		Too clayey	0.50			Too clayey	0.50
Badin	20	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
						Gravel content	0.01
47C:							
Tarrus	70	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Depth to bedrock	0.54	Depth to bedrock	0.54
		Too clayey	0.50			Too clayey	0.50

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47C:							
Badin	20	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
47D:							
Tarrus	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.54	Depth to bedrock	0.54
		Too clayey	0.50			Too clayey	0.50
Badin	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Depth to bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	0.50
48D:							
Toast	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Too clayey	0.50
49A:							
Toccoa	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Seepage	0.50
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00	Seepage	1.00		
50B:							
Turbeville	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
50C:							
Turbeville	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.16	Too clayey	0.50
		Slope	0.16			Slope	0.16
51B:							
Udorthents	90	Not rated		Not rated		Not rated	
52B:							
Urban land	90	Not rated		Not rated		Not rated	
53B:							
Virgilina	85	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
54B:							
Virgilina	85	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

Table 12.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55C:							
Virgilina	50	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	0.63	Too clayey	1.00
Poindexter	40	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
56B:							
Wolftrap	75	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Too clayey	1.00
						Depth to saturated zone	0.99
Easthamlet	15	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
57B:							
Yadkin	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
57C:							
Yadkin	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.16	Too clayey	0.50
		Slope	0.16			Slope	0.16
58B3:							
Yadkin	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
58C3:							
Yadkin	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.16	Too clayey	0.50
		Slope	0.16			Slope	0.16
W:							
Water	100	Not rated		Not rated		Not rated	

Table 13.—Construction Materials, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1B3:					
Appomattox----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
1C3:					
Appomattox----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
2B:					
Banister------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kinkora-------------	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
3B:					
Bentley-------------	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
3C:					
Bentley-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
4A:					
Chewacla------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
5A:					
Chewacla------------	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Wehadkee------------	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
6C:					
Cid-----------------	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
7B:					
Cid	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lignum	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
8B:					
Clifford	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
8C:					
Clifford	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
9B3:					
Clifford	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
9C3:					
Clifford	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
10B:					
Clifford	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	
10D:					
Clifford	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Urban land	20	Not rated		Not rated	
11C:					
Clover	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
11D:					
Clover	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
12B:					
Clover	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Bentley	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
13A:					
Codorus	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
14A:					
Codorus	80	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Hatboro	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
15A:					
Comus	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.13
16A:					
Dan River	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
17B:					
Danripple	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
18B:					
Delila	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
19C:					
Devotion	60	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
Rhodhiss	30	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
19D:					
Devotion	60	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04
Rhodhiss	30	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
20B:					
Dogue	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
21D:					
Fairview	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
21E:					
Fairview-----------	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
22B:					
Georgeville---------	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
22C:					
Georgeville---------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
23D:					
Goldston------------	55	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Montonia------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
23E:					
Goldston------------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Montonia------------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
24B:					
Halifax-------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
24C:					
Halifax-------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
25B:					
Herndon-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
25C:					
Herndon-------------	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
26B:					
Jackland------------	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.01
Orange--------------	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
27B:					
Lackstown	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
27C:					
Lackstown	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
28B:					
Masada	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
29B:					
Mattaponi	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
30B:					
Meadows	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
31B:					
Minnieville	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
32B3:					
Minnieville	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
32C3:					
Minnieville	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
33C:					
Montonia	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Goldston	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
34B:					
Montonia	70	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Nanford	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
35B:					
Nanford	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Badin	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
35C:					
Nanford	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Badin	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
35D:					
Nanford	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Badin	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
36B:					
Nathalie	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
36C:					
Nathalie	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
37B:					
Oak Level	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
37C:					
Oak Level	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
38C:					
Pinkston	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
38D:					
Pinkston	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
39D:					
Poindexter	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
40B:					
Rasalo--------------	70	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Orange--------------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
41A:					
Riverview-----------	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.05
		Bottom layer	0.00	Bottom layer	0.11
42C:					
Spriggs-------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
42D:					
Spriggs-------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
42E:					
Spriggs-------------	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
43B:					
Spriggs-------------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rasalo--------------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
43C:					
Spriggs-------------	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Rasalo--------------	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
43D:					
Spriggs-------------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rasalo--------------	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
44B:					
Spriggs-------------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
44B:					
Urban land	15	Not rated		Not rated	
44D:					
Spriggs	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	15	Not rated		Not rated	
45C:					
Stoneville	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
46B:					
Straightstone	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
47B:					
Tarrus	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Badin	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
47C:					
Tarrus	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Badin	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
47D:					
Tarrus	55	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Badin	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
48D:					
Toast	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
49A:					
Toccoa	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.02
50B:					
Turbeville	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 13.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
50C:					
Turbeville----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
51B:					
Udorthents----------	90	Not rated		Not rated	
52B:					
Urban land----------	90	Not rated		Not rated	
53B:					
Virgilina-----------	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
54B:					
Virgilina-----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
55C:					
Virgilina-----------	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Poindexter----------	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
56B:					
Wolftrap------------	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Easthamlet----------	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
57B:					
Yadkin--------------	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
57C:					
Yadkin--------------	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
58B3:					
Yadkin--------------	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
58C3:					
Yadkin--------------	90	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
W:					
Water---------------	100	Not rated		Not rated	

Table 13.—Construction Materials, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
1B3:							
Appomattox	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.99	Too acid	0.88
		Too acid	0.32				
1C3:							
Appomattox	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.99	Slope	0.84
						Too acid	0.88
		Too acid	0.32				
2B:							
Banister	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
				Shrink-swell	0.84		
		Too acid	0.54				
Kinkora	10	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.90	Too acid	0.68
		Too acid	0.16				
3B:							
Bentley	90	Poor		Poor		Poor	
		Wind erosion	0.00	Low strength	0.00	Too sandy	0.00
		Too sandy	0.00	Shrink-swell	0.97		
		Organic matter content low	0.12				
3C:							
Bentley	90	Poor		Poor		Poor	
		Wind erosion	0.00	Low strength	0.00	Too sandy	0.00
		Too sandy	0.00	Shrink-swell	0.97	Slope	0.84
		Organic matter content low	0.12				
4A:							
Chewacla	85	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.14
				Wetness depth	0.14		
		Too acid	0.54				
		Water erosion	0.99				
5A:							
Chewacla	75	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.14
				Wetness depth	0.14		
		Too acid	0.54				
		Water erosion	0.99				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
5A:							
Wehadkee------------	20	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00		
		Too acid	0.16				
		Water erosion	0.90				
6C:							
Cid-----------------	85	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	0.65
		Too acid	0.50				
7B:							
Cid-----------------	70	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	0.65
		Too acid	0.50				
Lignum--------------	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Wetness depth	0.29	Wetness depth	0.29
				Depth to bedrock	0.95	Too acid	0.88
		Too acid	0.50				
8B:							
Clifford------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.54				
8C:							
Clifford------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.84
						Too acid	0.98
		Too acid	0.54				
9B3:							
Clifford------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.54				
9C3:							
Clifford------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.84
						Too acid	0.98
		Too acid	0.54				
10B:							
Clifford------------	75	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.54				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
10B:							
Urban land----------	20	Not rated		Not rated		Not rated	
10D:							
Clifford-----------	75	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.84
		Too acid	0.54			Too acid	0.98
Urban land----------	20	Not rated		Not rated		Not rated	
11C:							
Clover--------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.99	Slope	0.37
		Too acid	0.26			Too acid	0.82
11D:							
Clover--------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Slope	0.50	Too clayey	0.00
				Shrink-swell	0.99	Too acid	0.82
		Too acid	0.26				
12B:							
Clover--------------	80	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.99	Too acid	0.82
		Too acid	0.26				
Bentley-------------	15	Poor		Poor		Poor	
		Wind erosion	0.00	Low strength	0.00	Too sandy	0.00
		Too sandy	0.00	Shrink-swell	0.97	Too acid	0.88
		Organic matter content low	0.12				
13A:							
Codorus-------------	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00		
		Too acid	0.84				
		Water erosion	0.99				
14A:							
Codorus-------------	80	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00		
		Too acid	0.84				
		Water erosion	0.99				
Hatboro-------------	15	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.88				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
15A:							
Comus	85	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.54				
		Water erosion	0.90				
16A:							
Dan River	85	Fair		Good		Good	
		Organic matter content low	0.12				
		Too acid	0.54				
		Water erosion	0.99				
17B:							
Danripple	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.89	Too acid	0.95
		Too acid	0.46				
18B:							
Delila	90	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Shrink-swell	0.95	Too clayey	0.00
						Too acid	0.68
		Too acid	0.50				
19C:							
Devotion	60	Fair		Poor		Fair	
		Droughty	0.07	Depth to bedrock	0.00	Depth to bedrock	0.54
		Too acid	0.50			Too acid	0.76
		Organic matter content low	0.50			Slope	0.84
Rhodhiss	30	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.68
						Slope	0.84
		Too acid	0.16			Rock fragments	0.88
19D:							
Devotion	60	Fair		Poor		Poor	
		Droughty	0.07	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.50	Depth to bedrock	0.54
		Organic matter content low	0.50			Too acid	0.76
Rhodhiss	30	Fair		Fair		Poor	
		Organic matter content low	0.12	Slope	0.50	Slope	0.00
						Too acid	0.68
		Too acid	0.16			Rock fragments	0.88
20B:							
Dogue	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
				Shrink-swell	0.79	Too acid	0.98
		Too acid	0.54				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
21D:							
Fairview	85	Fair		Fair		Poor	
		Organic matter content low	0.02	Slope	0.50	Slope	0.00
						Too acid	0.68
		Too acid	0.50				
21E:							
Fairview	85	Fair		Poor		Poor	
		Organic matter content low	0.02	Slope	0.00	Slope	0.00
						Too acid	0.68
		Too acid	0.50				
22B:							
Georgeville	85	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				
22C:							
Georgeville	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Slope	0.84
						Too acid	0.88
		Too acid	0.32				
23D:							
Goldston	55	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.50	Rock fragments	0.00
		Organic matter content low	0.12			Depth to bedrock	0.00
Montonia	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.50	Rock fragments	0.00
		Depth to bedrock	0.54	Low strength	0.78	Depth to bedrock	0.54
		Too acid	0.54				
23E:							
Goldston	70	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
		Organic matter content low	0.12			Depth to bedrock	0.00
Montonia	20	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.54	Low strength	0.78	Depth to bedrock	0.54
		Too acid	0.54				
24B:							
Halifax	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.23	Wetness depth	0.62
				Wetness depth	0.62	Too acid	0.98
		Too acid	0.54				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
24C:							
Halifax	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.23	Wetness depth	0.62
		Too acid	0.54	Wetness depth	0.62	Slope	0.84
25B:							
Herndon	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.68
		Too acid	0.16				
25C:							
Herndon	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.68
		Too acid	0.16			Slope	0.84
26B:							
Jackland	70	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.08	Wetness depth	0.00
		Too acid	0.54				
Orange	20	Poor		Fair		Poor	
		Too clayey	0.00	Wetness depth	0.14	Too clayey	0.00
		Organic matter content low	0.02	Depth to bedrock	0.87	Wetness depth	0.14
		Too acid	0.54	Shrink-swell	0.92		
27B:							
Lackstown	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.78	Too acid	0.68
		Too acid	0.16	Wetness depth	0.80	Wetness depth	0.80
27C:							
Lackstown	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.78	Slope	0.37
		Too acid	0.16	Wetness depth	0.80	Too acid	0.68
28B:							
Masada	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.98
		Too acid	0.54				
29B:							
Mattaponi	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.91	Too acid	0.98
		Too acid	0.50	Wetness depth	0.99	Wetness depth	0.99

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
30B:							
Meadows	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Low strength	0.78		
		Organic matter content low	0.02				
31B:							
Minnieville	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.78	Too acid	0.98
		Too acid	0.54				
32B3:							
Minnieville	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.82	Too acid	0.98
		Too acid	0.54				
32C3:							
Minnieville	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.82	Slope	0.84
						Too acid	0.98
		Too acid	0.54				
33C:							
Montonia	70	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.00
				Low strength	0.78	Slope	0.37
		Depth to bedrock	0.54			Depth to bedrock	0.54
		Too acid	0.54				
Goldston	20	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.00			Depth to bedrock	0.00
		Organic matter content low	0.12			Slope	0.37
34B:							
Montonia	70	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.00
				Low strength	0.78	Depth to bedrock	0.54
		Depth to bedrock	0.54			Too acid	0.98
		Too acid	0.54				
Nanford	20	Poor		Fair		Poor	
		Too clayey	0.00	Depth to bedrock	0.04	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.10	Too acid	0.68
		Too acid	0.50				
35B:							
Nanford	80	Poor		Fair		Poor	
		Too clayey	0.00	Depth to bedrock	0.04	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.10	Too acid	0.68
		Too acid	0.50				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
35B:							
Badin	15	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Too clayey	0.10
		Too clayey	0.18	Low strength	0.00	Too acid	0.68
		Too acid	0.50	Shrink-swell	0.87	Depth to bedrock	0.99
35C:							
Nanford	75	Poor		Fair		Poor	
		Too clayey	0.00	Depth to bedrock	0.04	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.10	Too acid	0.68
		Too acid	0.50			Slope	0.84
Badin	20	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Too clayey	0.10
		Too clayey	0.18	Low strength	0.00	Slope	0.37
		Too acid	0.50	Shrink-swell	0.87	Too acid	0.68
35D:							
Nanford	55	Poor		Fair		Poor	
		Too clayey	0.00	Depth to bedrock	0.04	Slope	0.00
		Organic matter content low	0.12	Low strength	0.10	Too clayey	0.00
		Too acid	0.50	Slope	0.05	Too acid	0.68
Badin	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
		Too clayey	0.18	Low strength	0.00	Too clayey	0.10
		Too acid	0.50	Slope	0.50	Too acid	0.68
36B:							
Nathalie	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.54				
36C:							
Nathalie	85	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	0.54			Too acid	0.98
37B:							
Oak Level	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.96		
		Too acid	0.97				
37C:							
Oak Level	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.96	Slope	0.84
		Too acid	0.97				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
38C:							
Pinkston------------	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.05			Depth to bedrock	0.05
		Too acid	0.50			Slope	0.37
38D:							
Pinkston------------	85	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.05	Slope	0.50	Rock fragments	0.00
		Too acid	0.50			Depth to bedrock	0.05
39D:							
Poindexter----------	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Low strength	0.00	Depth to bedrock	0.79
		Depth to bedrock	0.79	Slope	0.50		
		Too acid	0.84				
40B:							
Rasalo--------------	70	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.90	Too clayey	0.00
		Organic matter content low	0.02				
		Too acid	0.54				
Orange--------------	20	Poor		Fair		Poor	
		Too clayey	0.00	Wetness depth	0.14	Too clayey	0.00
		Organic matter content low	0.02	Depth to bedrock	0.87	Wetness depth	0.14
				Shrink-swell	0.92		
		Too acid	0.54				
41A:							
Riverview-----------	85	Fair		Fair		Fair	
		Organic matter content low	0.50	Wetness depth	0.99	Too acid	0.98
						Wetness depth	0.99
		Too acid	0.54				
42C:							
Spriggs-------------	85	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.37
				Shrink-swell	0.94	Depth to bedrock	0.99
		Too acid	0.97				
		Depth to bedrock	0.99				
42D:							
Spriggs-------------	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.50	Depth to bedrock	0.99
		Too acid	0.97	Shrink-swell	0.94		
		Depth to bedrock	0.99				
42E:							
Spriggs-------------	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.00	Depth to bedrock	0.99
		Too acid	0.97	Shrink-swell	0.94		
		Depth to bedrock	0.99				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
43B:							
Spriggs	70	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Depth to bedrock	0.99
		Too acid	0.97	Shrink-swell	0.94		
		Depth to bedrock	0.99				
Rasalo	20	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.90	Too clayey	0.00
		Organic matter content low	0.02				
		Too acid	0.54				
43C:							
Spriggs	75	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.37
				Shrink-swell	0.94	Depth to bedrock	0.99
		Too acid	0.97				
		Depth to bedrock	0.99				
Rasalo	15	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.90	Too clayey	0.00
		Organic matter content low	0.02			Slope	0.37
		Too acid	0.54				
43D:							
Spriggs	80	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Slope	0.50	Depth to bedrock	0.99
		Too acid	0.97	Shrink-swell	0.94		
		Depth to bedrock	0.99				
Rasalo	15	Poor		Fair		Poor	
		Too clayey	0.00	Slope	0.50	Slope	0.00
		Organic matter content low	0.02	Shrink-swell	0.90	Too clayey	0.00
		Too acid	0.54				
44B:							
Spriggs	70	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Depth to bedrock	0.99
				Shrink-swell	0.94		
		Too acid	0.97				
		Depth to bedrock	0.99				
Urban land	15	Not rated		Not rated		Not rated	
44D:							
Spriggs	70	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.37
				Shrink-swell	0.94	Depth to bedrock	0.99
		Too acid	0.97				
		Depth to bedrock	0.99				
Urban land	15	Not rated		Not rated		Not rated	

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
45C:							
Stoneville----------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.02	Depth to bedrock	0.39	Slope	0.63
				Shrink-swell	0.99	Too acid	0.68
		Too acid	0.50				
46B:							
Straightstone-------	85	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	0.68
		Too acid	0.16				
47B:							
Tarrus--------------	75	Poor		Fair		Poor	
		Too clayey	0.00	Depth to bedrock	0.46	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.78	Too acid	0.68
						Rock fragments	0.88
		Too acid	0.50				
Badin---------------	20	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Too clayey	0.10
				Low strength	0.00	Too acid	0.68
		Too clayey	0.18	Shrink-swell	0.87	Depth to bedrock	0.99
		Too acid	0.50				
47C:							
Tarrus--------------	70	Poor		Fair		Poor	
		Too clayey	0.00	Depth to bedrock	0.46	Too clayey	0.00
		Organic matter content low	0.12	Low strength	0.78	Slope	0.37
						Too acid	0.68
		Too acid	0.50				
Badin---------------	20	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Too clayey	0.10
				Low strength	0.00	Slope	0.37
		Too clayey	0.18	Shrink-swell	0.87	Too acid	0.68
		Too acid	0.50				
47D:							
Tarrus--------------	55	Poor		Fair		Poor	
		Too clayey	0.00	Depth to bedrock	0.46	Slope	0.00
		Organic matter content low	0.12	Slope	0.50	Too clayey	0.00
				Low strength	0.78	Too acid	0.68
		Too acid	0.50				
Badin---------------	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
				Low strength	0.00	Too clayey	0.10
		Too clayey	0.18	Slope	0.50	Too acid	0.68
		Too acid	0.50				
48D:							
Toast---------------	85	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	0.68
		Too acid	0.50				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
49A:							
Toccoa	85	Fair		Good		Good	
		Organic matter content low	0.12				
		Too acid	0.84				
50B:							
Turbeville	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.22	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.82
		Too acid	0.50				
50C:							
Turbeville	85	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.22	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.82
						Slope	0.84
		Too acid	0.50				
51B:							
Udorthents	90	Not rated		Not rated		Not rated	
52B:							
Urban land	90	Not rated		Not rated		Not rated	
53B:							
Virgilina	85	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Wetness depth	0.00	Too clayey	0.00
				Low strength	0.00	Depth to bedrock	0.71
		Depth to bedrock	0.71				
54B:							
Virgilina	85	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Wetness depth	0.00	Too clayey	0.00
				Low strength	0.00	Depth to bedrock	0.71
		Depth to bedrock	0.71				
55C:							
Virgilina	50	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Wetness depth	0.00	Too clayey	0.00
				Low strength	0.00	Slope	0.37
		Depth to bedrock	0.71				
Poindexter	40	Fair		Poor		Fair	
		Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.37
				Low strength	0.00	Depth to bedrock	0.79
		Depth to bedrock	0.79	Shrink-swell	0.96		
		Too acid	0.84				
56B:							
Wolftrap	75	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.01	Too clayey	0.00
		Organic matter content low	0.02	Wetness depth	0.18	Wetness depth	0.18
				Low strength	0.78	Hard to reclaim (dense layer)	0.65
		Too acid	0.50				

Table 13.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
56B:							
Easthamlet----------	15	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.00	Wetness depth	0.07
				Low strength	0.00	Depth to bedrock	0.54
		Too acid	0.50				
57B:							
Yadkin--------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.22	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.89	Too acid	0.98
		Too acid	0.16				
57C:							
Yadkin--------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.22	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.89	Slope	0.84
						Too acid	0.98
		Too acid	0.16				
58B3:							
Yadkin--------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.94		
		Too acid	0.68				
58C3:							
Yadkin--------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Low strength	0.10	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.94	Slope	0.84
		Too acid	0.68				
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 14.—Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		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
1B3:							
Appomattox----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.46	Depth to water	1.00
1C3:							
Appomattox----------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.46	Depth to water	1.00
2B:							
Banister------------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.14	Depth to saturated zone	1.00	Slow refill	0.86
						Cutbanks cave	0.10
Kinkora-------------	10	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Seepage	0.04		
3B:							
Bentley-------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.46	Depth to water	1.00
3C:							
Bentley-------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.46	Depth to water	1.00
4A:							
Chewacla------------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.39		
5A:							
Chewacla------------	75	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.39		
Wehadkee------------	20	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Ponding	1.00	Slow refill	0.28
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.05		
6C:							
Cid-----------------	85	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.69	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	0.83		
				Hard to pack	0.46		

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
7B:							
Cid	70	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.69	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	0.83		
				Hard to pack	0.46		
Lignum	25	Somewhat limited		Very limited		Very limited	
		Seepage	0.43	Depth to saturated zone	1.00	Depth to water	1.00
		Depth to bedrock	0.01				
				Thin layer	0.01		
8B:							
Clifford	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
8C:							
Clifford	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
9B3:							
Clifford	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
9C3:							
Clifford	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
10B:							
Clifford	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
Urban land	20	Not rated		Not rated		Not rated	
10D:							
Clifford	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
Urban land	20	Not rated		Not rated		Not rated	
11C:							
Clover	85	Somewhat limited		Not limited		Very limited	
		Seepage	0.81			Depth to water	1.00
		Slope	0.01				
11D:							
Clover	85	Somewhat limited		Not limited		Very limited	
		Seepage	0.81			Depth to water	1.00
		Slope	0.12				
12B:							
Clover	80	Somewhat limited		Not limited		Very limited	
		Seepage	0.81			Depth to water	1.00
Bentley	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.46	Depth to water	1.00

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
13A:							
Codorus-------------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
				Piping	0.03	Cutbanks cave	0.10
14A:							
Codorus-------------	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
				Piping	0.03	Cutbanks cave	0.10
Hatboro-------------	15	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.27		
15A:							
Comus---------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.13	Depth to water	1.00
16A:							
Dan River-----------	85	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Piping	0.55	Depth to saturated zone	0.24
				Depth to saturated zone	0.46	Cutbanks cave	0.10
				Seepage	0.03		
17B:							
Danripple-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.22	Depth to saturated zone	0.40
						Slow refill	0.30
						Cutbanks cave	0.10
18B:							
Delila--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
				Seepage	0.01	Cutbanks cave	0.10
19C:							
Devotion------------	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.11	Seepage	0.04		
Rhodhiss------------	30	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.01	Depth to water	1.00
19D:							
Devotion------------	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.86	Depth to water	1.00
		Slope	0.12	Seepage	0.04		
		Depth to bedrock	0.11				
Rhodhiss------------	30	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.01	Depth to water	1.00
		Slope	0.12				

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
20B:							
Dogue	90	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
21D:							
Fairview	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.04	Depth to water	1.00
		Slope	0.12				
21E:							
Fairview	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.72	Seepage	0.04	Depth to water	1.00
		Seepage	0.70				
22B:							
Georgeville	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
22C:							
Georgeville	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
23D:							
Goldston	55	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.61	Thin layer	1.00	Depth to water	1.00
		Slope	0.12				
		Seepage	0.01				
Montonia	35	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.42	Piping	0.04		
		Slope	0.12				
23E:							
Goldston	70	Somewhat limited		Very limited		Very limited	
		Slope	0.72	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	0.61				
		Seepage	0.01				
Montonia	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.72	Thin layer	0.86	Depth to water	1.00
		Seepage	0.70	Piping	0.04		
		Depth to bedrock	0.42				
24B:							
Halifax	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.95	Depth to saturated zone	0.99	Depth to water	1.00
				Hard to pack	0.33		
24C:							
Halifax	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.95	Depth to saturated zone	0.99	Depth to water	1.00
				Hard to pack	0.33		
25B:							
Herndon	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
25C:							
Herndon	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
26B:							
Jackland	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Depth to water	1.00
				Seepage	0.01		
Orange	20	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				
				Thin layer	0.03		
27B:							
Lackstown	85	Not limited		Somewhat limited		Very limited	
				Depth to saturated zone	0.93	Depth to water	1.00
27C:							
Lackstown	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.01	Depth to saturated zone	0.93	Depth to water	1.00
28B:							
Masada	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Hard to pack	0.36	Depth to saturated zone	0.60
				Depth to saturated zone	0.05		
						Slow refill	0.30
						Cutbanks cave	0.10
29B:							
Mattaponi	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.05	Depth to saturated zone	0.53	Depth to water	1.00
30B:							
Meadows	85	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.98	Thin layer	1.00	Depth to water	1.00
				Piping	0.98		
31B:							
Minnieville	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Hard to pack	0.82	Depth to water	1.00
32B3:							
Minnieville	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Hard to pack	0.54	Depth to water	1.00
32C3:							
Minnieville	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Hard to pack	0.54	Depth to water	1.00
33C:							
Montonia	70	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.42	Piping	0.04		
		Slope	0.01				

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
33C:							
Goldston	20	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.61	Thin layer	1.00	Depth to water	1.00
		Seepage	0.01				
		Slope	0.01				
34B:							
Montonia	70	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.86	Depth to water	1.00
		Depth to bedrock	0.42	Piping	0.04		
Nanford	20	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.37	Depth to water	1.00
		Depth to bedrock	0.01	Hard to pack	0.22		
35B:							
Nanford	80	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.37	Depth to water	1.00
		Depth to bedrock	0.01	Hard to pack	0.22		
Badin	15	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.56	Depth to water	1.00
		Depth to bedrock	0.16				
35C:							
Nanford	75	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.37	Depth to water	1.00
		Depth to bedrock	0.01	Hard to pack	0.22		
Badin	20	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.56	Depth to water	1.00
		Depth to bedrock	0.16				
		Slope	0.01				
35D:							
Nanford	55	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.37	Depth to water	1.00
		Slope	0.12	Hard to pack	0.22		
		Depth to bedrock	0.01				
Badin	35	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.56	Depth to water	1.00
		Depth to bedrock	0.16				
		Slope	0.12				
36B:							
Nathalie	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
36C:							
Nathalie	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	0.01				
37B:							
Oak Level	85	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
37C:							
Oak Level	85	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
38C:							
Pinkston	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.99	Depth to water	1.00
		Depth to bedrock	0.99	Seepage	0.03		
		Slope	0.01				
38D:							
Pinkston	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Thin layer	0.99	Depth to water	1.00
		Depth to bedrock	0.99	Seepage	0.03		
		Slope	0.12				
39D:							
Poindexter	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.77	Depth to water	1.00
		Depth to bedrock	0.42	Piping	0.16		
		Slope	0.12				
40B:							
Rasalo	70	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
Orange	20	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	Thin layer	0.03		
41A:							
Riverview	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.62	Cutbanks cave	1.00
				Seepage	0.11	Depth to saturated zone	0.17
42C:							
Spriggs	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.58	Depth to water	1.00
		Depth to bedrock	0.02				
		Slope	0.01				
42D:							
Spriggs	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.58	Depth to water	1.00
		Slope	0.12				
		Depth to bedrock	0.02				
42E:							
Spriggs	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.72	Thin layer	0.58	Depth to water	1.00
		Seepage	0.70				
		Depth to bedrock	0.02				
43B:							
Spriggs	70	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.58	Depth to water	1.00
		Depth to bedrock	0.02				

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
43B:							
Rasalo	20	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
43C:							
Spriggs	75	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.58	Depth to water	1.00
		Depth to bedrock	0.02				
		Slope	0.01				
Rasalo	15	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	0.01				
43D:							
Spriggs	80	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.58	Depth to water	1.00
		Slope	0.12				
		Depth to bedrock	0.02				
Rasalo	15	Very limited		Not limited		Very limited	
		Seepage	1.00			Depth to water	1.00
		Slope	0.12				
44B:							
Spriggs	70	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.58	Depth to water	1.00
		Depth to bedrock	0.02				
Urban land	15	Not rated		Not rated		Not rated	
44D:							
Spriggs	70	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.58	Depth to water	1.00
		Depth to bedrock	0.02				
		Slope	0.01				
Urban land	15	Not rated		Not rated		Not rated	
45C:							
Stoneville	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.16	Depth to water	1.00
		Slope	0.01				
		Depth to bedrock	0.01				
46B:							
Straightstone	85	Somewhat limited		Not limited		Very limited	
		Seepage	0.70			Depth to water	1.00
47B:							
Tarrus	75	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Depth to bedrock	0.01	Thin layer	0.13		
Badin	20	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.56	Depth to water	1.00
		Depth to bedrock	0.16				

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
47C:							
Tarrus	70	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.01	Thin layer	0.13		
		Depth to bedrock	0.01				
Badin	20	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.56	Depth to water	1.00
		Depth to bedrock	0.16				
		Slope	0.01				
47D:							
Tarrus	55	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
		Slope	0.12	Thin layer	0.13		
		Depth to bedrock	0.01				
Badin	35	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.56	Depth to water	1.00
		Depth to bedrock	0.16				
		Slope	0.12				
48D:							
Toast	85	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Seepage	0.04	Depth to water	1.00
		Slope	0.08				
49A:							
Toccoa	85	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Piping	1.00	Depth to saturated zone	0.68
				Seepage	0.02	Cutbanks cave	0.10
				Depth to saturated zone	0.02		
50B:							
Turbeville	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
50C:							
Turbeville	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
51B:							
Udorthents	90	Not rated		Not rated		Not rated	
52B:							
Urban land	90	Not rated		Not rated		Not rated	
53B:							
Virgilina	85	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.81	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	0.81		
				Hard to pack	0.59		
54B:							
Virgilina	85	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.81	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	0.81		
				Hard to pack	0.59		

Table 14.—Water Management—Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
55C:							
Virgilina	50	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.81	Depth to saturated zone	1.00	Depth to water	1.00
		Slope	0.01	Thin layer	0.81		
				Hard to pack	0.59		
Poindexter	40	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Thin layer	0.77	Depth to water	1.00
		Depth to bedrock	0.42	Piping	0.16		
		Slope	0.01				
56B:							
Wolftrap	75	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to water	1.00
Easthamlet	15	Somewhat limited		Very limited		Very limited	
		Depth to bedrock	0.42	Depth to saturated zone	1.00	Depth to water	1.00
				Thin layer	0.86		
				Hard to pack	0.81		
57B:							
Yadkin	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
57C:							
Yadkin	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
58B3:							
Yadkin	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
58C3:							
Yadkin	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Piping	1.00	Depth to water	1.00
W:							
Water	100	Not rated		Not rated		Not rated	

Table 15.—Engineering Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
1B3:											
Appomattox------	0-8	Clay loam	CL	A-6	0	85-100	80-100	75-100	55-80	35-52	18-28
	8-54	Clay, clay loam, sandy clay, sandy clay loam	CL, SC, CH	A-6, A-7	0-5	85-100	80-100	65-100	30-95	31-67	13-44
	54-79	Loam, sandy loam, clay	SC-SM, SC	A-2, A-4	0-5	85-100	80-100	50-100	25-95	16-57	2-36
1C3:											
Appomattox------	0-8	Clay loam	CL	A-6	0	85-100	80-100	75-100	55-80	35-52	18-28
	8-54	Clay, clay loam, sandy clay, sandy clay loam	CL, SC, CH	A-6, A-7	0-5	85-100	80-100	65-100	30-95	31-67	13-44
	54-79	Loam, sandy loam, clay	SC-SM, SC	A-2, A-4	0-5	85-100	80-100	50-100	25-95	16-57	2-36
2B:											
Banister--------	0-14	Loam	CL-ML, SM, SC-SM, ML, CL	A-4	0	85-100	80-100	65-95	45-75	20-40	3-18
	14-58	Clay, clay loam, sandy clay, silty clay loam, silty clay, sandy clay loam	SC, CL, CH	A-7, A-2-6	0	85-100	80-100	65-100	30-95	31-67	13-44
	58-65	Clay loam, sand, loamy sand, sandy loam, loam, sandy clay loam, gravelly sand	SC, CL	A-7, A-2-6	0	75-100	65-100	30-100	5-80	0-50	NP-29

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
2B:											
Kinkora---------	0-4	Silt loam	CL, CL-ML, SC-SM	A-4, A-6	0	85-100	80-100	70-100	55-90	21-43	6-18
	4-45	Silty clay, clay, sandy clay, clay loam, silty clay loam, sandy clay loam	CH, CL	A-7	0	85-100	80-100	60-100	60-95	31-67	13-44
	45-62	Sandy loam, sandy clay loam, clay loam, silty clay loam, silt loam	CL, GC-GM, CL-ML, SM	A-1, A-6, A-4	0	85-100	80-100	50-100	25-95	18-50	2-29
3B:											
Bentley---------	0-17	Loamy sand	SC-SM, SM	A-2	0-2	85-100	80-100	40-75	10-30	17-30	2-9
	17-23	Sandy loam, loamy sand, fine sandy loam, loam, sandy clay loam, clay loam, gravelly sandy loam	SC, CL, CL-ML	A-2, A-4	0	65-100	50-100	25-100	8-80	16-32	2-13
	23-61	Clay, sandy clay, clay loam, sandy clay loam, gravelly sandy clay loam	CH, CL, SC	A-6, A-7	0	65-100	50-100	40-100	18-95	31-72	13-47
	61-80	Sandy clay, clay, sandy clay loam, gravelly sand	CH, CL, SC	A-6, A-7	0	65-100	50-100	25-100	2-95	0-67	NP-44

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
3C:											
Bentley---------	0-17	Loamy sand	SC-SM, SM	A-2	0-2	85-100	80-100	40-75	10-30	17-30	2-9
	17-23	Sandy loam, loamy sand, fine sandy loam, loam, sandy clay loam, clay loam, gravelly sandy loam	SC, CL, CL-ML	A-2, A-4	0	65-100	50-100	25-100	8-80	16-32	2-13
	23-61	Clay, sandy clay, clay loam, sandy clay loam, gravelly sandy clay loam	CH, CL, SC	A-6, A-7	0	65-100	50-100	40-100	18-95	31-72	13-47
	61-80	Sandy clay, clay, sandy clay loam, gravelly sand	CH, CL, SC	A-6, A-7	0	65-100	50-100	25-100	2-95	0-67	NP-44
4A:											
Chewacla--------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	90-100	85-100	75-100	60-90	22-45	3-18
	8-36	Silt loam, silty clay loam, clay loam, loam, fine sandy loam, sandy loam	CL, CL-ML, ML	A-4, A-6	0	90-100	85-100	50-100	25-95	18-38	3-19
	36-55	Silty clay loam, silt loam, clay loam, loam, fine sandy loam, sandy loam	CL	A-6	0	90-100	85-100	50-100	25-95	20-49	6-28
	55-60	Silt loam, extremely gravelly sand, clay	CL, CL-ML, ML, SC	A-4, A-6, A-1	0	20-100	15-100	8-100	1-95	0-57	NP-36

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag-ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct					Pct	
5A:											
Chewacla--------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	90-100	85-100	75-100	60-90	22-45	3-18
	8-36	Silt loam, silty clay loam, clay loam, loam, fine sandy loam, sandy loam	CL, CL-ML, ML	A-4, A-6	0	90-100	85-100	50-100	25-95	18-38	3-19
	36-55	Silty clay loam, silt loam, clay loam, loam, fine sandy loam, sandy loam	CL	A-6	0	90-100	85-100	50-100	25-95	20-49	6-28
	55-60	Silt loam, extremely gravelly sand, clay	CL, CL-ML, ML, SC	A-4, A-6, A-1	0	20-100	15-100	8-100	1-95	0-57	NP-36
Wehadkee--------	0-4	Silt loam	CL, ML	A-4, A-6	0	95-100	92-100	80-100	60-90	25-39	6-13
	4-16	Loam, silt loam	CL-ML, ML, SC-SM	A-4	0	95-100	92-100	75-100	55-90	18-38	3-19
	16-26	Sandy clay loam, clay loam, silty clay loam	CL	A-6	0	95-100	92-100	70-100	30-95	29-44	13-25
	26-62	Clay loam, silty clay loam, sandy clay loam	CL	A-6	0	95-100	92-100	70-100	30-95	29-44	13-25
	62-72	Sandy clay loam, sandy loam, loam, silt loam, gravelly sandy loam	CL-ML, SC, CL	A-6	0	80-100	70-100	40-100	20-90	20-44	6-25
6C:											
Cid-------------	0-6	Silt loam	CL, CL-ML	A-6	0-5	85-100	80-100	70-100	55-90	21-39	6-17
	6-31	Silty clay, silty clay loam, clay	CH, CL	A-7	0-4	85-100	80-100	75-100	65-95	37-67	19-44
	31-35	Bedrock			---	---	---	---	---	---	---
	35-45	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
7B:											
Cid	0-6	Silt loam	CL, CL-ML	A-6	0-5	85-100	80-100	70-100	55-90	21-39	6-17
	6-31	Silty clay, silty clay loam, clay	CH, CL	A-7	0-4	85-100	80-100	75-100	65-95	37-67	19-44
	31-35	Bedrock			---	---	---	---	---	---	---
	35-45	Bedrock			---	---	---	---	---	---	---
Lignum	0-6	Loam	CL, CL-ML	A-4, A-6	0	85-100	80-100	70-95	50-75	21-39	6-17
	6-35	Clay, silty clay, clay loam, silty clay loam	CH, CL	A-7	0-2	85-100	80-100	70-100	55-95	43-67	25-44
	35-56	Silt loam, very fine sandy loam, silty clay loam	CL, SC	A-6, A-7	0-2	85-100	80-100	70-100	40-95	24-48	9-28
	56-66	Bedrock			---	---	---	---	---	---	---
8B:											
Clifford	0-6	Sandy loam	SC-SM, SM	A-2, A-4	0-2	85-100	80-100	45-70	25-40	9-20	NP-2
	6-55	Clay, clay loam	SC-SM, ML	A-5, A-7	0	90-100	85-100	75-100	60-95	30-49	5-12
	55-65	Loam, sandy loam, fine sandy loam, sandy clay loam, clay loam	SC-SM, SM	A-2, A-4	0	90-100	85-100	50-100	25-80	9-25	NP-5
8C:											
Clifford	0-6	Sandy loam	SC-SM, SM	A-2, A-4	0-2	85-100	80-100	45-70	25-40	9-20	NP-2
	6-55	Clay, clay loam	SC-SM, ML	A-5, A-7	0	90-100	85-100	75-100	60-95	30-49	5-12
	55-65	Loam, sandy loam, fine sandy loam, sandy clay loam, clay loam	SC-SM, SM	A-2, A-4	0	90-100	85-100	50-100	25-80	9-25	NP-5
9B3:											
Clifford	0-5	Clay loam	ML	A-4	0	85-100	80-100	70-100	55-80	25-34	3-7
	5-58	Clay, clay loam	SC-SM, ML	A-5, A-7	0	90-100	85-100	75-100	60-95	30-49	5-12
	58-62	Loam, sandy loam, fine sandy loam, sandy clay loam, clay loam	SC-SM, SM	A-2, A-4	0	90-100	85-100	50-100	25-80	9-25	NP-5

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
9C3:											
Clifford--------	0-5	Clay loam	ML	A-4	0	85-100	80-100	70-100	55-80	25-34	3-7
	5-58	Clay, clay loam	SC-SM, ML	A-5, A-7	0	90-100	85-100	75-100	60-95	30-49	5-12
	58-62	Loam, sandy loam, fine sandy loam, sandy clay loam, clay loam	SC-SM, SM	A-2, A-4	0	90-100	85-100	50-100	25-80	9-25	NP-5
10B:											
Clifford--------	0-6	Sandy loam	SC-SM, SM	A-2, A-4	0-2	85-100	80-100	45-70	25-40	9-20	NP-2
	6-55	Clay, clay loam	SC-SM, ML	A-5, A-7	0	90-100	85-100	75-100	60-95	30-49	5-12
	55-65	Loam, sandy loam, fine sandy loam, sandy clay loam, clay loam	SC-SM, SM	A-2, A-4	0	90-100	85-100	50-100	25-80	9-25	NP-5
Urban land.											
10D:											
Clifford--------	0-6	Sandy loam	SM, SC-SM	A-2, A-4	0-2	85-100	80-100	45-70	25-40	9-20	NP-2
	6-55	Clay, clay loam	SC-SM, ML	A-5, A-7	0	90-100	85-100	75-100	60-95	30-49	5-12
	55-65	Loam, sandy loam, fine sandy loam, sandy clay loam, clay loam	SC-SM, SM	A-2, A-4	0	90-100	85-100	50-100	25-80	9-25	NP-5
Urban land.											
11C:											
Clover----------	0-9	Fine sandy loam	SC, SM, SC-SM	A-2, A-4	0	85-100	80-100	55-85	30-55	17-35	2-13
	9-42	Clay, clay loam, sandy clay, silty clay loam, silty clay	CH, CL, SC	A-6, A-7	0	95-100	90-100	75-100	40-95	37-67	19-44
	42-65	Silt loam, loam, fine sandy loam	CL	A-4	0	100	90-100	65-100	35-90	18-37	3-19

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
11D:											
Clover----------	0-9	Fine sandy loam	SC, SM, SC-SM	A-2, A-4	0	85-100	80-100	55-85	30-55	17-35	2-13
	9-42	Clay, clay loam, sandy clay, silty clay loam, silty clay	CH, CL, SC	A-6, A-7	0	95-100	90-100	75-100	40-95	37-67	19-44
	42-65	Silt loam, loam, fine sandy loam	CL	A-4	0	100	90-100	65-100	35-90	18-37	3-19
12B:											
Clover----------	0-9	Fine sandy loam	SC, SM, SC-SM	A-2, A-4	0	85-100	80-100	55-85	30-55	17-35	2-13
	9-42	Clay, clay loam, sandy clay, silty clay loam, silty clay	CH, CL, SC	A-6, A-7	0	95-100	90-100	75-100	40-95	37-67	19-44
	42-65	Silt loam, loam, fine sandy loam	CL	A-4	0	100	90-100	65-100	35-90	18-37	3-19
Bentley---------	0-17	Loamy sand	SC-SM, SM	A-2	0-2	85-100	80-100	40-75	10-30	17-30	2-9
	17-23	Sandy loam, loamy sand, fine sandy loam, loam, sandy clay loam, clay loam, gravelly sandy loam	SC, CL, CL-ML	A-2, A-4	0	65-100	50-100	25-100	8-80	16-32	2-13
	23-61	Clay, sandy clay, sandy clay loam, clay loam, gravelly sandy clay loam	CH, CL, SC	A-6, A-7	0	65-100	50-100	40-100	18-95	31-72	13-47
	61-80	Sandy clay, clay, gravelly sand	CH, CL, SC	A-6, A-7, A-1	0	65-100	50-100	25-100	2-95	0-67	NP-44

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
13A:											
Codorus---------	0-8	Loam	CL, CL-ML, ML	A-4, A-6	0	85-100	80-100	65-95	50-75	25-45	6-18
	8-17	Loam, clay loam, silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	85-100	80-100	65-100	50-95	20-49	6-28
	17-49	Clay loam, silty clay loam	CL	A-6	0	85-100	80-100	70-100	55-95	35-49	18-28
	49-62	Clay loam, silty clay loam, gravelly sand	ML, SC	A-4, A-1, A-7	0	70-100	65-100	30-100	3-95	0-49	NP-28
14A:											
Codorus---------	0-8	Loam	CL-ML, ML, CL	A-4, A-6	0	85-100	80-100	65-95	50-75	25-45	6-18
	8-17	Loam, clay loam, silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	85-100	80-100	65-100	50-95	20-49	6-28
	17-49	Clay loam, silty clay loam	CL	A-6	0	85-100	80-100	70-100	55-95	35-49	18-28
	49-62	Clay loam, silty clay loam, gravelly sand	SC, ML	A-1, A-7, A-4	0	70-100	65-100	30-100	3-95	0-49	NP-28
Hatboro---------	0-4	Loam	CL-ML, CL	A-4, A-6	0	90-100	85-100	70-95	50-75	25-39	6-13
	4-35	Clay loam, silty clay loam, sandy clay loam, loam, silt loam	CL	A-6	0	90-100	85-100	70-100	30-95	29-44	13-25
	35-65	Sandy loam, sandy clay loam, loam, gravelly sandy loam	CL-ML, SC, CL	A-6	0	70-100	65-100	40-95	20-75	20-44	6-25

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
15A:											
Comus-----------	0-10	Fine sandy loam	SM, SC-SM	A-2, A-4	0	95-100	90-100	65-85	35-55	16-33	2-12
	10-35	Fine sandy loam, sandy loam, loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	95-100	90-100	55-95	25-75	16-30	2-12
	35-65	Loamy sand, loamy fine sand, sandy loam, fine sandy loam, sand	CL, CL-ML, ML, SC, SC-SM, SM	A-1, A-2-4, A-4	0	95-100	90-100	45-85	4-55	0-30	NP-12
16A:											
Dan River-------	0-9	Loam	CL, CL-ML	A-6	0	90-100	85-100	70-95	50-75	22-43	6-17
	9-30	Loam, fine sandy loam	CL-ML, ML, SC, CL	A-4, A-6	0	90-100	85-100	60-95	35-75	16-39	2-19
	30-56	Sandy clay loam, clay loam	CL, SC	A-6	0	90-100	85-100	65-100	30-80	29-44	13-25
	56-62	Sandy loam, fine sandy loam, loamy fine sand, loamy sand, sand	SM, SC	A-2, A-1, A-4	0	90-100	85-100	40-85	4-55	0-31	NP-13
17B:											
Danripple-------	0-10	Sandy loam	SC	A-6	0	90-100	80-100	50-70	25-40	22-37	6-13
	10-48	Clay, clay loam, sandy clay, sandy clay loam	CH, CL	A-6, A-7	0	90-100	85-100	70-100	30-95	37-63	19-40
	48-72	Sandy clay loam, clay loam, loam, sandy loam, gravelly sandy loam	CL	A-6, A-7	0	70-100	60-100	35-100	20-80	22-48	6-27
18B:											
Delila----------	0-8	Sandy loam	SC	A-2, A-4, A-6	0	90-100	80-100	50-70	25-40	17-35	2-12
	8-30	Clay, sandy clay, clay loam	CH, CL, SC	A-6, A-7	0	90-100	80-100	70-100	40-95	39-63	21-40
	30-65	Sandy loam, sandy clay loam, clay loam	CL, SC	A-2, A-4, A-6, A-7	0	90-100	80-100	50-100	25-80	18-41	2-21

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
19C:											
Devotion--------	0-10	Sandy loam	SC, SC-SM, SM	A-2	0	90-95	80-90	50-65	25-35	20-39	3-13
	10-30	Sandy loam, loam, fine sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-4	0	60-95	50-90	30-85	15-70	18-33	3-13
	30-52	Bedrock			---	---	---	---	---	---	---
	52-62	Bedrock			---	---	---	---	---	---	---
Rhodhiss--------	0-2	Sandy loam	SC	A-2, A-4	0	85-100	80-100	50-70	25-40	17-35	2-13
	2-14	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SM, SC	A-2, A-4	0	80-100	70-100	40-95	20-75	17-41	2-19
	14-40	Sandy clay loam, loam, clay loam, gravelly sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-6	0	75-100	70-100	55-100	25-80	20-49	6-28
	40-62	Gravelly sandy loam, gravelly coarse sandy loam, gravelly fine sandy loam, gravelly loam, loam	SC, SM	A-2, A-4	0	75-100	70-100	40-95	20-75	16-38	2-19
19D:											
Devotion--------	0-10	Sandy loam	SC, SM, SC-SM	A-2	0	90-95	80-90	50-65	25-35	20-39	3-13
	10-30	Sandy loam, loam, fine sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-4	0	60-95	50-90	30-85	15-70	18-33	3-13
	30-52	Bedrock			---	---	---	---	---	---	---
	52-62	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag-ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct					Pct	
19D:											
Rhodhiss--------	0-2	Sandy loam	SC	A-2, A-4	0	85-100	80-100	50-70	25-40	17-35	2-13
	2-14	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SM, SC	A-2, A-4	0	80-100	70-100	40-95	20-75	17-41	2-19
	14-40	Sandy clay loam, loam, clay loam, gravelly sandy clay loam	CL, CL-ML, SC, SC-SM	A-2, A-6	0	75-100	70-100	55-100	25-80	20-49	6-28
	40-62	Gravelly sandy loam, gravelly coarse sandy loam, gravelly fine sandy loam, gravelly loam, loam	SM, SC	A-2, A-4	0	75-100	70-100	40-95	20-75	16-38	2-19
20B:											
Dogue-----------	0-11	Silt loam	SC-SM, ML, CL, CL-ML	A-4	0	85-100	80-100	70-100	55-90	20-41	3-19
	11-62	Clay, clay loam, sandy clay, sandy clay loam, silty clay loam, silty clay	CL, SC, CH	A-2-6, A-7	0	85-100	80-100	65-100	30-95	31-67	13-44
	62-80	Loam, sand, sandy clay loam, gravelly sand	CL	A-6	0	70-100	60-100	30-95	3-75	0-44	NP-25

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
21D:											
Fairview--------	0-1	Sandy loam	SC-SM, SM	A-4	0	85-100	80-100	50-70	25-40	11-20	NP-2
	1-6	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SC-SM, SM	A-1-b, A-2, A-4	0	70-100	55-100	35-95	15-75	11-20	NP-2
	6-20	Clay, sandy clay loam, clay loam, sandy clay	SC-SM, ML	A-2, A-4, A-7	0	85-100	80-100	65-100	30-95	24-45	3-11
	20-62	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	85-100	80-100	45-100	25-80	13-31	NP-5
21E:											
Fairview--------	0-1	Sandy loam	SM, SC-SM	A-4	0	85-100	80-100	50-70	25-40	11-20	NP-2
	1-6	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SC-SM, SM	A-1-b, A-2, A-4	0	70-100	55-100	35-95	15-75	11-20	NP-2
	6-20	Clay, sandy clay loam, clay loam, sandy clay	SC-SM, ML	A-2, A-4, A-7	0	85-100	80-100	65-100	30-95	24-45	3-11
	20-62	Sandy loam, fine sandy loam, loam, sandy clay loam, clay loam	SC-SM, SM	A-2-4, A-4	0	85-100	80-100	45-100	25-80	13-31	NP-5
22B:											
Georgeville-----	0-5	Silt loam	ML	A-4	0	90-100	85-100	75-100	60-90	14-25	NP-3
	5-54	Clay, silty clay, silty clay loam, clay loam	ML	A-5	0	95-100	85-100	75-100	60-95	25-52	3-13
	54-65	Silt loam, loam, silty clay loam	ML	A-4	0	95-100	85-100	70-100	50-95	16-34	NP-7

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments 3-10 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
22C:											
Georgeville-----	0-5	Silt loam	ML	A-4	0	90-100	85-100	75-100	60-90	14-25	NP-3
	5-54	Clay, silty clay, silty clay loam, clay loam	ML	A-5	0	95-100	85-100	75-100	60-95	25-52	3-13
	54-65	Silt loam, loam, silty clay loam	ML	A-4	0	95-100	85-100	70-100	50-95	16-34	NP-7
23D:											
Goldston--------	0-3	Channery silt loam	CL-ML, GC	A-2	3-8	65-85	55-80	45-80	30-70	22-43	7-18
	3-16	Very channery silt loam, channery silt loam, very channery very fine sandy loam	GC	A-2	0-15	35-60	25-50	20-50	10-45	22-37	7-19
	16-41	Bedrock			---	---	---	---	---	---	---
	41-51	Bedrock			---	---	---	---	---	---	---
Montonia--------	0-8	Channery silt loam	CL-ML, CL	A-6	0-12	70-85	60-75	50-75	35-70	22-43	7-18
	8-30	Channery clay loam, channery silty clay loam, very channery loam	CL, GC, SC	A-6	0-25	60-85	50-75	40-75	30-70	20-44	6-25
	30-41	Bedrock			---	---	---	---	---	---	---
	41-51	Bedrock			---	---	---	---	---	---	---
23E:											
Goldston--------	0-3	Channery silt loam	CL-ML, GC	A-2	3-8	65-85	55-80	45-80	30-70	22-43	7-18
	3-16	Very channery silt loam, channery silt loam, very channery very fine sandy loam	GC	A-2	0-15	35-60	25-50	20-50	10-45	22-37	7-19
	16-41	Bedrock			---	---	---	---	---	---	---
	41-51	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
23E:											
Montonia--------	0-8	Channery silt loam	CL-ML, CL	A-6	0-12	70-85	60-75	50-75	35-70	22-43	7-18
	8-30	Channery clay loam, channery silty clay loam, very channery loam	CL, GC, SC	A-6	0-25	60-85	50-75	40-75	30-70	20-44	6-25
	30-41	Bedrock			---	---	---	---	---	---	---
	41-51	Bedrock			---	---	---	---	---	---	---
24B:											
Halifax---------	0-13	Sandy loam	SC, SC-SM, SM	A-2, A-4	0-3	85-100	80-100	50-70	25-40	17-35	2-13
	13-58	Clay, sandy clay, clay loam, sandy clay loam	CH	A-7	0	85-100	80-100	65-100	30-95	41-69	21-44
	58-65	Clay loam, sandy clay loam, loam, sandy loam, fine sandy loam, loamy sand	SC-SM, SC	A-6, A-4	0	85-100	80-100	40-100	10-80	0-44	NP-25
24C:											
Halifax---------	0-13	Sandy loam	SC, SC-SM, SM	A-2, A-4	0-3	85-100	80-100	50-70	25-40	17-35	2-13
	13-58	Clay, sandy clay, clay loam, sandy clay loam	CH	A-7	0	85-100	80-100	65-100	30-95	41-69	21-44
	58-65	Clay loam, sandy clay loam, loam, sandy loam, fine sandy loam, loamy sand	SC, SC-SM	A-6, A-4	0	85-100	80-100	40-100	10-80	0-44	NP-25
25B:											
Herndon---------	0-8	Silt loam	ML	A-4	0	90-100	85-100	75-100	60-90	9-25	NP-3
	8-57	Clay, silty clay, silty clay loam, clay loam	ML	A-5	0	95-100	85-100	75-100	60-95	25-52	3-13
	57-65	Silt loam, loam, silty clay loam	ML	A-4	0	95-100	85-100	70-100	50-95	13-25	NP-3

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
25C:											
Herndon---------	0-8	Silt loam	ML	A-4	0	90-100	85-100	75-100	60-90	9-25	NP-3
	8-57	Clay, silty clay, silty clay loam, clay loam	ML	A-5	0	95-100	85-100	75-100	60-95	25-52	3-13
	57-65	Silt loam, loam, silty clay loam	ML	A-4	0	95-100	85-100	70-100	50-95	13-25	NP-3
26B:											
Jackland--------	0-8	Sandy loam	SC	A-2	0	95-100	80-100	50-70	25-40	19-33	3-12
	8-30	Clay	CH	A-7	0	95-100	92-100	80-100	70-95	51-87	29-54
	30-65	Sandy loam, sandy clay loam, loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	90-100	80-100	50-95	25-75	20-44	6-25
Orange----------	0-6	Loam	CL	A-4	0	85-100	80-100	70-95	50-75	21-37	4-13
	6-18	Clay loam, silt loam, loam, sandy loam, silty clay loam, silty clay	SC, CL, CL-ML	A-4, A-6	0	85-100	80-100	45-100	20-95	20-57	6-36
	18-35	Clay, silty clay, silty clay loam	CH	A-7	0	85-100	80-100	70-100	60-95	45-78	25-51
	35-54	Loam, sandy loam, silt loam	CL, CL-ML, SC	A-4, A-6	0-2	85-100	80-100	50-100	25-90	18-35	4-17
	54-64	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
27B:											
Lackstown-------	0-9	Fine sandy loam	SC-SM, SC	A-4	0	95-100	90-100	65-85	35-55	19-35	3-13
	9-14	Sandy loam, fine sandy loam, loam, silt loam, loamy sand	SC	A-6	0	95-100	90-100	45-100	15-90	15-37	1-19
	14-54	Clay, clay loam, silty clay, sandy clay, silty clay loam, sandy clay loam	CH	A-7	0	95-100	90-100	70-100	30-95	31-67	13-44
	54-65	Loam, sandy loam, silt loam, sandy clay loam, clay loam, silty clay	CL, CL-ML, ML, SC, SM	A-4, A-6, A-7	0	95-100	90-100	55-100	30-95	16-57	2-36
27C:											
Lackstown-------	0-9	Fine sandy loam	SC-SM, SC	A-4	0	95-100	90-100	65-85	35-55	19-35	3-13
	9-14	Sandy loam, fine sandy loam, loam, silt loam, loamy sand	SC	A-6	0	95-100	90-100	45-100	15-90	15-37	1-19
	14-54	Clay, clay loam, silty clay, sandy clay, silty clay loam, sandy clay loam	CH	A-7	0	95-100	90-100	70-100	30-95	31-67	13-44
	54-65	Loam, sandy loam, silt loam, sandy clay loam, clay loam, silty clay	CL, CL-ML, ML, SC, SM	A-4, A-6, A-7	0	95-100	90-100	55-100	30-95	16-57	2-36

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
28B:											
Masada----------	0-8	Sandy loam	SC	A-2, A-4	0-2	90-100	80-100	50-70	25-40	22-43	6-18
	8-58	Clay, clay loam, sandy clay, sandy clay loam	CH, CL	A-6, A-7	0-2	95-100	85-100	70-100	30-95	37-63	19-40
	58-62	Loam, clay loam, sandy clay loam, gravelly sandy loam	SC, CL, SC-SM	A-6, A-7	0-2	75-100	65-100	40-100	20-80	26-50	10-29
29B:											
Mattaponi-------	0-10	Sandy loam	SC-SM, SC, SM	A-2, A-4	0	90-100	80-100	50-70	25-40	17-33	2-12
	10-14	Sandy loam, fine sandy loam, sandy clay loam, loam, gravelly loamy sand	SC-SM, SC, SM	A-2, A-4	0	60-100	50-100	30-95	15-75	0-40	NP-21
	14-35	Clay, sandy clay, clay loam, gravelly sandy clay loam	CH, CL, SC	A-6, A-7	0	60-100	50-100	40-100	20-95	31-72	13-47
	35-60	Clay loam, clay, sandy clay, gravelly sandy clay loam	CL, SC	A-6, A-7	0	60-100	50-100	40-100	20-95	31-59	13-36
30B:											
Meadows---------	0-4	Gravelly loam	CL, ML	A-4, A-6	0-5	65-85	55-80	45-75	35-70	19-41	3-19
	4-9	Gravelly loam, gravelly silt loam	CL, ML, GC	A-4, A-6	0-5	55-80	55-80	45-75	35-70	18-38	3-19
	9-16	Silt loam, gravelly silt loam, gravelly loam	CL, ML, SC, SM	A-4, A-6	0-5	75-100	70-90	60-90	40-80	18-37	3-19
	16-24	Bedrock			---	---	---	---	---	---	---
	24-34	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
31B:											
Minnieville-----	0-6	Loam	ML	A-4	0	90-100	85-100	70-95	50-75	21-40	4-17
	6-60	Clay, clay loam, silty clay, silty clay loam	CL	A-6	0	90-100	85-100	75-100	60-95	37-67	19-44
	60-65	Loam, silt loam, clay loam, silty clay loam	CL	A-4	0	90-100	85-100	70-100	50-95	19-41	4-21
32B3:											
Minnieville-----	0-8	Clay loam	CL	A-6	0	90-100	85-100	75-100	60-80	38-52	19-29
	8-50	Clay, clay loam, silty clay, silty clay loam	CL	A-6	0	90-100	85-100	75-100	60-95	37-67	19-44
	50-65	Loam, silt loam, clay loam, silty clay loam	CL	A-4	0	90-100	85-100	70-100	50-95	19-41	4-21
32C3:											
Minnieville-----	0-8	Clay loam	CL	A-6	0	90-100	85-100	75-100	60-80	38-52	19-29
	8-50	Clay, clay loam, silty clay, silty clay loam	CL	A-6	0	90-100	85-100	75-100	60-95	37-67	19-44
	50-65	Loam, silt loam, clay loam, silty clay loam	CL	A-4	0	90-100	85-100	70-100	50-95	19-41	4-21
33C:											
Montonia--------	0-8	Channery silt loam	CL-ML, CL	A-6	0-12	70-85	60-75	50-75	35-70	22-43	7-18
	8-30	Channery clay loam, channery silty clay loam, very channery loam	GC, SC, CL	A-6	0-25	60-85	50-75	40-75	30-70	20-44	6-25
	30-41	Bedrock			---	---	---	---	---	---	---
	41-51	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
33C:											
Goldston--------	0-3	Channery silt loam	GC, CL-ML	A-2	3-8	65-85	55-80	45-80	30-70	22-43	7-18
	3-16	Very channery silt loam, channery silt loam, very channery very fine sandy loam	GC	A-2	0-15	35-60	25-50	20-50	10-45	22-37	7-19
	16-41	Bedrock			---	---	---	---	---	---	---
	41-51	Bedrock			---	---	---	---	---	---	---
34B:											
Montonia--------	0-8	Channery silt loam	CL, CL-ML	A-6	0-12	70-85	60-75	50-75	35-70	22-43	7-18
	8-30	Channery clay loam, channery silty clay loam, very channery loam	SC, GC, CL	A-6	0-25	60-85	50-75	40-75	30-70	20-44	6-25
	30-41	Bedrock			---	---	---	---	---	---	---
	41-51	Bedrock			---	---	---	---	---	---	---
Nanford---------	0-8	Silt loam	CL, CL-ML	A-6	0	90-100	85-100	75-100	60-90	22-43	6-18
	8-42	Silty clay, silty clay loam, clay	CH	A-7	0	90-100	85-100	75-100	65-95	35-57	18-36
	42-59	Bedrock			---	---	---	---	---	---	---
35B:											
Nanford---------	0-8	Silt loam	CL, CL-ML	A-6	0	90-100	85-100	75-100	60-90	22-43	6-18
	8-42	Silty clay, silty clay loam, clay	CH	A-7	0	90-100	85-100	75-100	65-95	35-57	18-36
	42-59	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
35B:											
Badin-----------	0-2	Silt loam	CL	A-4, A-6	0-2	85-95	80-92	70-90	55-80	24-43	7-18
	2-6	Silt loam, channery silt loam, channery loam	CL, ML	A-4, A-6	0-2	60-97	50-92	40-90	30-80	18-37	3-19
	6-25	Silty clay loam, clay, silty clay, clay loam, channery silty clay loam	CL	A-7	0-2	60-97	50-92	45-90	35-85	37-63	19-40
	25-38	Very channery silty clay loam, clay loam, silt loam, channery silty clay loam	CL, GC	A-2	0-2	40-75	25-70	20-70	18-65	24-50	7-29
	38-48	Bedrock			---	---	---	---	---	---	---
	48-58	Bedrock			---	---	---	---	---	---	---
35C:											
Nanford---------	0-8	Silt loam	CL, CL-ML	A-6	0	90-100	85-100	75-100	60-90	22-43	6-18
	8-42	Silty clay, silty clay loam, clay	CH	A-7	0	90-100	85-100	75-100	65-95	35-57	18-36
	42-59	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
35C:											
Badin	0-2	Silt loam	CL	A-4, A-6	0-2	85-95	80-92	70-90	55-80	24-43	7-18
	2-6	Silt loam, channery silt loam, channery loam	CL, ML	A-4, A-6	0-2	60-97	50-92	40-90	30-80	18-37	3-19
	6-25	Silty clay loam, clay, silty clay, clay loam, channery silty clay loam	CL	A-7	0-2	60-97	50-92	45-90	35-85	37-63	19-40
	25-38	Very channery silty clay loam, clay loam, silt loam, channery silty clay loam	CL, GC	A-2	0-2	40-75	25-70	20-70	18-65	24-50	7-29
	38-48	Bedrock			---	---	---	---	---	---	---
	48-58	Bedrock			---	---	---	---	---	---	---
35D:											
Nanford	0-8	Silt loam	CL, CL-ML	A-6	0	90-100	85-100	75-100	60-90	22-43	6-18
	8-42	Silty clay, silty clay loam, clay	CH	A-7	0	90-100	85-100	75-100	65-95	35-57	18-36
	42-59	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
35D:											
Badin-----------	0-2	Silt loam	CL	A-4, A-6	0-2	85-95	80-92	70-90	55-80	24-43	7-18
	2-6	Silt loam, channery silt loam, channery loam	CL, ML	A-4, A-6	0-2	60-97	50-92	40-90	30-80	18-37	3-19
	6-25	Silty clay loam, clay, silty clay, clay loam, channery silty clay loam	CL	A-7	0-2	60-97	50-92	45-90	35-85	37-63	19-40
	25-38	Very channery silty clay loam, clay loam, silt loam, channery silty clay loam	CL, GC	A-2	0-2	40-75	25-70	20-70	18-65	24-50	7-29
	38-48	Bedrock			---	---	---	---	---	---	---
	48-58	Bedrock			---	---	---	---	---	---	---
36B:											
Nathalie--------	0-9	Sandy loam	SM, SC-SM	A-2	0	85-100	80-100	50-70	25-40	9-20	NP-2
	9-52	Clay, clay loam, sandy clay loam	ML	A-6, A-4, A-7	0	90-100	80-100	65-100	30-95	20-49	2-12
	52-65	Loam, sandy loam, sandy clay loam, clay loam, gravelly sandy loam	SM, SC-SM	A-2, A-4	0	75-100	65-100	40-100	20-80	9-25	NP-4
36C:											
Nathalie--------	0-9	Sandy loam	SM, SC-SM	A-2	0	85-100	80-100	50-70	25-40	9-20	NP-2
	9-52	Clay, clay loam, sandy clay loam	ML	A-6, A-4, A-7	0	90-100	80-100	65-100	30-95	20-49	2-12
	52-65	Loam, sandy loam, sandy clay loam, clay loam, gravelly sandy loam	SM, SC-SM	A-2, A-4	0	75-100	65-100	40-100	20-80	9-25	NP-4

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
37B:											
Oak Level-------	0-6	Loam, gravelly loam	SC, CL, CL-ML	A-4, A-6	0-2	80-100	65-100	55-95	40-75	20-39	4-17
	6-42	Clay, clay loam	CH	A-6, A-7	0	90-100	80-100	70-100	55-95	37-63	19-40
	42-65	Loam, sandy clay loam, clay loam, sandy loam, gravelly sandy loam	CL, SC	A-4, A-6	0	75-100	65-100	40-100	20-80	24-44	9-25
37C:											
Oak Level-------	0-6	Loam, gravelly loam	SC, CL, CL-ML	A-4, A-6	0-2	80-100	65-100	55-95	40-75	20-39	4-17
	6-42	Clay, clay loam	CH	A-6, A-7	0	90-100	80-100	70-100	55-95	37-63	19-40
	42-65	Loam, sandy clay loam, clay loam, sandy loam, gravelly sandy loam	CL, SC	A-4, A-6	0	75-100	65-100	40-100	20-80	24-44	9-25
38C:											
Pinkston--------	0-5	Fine sandy loam	SC-SM, CL, ML, SC, SM	A-2, A-4	0-2	85-100	80-100	55-85	30-55	17-33	2-12
	5-16	Gravelly sandy loam, gravelly loam, very fine sandy loam, silty clay loam	SC-SM, CL, SC	A-1, A-2, A-4	0-3	80-100	70-100	40-100	20-95	21-45	6-25
	16-23	Very gravelly sandy loam, gravelly loam, silt loam	SC, CL	A-1, A-2, A-4, A-6	0-10	50-95	40-85	25-85	10-75	20-32	6-13
	23-33	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
38D:											
Pinkston--------	0-5	Fine sandy loam	CL, ML, SC, SM, SC-SM	A-2, A-4	0-2	85-100	80-100	55-85	30-55	17-33	2-12
	5-16	Gravelly sandy loam, gravelly loam, very fine sandy loam, silty clay loam	SC-SM, CL, SC	A-1, A-2, A-4	0-3	80-100	70-100	40-100	20-95	21-45	6-25
	16-23	Very gravelly sandy loam, gravelly loam, silt loam	SC, CL	A-1, A-2, A-4, A-6	0-10	50-95	40-85	25-85	10-75	20-32	6-13
	23-33	Bedrock			---	---	---	---	---	---	---
39D:											
Poindexter------	0-4	Gravelly silt loam	CL-ML, SC-SM, SC, CL	A-4, A-6	0-10	65-95	55-75	50-75	40-70	21-40	6-18
	4-12	Gravelly silt loam, gravelly loam, gravelly sandy loam	CL-ML, SC-SM, SC, CL	A-2-4, A-4, A-6	0-10	68-95	55-75	35-75	15-70	20-37	6-19
	12-33	Clay loam, loam, silt loam, gravelly sandy clay loam	SC, CL	A-7-6, A-6	0-3	67-100	55-100	45-100	20-90	29-46	12-25
	33-41	Bedrock			---	---	---	---	---	---	---
	41-51	Bedrock			---	---	---	---	---	---	---
40B:											
Rasalo----------	0-6	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	85-100	80-100	50-70	25-40	17-31	2-10
	6-30	Clay, sandy clay loam, clay loam	CH, CL	A-7	0	85-100	80-100	65-100	30-95	32-69	14-44
	30-60	Sandy loam, loam	SC-SM, SM, SC	A-2-4, A-4	0	85-100	80-100	50-95	25-75	16-27	2-10

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag-ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct					Pct	
40B:											
Orange----------	0-6	Loam	CL	A-4	0	85-100	80-100	70-95	50-75	21-37	4-13
	6-18	Clay loam, silt loam, loam, sandy loam, silty clay loam, silty clay	SC, CL, CL-ML	A-4, A-6	0	85-100	80-100	45-100	20-95	20-57	6-36
	18-35	Clay, silty clay, silty clay loam	CH	A-7	0	85-100	80-100	70-100	60-95	45-78	25-51
	35-54	Loam, sandy loam, silt loam	CL, CL-ML, SC	A-4, A-6	0-2	85-100	80-100	50-100	25-90	18-35	4-17
	54-64	Bedrock			---	---	---	---	---	---	---
41A:											
Riverview-------	0-15	Loam	CL, CL-ML	A-6	0	90-100	80-100	70-95	50-75	22-43	6-17
	15-58	Sandy loam, loam, silt loam, clay loam, silty clay loam	SM, SC-SM	A-2, A-4	0	90-100	80-100	50-100	25-95	16-45	2-24
	58-75	Loamy sand, sandy loam, fine sandy loam, sand, loamy fine sand	CL, CL-ML, ML, SC, SC-SM, SM	A-1, A-2-4, A-4	0	90-100	80-100	40-85	4-55	0-29	NP-12
42C:											
Spriggs---------	0-4	Sandy loam	SC-SM, SC	A-4, A-2-4, A-6	0-2	85-100	80-100	50-70	25-40	21-33	6-12
	4-9	Sandy loam, fine sandy loam, loam, silt loam	CL-ML, SC-SM, SC, CL	A-4, A-2-4, A-6	0-2	85-100	80-100	50-100	25-90	20-37	6-19
	9-38	Sandy clay loam, clay loam, loam, silt loam	SC, CL	A-6, A-7-6	0-2	85-100	80-100	65-100	30-90	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
42D:											
Spriggs---------	0-4	Sandy loam	SC-SM, SC	A-4, A-2-4, A-6	0-2	85-100	80-100	50-70	25-40	21-33	6-12
	4-9	Sandy loam, fine sandy loam, loam, silt loam	CL-ML, SC-SM, SC, CL	A-4, A-2-4, A-6	0-2	85-100	80-100	50-100	25-90	20-37	6-19
	9-38	Sandy clay loam, clay loam, loam, silt loam	SC, CL	A-6, A-7-6	0-2	85-100	80-100	65-100	30-90	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---
42E:											
Spriggs---------	0-4	Sandy loam	SC-SM, SC	A-4, A-2-4, A-6	0-2	85-100	80-100	50-70	25-40	21-33	6-12
	4-9	Sandy loam, fine sandy loam, loam, silt loam	CL-ML, SC-SM, SC, CL	A-4, A-2-4, A-6	0-2	85-100	80-100	50-100	25-90	20-37	6-19
	9-38	Sandy clay loam, clay loam, loam, silt loam	SC, CL	A-6, A-7-6	0-2	85-100	80-100	65-100	30-90	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---
43B:											
Spriggs---------	0-4	Sandy loam	SC-SM, SC	A-4, A-2-4, A-6	0-2	85-100	80-100	50-70	25-40	21-33	6-12
	4-9	Sandy loam, fine sandy loam, loam, silt loam	CL-ML, SC-SM, SC, CL	A-4, A-2-4, A-6	0-2	85-100	80-100	50-100	25-90	20-37	6-19
	9-38	Sandy clay loam, clay loam, loam, silt loam	SC, CL	A-6, A-7-6	0-2	85-100	80-100	65-100	30-90	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---
Rasalo----------	0-6	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	85-100	80-100	50-70	25-40	17-31	2-10
	6-30	Clay, sandy clay loam, clay loam	CH, CL	A-7	0	85-100	80-100	65-100	30-95	32-69	14-44
	30-60	Sandy loam, loam	SC-SM, SM, SC	A-2-4, A-4	0	85-100	80-100	50-95	25-75	16-27	2-10

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
43C:											
Spriggs---------	0-4	Sandy loam	SC-SM, SC	A-4, A-2-4, A-6	0-2	85-100	80-100	50-70	25-40	21-33	6-12
	4-9	Sandy loam, fine sandy loam, loam, silt loam	CL-ML, SC-SM, SC, CL	A-4, A-2-4, A-6	0-2	85-100	80-100	50-100	25-90	20-37	6-19
	9-38	Sandy clay loam, clay loam, loam, silt loam	SC, CL	A-6, A-7-6	0-2	85-100	80-100	65-100	30-90	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---
Rasalo----------	0-6	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	85-100	80-100	50-70	25-40	17-31	2-10
	6-30	Clay, sandy clay loam, clay loam	CH, CL	A-7	0	85-100	80-100	65-100	30-95	32-69	14-44
	30-60	Sandy loam, loam	SC-SM, SM, SC	A-2-4, A-4	0	85-100	80-100	50-95	25-75	16-27	2-10
43D:											
Spriggs---------	0-4	Sandy loam	SC-SM, SC	A-4, A-2-4, A-6	0-2	85-100	80-100	50-70	25-40	21-33	6-12
	4-9	Sandy loam, fine sandy loam, loam, silt loam	CL-ML, SC-SM, SC, CL	A-4, A-2-4, A-6	0-2	85-100	80-100	50-100	25-90	20-37	6-19
	9-38	Sandy clay loam, clay loam, loam, silt loam	SC, CL	A-6, A-7-6	0-2	85-100	80-100	65-100	30-90	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---
Rasalo----------	0-6	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	85-100	80-100	50-70	25-40	17-31	2-10
	6-30	Clay, sandy clay loam, clay loam	CH, CL	A-7	0	85-100	80-100	65-100	30-95	32-69	14-44
	30-60	Sandy loam, loam	SC-SM, SM, SC	A-2-4, A-4	0	85-100	80-100	50-95	25-75	16-27	2-10

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
44B:											
Spriggs---------	0-4	Sandy loam	SC-SM, SC	A-4, A-2-4, A-6	0-2	85-100	80-100	50-70	25-40	21-33	6-12
	4-9	Sandy loam, fine sandy loam, loam, silt loam	CL-ML, SC-SM, SC, CL	A-4, A-2-4, A-6	0-2	85-100	80-100	50-100	25-90	20-37	6-19
	9-38	Sandy clay loam, clay loam, loam, silt loam	SC, CL	A-6, A-7-6	0-2	85-100	80-100	65-100	30-90	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---
Urban land.											
44D:											
Spriggs---------	0-4	Sandy loam	SC-SM, SC	A-4, A-2-4, A-6	0-2	85-100	80-100	50-70	25-40	21-33	6-12
	4-9	Sandy loam, fine sandy loam, loam, silt loam	CL-ML, SC-SM, SC, CL	A-4, A-2-4, A-6	0-2	85-100	80-100	50-100	25-90	20-37	6-19
	9-38	Sandy clay loam, clay loam, loam, silt loam	SC, CL	A-6, A-7-6	0-2	85-100	80-100	65-100	30-90	29-46	12-25
	38-59	Bedrock			---	---	---	---	---	---	---
Urban land.											
45C:											
Stoneville------	0-5	Loam	CL, CL-ML, ML	A-4, A-6	0-2	95-100	85-100	70-95	50-75	19-40	3-18
	5-13	Loam, silt loam	CL	A-6	0-2	95-100	85-100	70-100	51-90	18-40	3-19
	13-38	Clay, clay loam, silty clay loam, silty clay	CH, CL	A-7	0-2	95-100	85-100	75-100	60-95	43-67	25-44
	38-48	Loam, silt loam	CL	A-6	0-2	95-100	85-100	70-100	51-90	20-37	6-19
	48-59	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
46B:											
Straightstone---	0-8	Loam	CL, CL-ML, ML	A-4, A-6	0-2	90-100	85-100	70-95	50-75	19-40	3-18
	8-54	Clay, silty clay loam, clay loam, silty clay	CH, CL	A-7	0	90-100	85-100	75-100	60-95	37-67	19-44
	54-65	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	90-100	85-100	70-100	50-95	20-43	6-25
47B:											
Tarrus----------	0-5	Silt loam	ML	A-4	0	85-100	80-100	70-100	55-90	14-25	NP-3
	5-11	Loam, silt loam, silty clay loam, channery silt loam, channery loam, channery silty clay loam	ML	A-4	0	65-100	55-100	45-100	36-95	16-31	NP-5
	11-49	Clay, silty clay, silty clay loam, clay loam, channery clay loam, channery silty clay, channery clay, parachannery silty clay loam	ML	A-4	0	65-100	55-100	50-100	40-95	25-49	3-12
	49-59	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
47B:											
Badin-----------	0-2	Silt loam	CL	A-4, A-6	0-2	85-95	80-92	70-90	55-80	24-43	7-18
	2-6	Silt loam, channery silt loam, channery loam	CL, ML	A-4, A-6	0-2	60-97	50-92	40-90	30-80	18-37	3-19
	6-25	Silty clay loam, clay, silty clay, clay loam, channery silty clay loam	CL	A-7	0-2	60-97	50-92	45-90	35-85	37-63	19-40
	25-38	Very channery silty clay loam, clay loam, silt loam, channery silty clay loam	CL, GC	A-2	0-2	40-75	25-70	20-70	18-65	24-50	7-29
	38-48	Bedrock			---	---	---	---	---	---	---
	48-58	Bedrock			---	---	---	---	---	---	---
47C:											
Tarrus----------	0-5	Silt loam	ML	A-4	0	85-100	80-100	70-100	55-90	14-25	NP-3
	5-11	Loam, silt loam, silty clay loam, channery silt loam, channery loam, channery silty clay loam	ML	A-4	0	65-100	55-100	45-100	36-95	16-31	NP-5
	11-49	Clay, silty clay, silty clay loam, clay loam, channery clay loam, channery silty clay, channery clay, parachannery silty clay loam	ML	A-4	0	65-100	55-100	50-100	40-95	25-49	3-12
	49-59	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag-ments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct					Pct	
47C:											
Badin-----------	0-2	Silt loam	CL	A-4, A-6	0-2	85-95	80-92	70-90	55-80	24-43	7-18
	2-6	Silt loam, channery silt loam, channery loam	CL, ML	A-4, A-6	0-2	60-97	50-92	40-90	30-80	18-37	3-19
	6-25	Silty clay loam, clay, silty clay, clay loam, channery silty clay loam	CL	A-7	0-2	60-97	50-92	45-90	35-85	37-63	19-40
	25-38	Very channery silty clay loam, clay loam, silt loam, channery silty clay loam	CL, GC	A-2	0-2	40-75	25-70	20-70	18-65	24-50	7-29
	38-48	Bedrock			---	---	---	---	---	---	---
	48-58	Bedrock			---	---	---	---	---	---	---
47D:											
Tarrus----------	0-5	Silt loam	ML	A-4	0	85-100	80-100	70-100	55-90	14-25	NP-3
	5-11	Loam, silt loam, silty clay loam, channery silt loam, channery loam, channery silty clay loam	ML	A-4	0	65-100	55-100	45-100	36-95	16-31	NP-5
	11-49	Clay, silty clay, silty clay loam, clay loam, channery clay loam, channery silty clay, channery clay, parachannery silty clay loam	ML	A-4	0	65-100	55-100	50-100	40-95	25-49	3-12
	49-59	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
47D:											
Badin-----------	0-2	Silt loam	CL	A-4, A-6	0-2	85-95	80-92	70-90	55-80	24-43	7-18
	2-6	Silt loam, channery silt loam, channery loam	CL, ML	A-4, A-6	0-2	60-97	50-92	40-90	30-80	18-37	3-19
	6-25	Silty clay loam, clay, silty clay, clay loam, channery silty clay loam	CL	A-7	0-2	60-97	50-92	45-90	35-85	37-63	19-40
	25-38	Very channery silty clay loam, clay loam, silt loam, channery silty clay loam	CL, GC	A-2	0-2	40-75	25-70	20-70	18-65	24-50	7-29
	38-48	Bedrock			---	---	---	---	---	---	---
	48-58	Bedrock			---	---	---	---	---	---	---
48D:											
Toast-----------	0-6	Sandy loam	SC-SM, SM	A-2, A-4	0-3	85-100	80-100	50-70	25-40	9-20	NP-2
	6-12	Sandy loam, coarse sandy loam, loam	SC-SM, SM	A-2, A-4	0-3	85-100	80-100	45-95	20-75	9-20	NP-2
	12-38	Clay, sandy clay loam, clay loam, sandy clay	ML	A-4, A-6	0	85-100	80-100	65-100	30-95	25-45	3-11
	38-65	Sandy loam, sandy clay loam, loam, loamy sand	SM	A-2, A-4	0	85-100	80-100	40-95	12-75	9-25	NP-3
49A:											
Toccoa----------	0-12	Fine sandy loam	SM, CL-ML	A-4	0	90-100	80-100	55-85	30-55	0-30	NP-10
	12-62	Fine sandy loam, loam, sandy loam, loamy sand, sand	ML, SC-SM	A-2, A-4	0	90-100	80-100	40-95	4-75	0-31	NP-13

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
50B:											
Turbeville------	0-8	Loam, fine sandy loam	SM	A-4	0-2	85-100	80-100	70-95	30-50	8-19	NP-1
	8-60	Clay, sandy clay, clay loam, sandy clay loam	ML	A-4	0	90-100	85-100	70-100	30-95	30-49	5-12
50C:											
Turbeville------	0-8	Loam, fine sandy loam	SM	A-4	0-2	85-100	80-100	70-95	30-50	8-19	NP-1
	8-60	Clay, sandy clay, clay loam, sandy clay loam	ML	A-4	0	90-100	85-100	70-100	30-95	30-49	5-12
51B. Udorthents											
52B. Urban land											
53B:											
Virgilina-------	0-3	Gravelly silt loam	CL, CL-ML, ML, SM, SC	A-4	0-3	75-85	65-75	60-75	45-70	17-35	2-13
	3-11	Gravelly silt loam, gravelly loam	CL, CL-ML, ML, SM, SC	A-4	0-3	75-85	65-75	55-75	40-70	16-31	2-13
	11-32	Clay, silty clay, silty clay loam	CH	A-7	0	90-100	85-100	75-100	65-95	47-75	25-48
	32-42	Bedrock			---	---	---	---	---	---	---
54B:											
Virgilina-------	0-3	Gravelly silt loam	CL, CL-ML, ML, SM, SC	A-4	0-3	75-85	65-75	60-75	45-70	17-35	2-13
	3-11	Gravelly silt loam, gravelly loam	CL, CL-ML, ML, SM, SC	A-4	0-3	75-85	65-75	55-75	40-70	16-31	2-13
	11-32	Clay, silty clay, silty clay loam	CH	A-7	0	90-100	85-100	75-100	65-95	47-75	25-48
	32-42	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
55C:											
Virgilina-------	0-3	Gravelly silt loam	CL, CL-ML, ML, SM, SC	A-4	0-3	75-85	65-75	60-75	45-70	17-35	2-13
	3-11	Gravelly silt loam, gravelly loam	SC, CL, CL-ML, ML, SM	A-4	0-3	75-85	65-75	55-75	40-70	16-31	2-13
	11-32	Clay, silty clay, silty clay loam	CH	A-7	0	90-100	85-100	75-100	65-95	47-75	25-48
	32-42	Bedrock			---	---	---	---	---	---	---
Poindexter------	0-4	Gravelly silt loam	CL-ML, SC-SM, SC, CL	A-4, A-6	0-10	65-95	55-75	50-75	40-70	21-40	6-18
	4-12	Gravelly silt loam, gravelly loam, gravelly sandy loam	CL-ML, SC-SM, SC, CL	A-2-4, A-4, A-6	0-10	68-95	55-75	35-75	15-70	20-37	6-19
	12-33	Clay loam, loam, silt loam, gravelly sandy clay loam	SC, CL	A-7-6, A-6	0-3	67-100	55-100	45-100	20-90	29-46	12-25
	33-41	Bedrock			---	---	---	---	---	---	---
	41-51	Bedrock			---	---	---	---	---	---	---
56B:											
Wolftrap--------	0-8	Fine sandy loam	SC	A-2	0	85-100	80-100	55-85	30-55	21-35	6-13
	8-31	Clay	CH	A-7	0	85-100	80-100	70-100	60-95	47-87	25-54
	31-38	Clay loam, sandy clay loam, silty clay loam	CL	A-6, A-7	0	85-100	80-100	65-100	30-95	31-50	13-29
	38-65	Loam, fine sandy loam, silt loam	CL-ML, ML, SC, SM, CL	A-4, A-6	0	85-100	80-100	55-100	30-90	16-37	2-19
Easthamlet------	0-5	Sandy loam	SC	A-4	0	90-100	85-100	50-70	25-40	21-35	6-13
	5-30	Clay, sandy clay, silty clay	CH	A-7	0	90-100	85-100	70-100	40-95	47-87	25-54
	30-47	Bedrock		A-7-6	---	---	---	---	---	---	---
	47-57	Bedrock			---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
57B:											
Yadkin----------	0-11	Fine sandy loam	ML, SC-SM, SM	A-4	0-2	85-100	80-100	55-85	30-55	8-19	NP-1
	11-58	Clay, sandy clay, clay loam, sandy clay loam	ML	A-4	0	90-100	85-100	70-100	30-95	30-49	5-12
	58-80	Loam, sandy clay loam, clay loam	ML	A-4	0	90-100	85-100	70-100	30-80	13-31	NP-5
57C:											
Yadkin----------	0-11	Fine sandy loam	ML, SC-SM, SM	A-4	0-2	85-100	80-100	55-85	30-55	8-19	NP-1
	11-58	Clay, sandy clay, clay loam, sandy clay loam	ML	A-4	0	90-100	85-100	70-100	30-95	30-49	5-12
	58-80	Loam, sandy clay loam, clay loam	ML	A-4	0	90-100	85-100	70-100	30-80	13-31	NP-5
58B3:											
Yadkin----------	0-6	Clay loam	ML	A-4	0-2	85-100	80-100	70-100	55-80	25-34	3-7
	6-65	Clay, sandy clay, clay loam, sandy clay loam	ML	A-4	0	95-100	85-100	70-100	30-95	30-49	5-12
58C3:											
Yadkin----------	0-6	Clay loam	ML	A-4	0-2	85-100	80-100	70-100	55-80	25-34	3-7
	6-65	Clay, sandy clay, clay loam, sandy clay loam	ML	A-4	0	95-100	85-100	70-100	30-95	30-49	5-12
W.											
Water											

Table 16.—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	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
1B3:												
Appomattox-----------	0-8	27-40	1.30-1.50	4.50-14.00	0.13-0.15	0.0-2.9	0.0-2.0	.20	.24	4	3	86
	8-54	20-60	1.25-1.45	1.45-4.00	0.15-0.17	3.1-5.5	0.0-0.5	.20	.20			
	54-79	5-50	1.30-1.50	4.00-42.00	0.12-0.14	0.0-2.9	0.0-0.5	.28	.28			
1C3:												
Appomattox-----------	0-8	27-40	1.30-1.50	4.50-14.00	0.13-0.15	0.0-2.9	0.0-2.0	.20	.24	4	3	86
	8-54	20-60	1.25-1.45	1.45-4.00	0.15-0.17	3.1-5.5	0.0-0.5	.20	.20			
	54-79	5-50	1.30-1.50	4.00-42.00	0.12-0.14	0.0-2.9	0.0-0.5	.28	.28			
2B:												
Banister-------------	0-14	7-27	1.35-1.45	4.00-14.00	0.14-0.19	0.0-2.5	1.0-2.0	.28	.32	5	3	86
	14-58	20-60	1.25-1.45	1.40-4.00	0.08-0.17	3.0-5.9	0.0-0.5	.20	.20			
	58-65	2-40	1.25-1.45	4.00-141.00	0.03-0.17	3.0-5.9	0.0-0.2	.20	.20			
Kinkora--------------	0-4	10-27	1.20-1.50	4.00-14.00	0.14-0.20	0.0-2.5	0.5-3.0	.43	.43	5	5	56
	4-45	20-60	1.35-1.65	0.42-1.40	0.10-0.19	3.0-5.9	0.0-0.5	.24	.24			
	45-62	5-40	1.20-1.50	0.42-42.00	0.04-0.14	3.0-5.0	0.0-0.5	.24	.28			
3B:												
Bentley--------------	0-17	5-14	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.10	.10	5	2	134
	17-23	5-30	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
	23-61	20-65	1.40-1.65	1.50-4.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	61-80	2-60	1.40-1.65	1.50-141.00	0.02-0.18	3.0-5.9	0.0-0.5	.28	.28			
3C:												
Bentley--------------	0-17	5-14	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.10	.10	5	2	134
	17-23	5-30	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
	23-61	20-65	1.40-1.65	1.50-4.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	61-80	2-60	1.40-1.65	1.50-141.00	0.02-0.18	3.0-5.9	0.0-0.5	.28	.28			
4A:												
Chewacla-------------	0-8	7-27	1.20-1.40	4.50-14.00	0.14-0.20	0.0-2.9	2.0-4.0	.37	.37	5	5	56
	8-36	7-27	1.20-1.40	4.50-14.00	0.14-0.20	0.0-2.9	0.0-0.5	.28	.28			
	36-55	10-40	1.20-1.50	4.50-14.00	0.14-0.24	0.0-2.9	0.0-0.5	.24	.28			
	55-60	2-50	1.20-1.40	4.50-141.00	0.01-0.20	0.0-2.9	0.0-0.5	.28	.28			
5A:												
Chewacla-------------	0-8	7-27	1.20-1.40	4.50-14.00	0.14-0.20	0.0-2.9	2.0-4.0	.37	.37	5	5	56
	8-36	7-27	1.20-1.40	4.50-14.00	0.14-0.20	0.0-2.9	0.0-0.5	.28	.28			
	36-55	10-40	1.20-1.50	4.50-14.00	0.14-0.24	0.0-2.9	0.0-0.5	.24	.28			
	55-60	2-50	1.20-1.40	4.50-141.00	0.01-0.20	0.0-2.9	0.0-0.5	.28	.28			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
5A:												
Wehadkee-------------	0-4	10-20	1.20-1.40	4.10-14.00	0.16-0.22	0.0-2.9	2.0-4.0	.37	.37	5	5	56
	4-16	7-27	1.20-1.40	4.23-14.11	0.13-0.21	0.0-2.9	0.0-0.5	.43	.43			
	16-26	20-35	1.20-1.40	4.10-14.00	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32			
	26-62	20-35	1.20-1.40	4.10-14.00	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32			
	62-72	10-35	1.20-1.50	4.10-14.00	0.10-0.14	0.0-2.9	0.0-0.5	.20	.20			
6C:												
Cid------------------	0-6	10-25	1.35-1.60	4.00-14.00	0.14-0.20	0.0-2.5	0.5-2.0	.37	.43	2	5	56
	6-31	27-60	1.25-1.55	0.50-1.40	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	31-35	---	---	0.00-14.00	---	---	---	---	---			
	35-45	---	---	0.00-42.00	---	---	---	---	---			
7B:												
Cid------------------	0-6	10-25	1.35-1.60	4.00-14.00	0.14-0.20	0.0-2.5	0.5-2.0	.37	.43	2	5	56
	6-31	27-60	1.25-1.55	0.50-1.40	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	31-35	---	---	0.00-14.00	---	---	---	---	---			
	35-45	---	---	0.00-42.00	---	---	---	---	---			
Lignum---------------	0-6	10-25	1.20-1.50	4.00-14.00	0.14-0.20	0.0-2.5	0.5-2.0	.24	.32	4	3	86
	6-35	35-60	1.25-1.55	0.01-0.42	0.10-0.18	3.0-5.9	0.0-0.5	.28	.28			
	35-56	15-40	1.25-1.55	1.40-4.00	0.10-0.18	0.0-2.5	0.0-0.5	.28	.32			
	56-66	---	---	0.00-14.00	0.00-0.01	---	---	---	---			
8B:												
Clifford-------------	0-6	5-20	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	6-55	34-60	1.30-1.50	4.50-14.00	0.13-0.15	1.0-2.9	0.0-0.5	.20	.20			
	55-65	5-30	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.2	.20	.20			
8C:												
Clifford-------------	0-6	5-20	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	6-55	34-60	1.30-1.50	4.50-14.00	0.13-0.15	1.0-2.9	0.0-0.5	.20	.20			
	55-65	5-30	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.2	.20	.20			
9B3:												
Clifford-------------	0-5	27-40	1.25-1.35	4.50-14.00	0.10-0.14	1.0-2.9	0.5-1.5	.24	.24	4	6	48
	5-58	34-60	1.30-1.50	4.50-14.00	0.13-0.15	1.0-2.9	0.0-0.5	.20	.20			
	58-62	5-30	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.2	.20	.20			
9C3:												
Clifford-------------	0-5	27-40	1.25-1.35	4.50-14.00	0.10-0.14	1.0-2.9	0.5-1.5	.24	.24	4	6	48
	5-58	34-60	1.30-1.50	4.50-14.00	0.13-0.15	1.0-2.9	0.0-0.5	.20	.20			
	58-62	5-30	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.2	.20	.20			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
10B:												
Clifford-------------	0-6	5-20	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	6-55	34-60	1.30-1.50	4.50-14.00	0.13-0.15	1.0-2.9	0.0-0.5	.20	.20			
	55-65	5-30	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.2	.20	.20			
Urban land.												
10D:												
Clifford-------------	0-6	5-20	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	6-55	34-60	1.30-1.50	4.50-14.00	0.13-0.15	1.0-2.9	0.0-0.5	.20	.20			
	55-65	5-30	1.30-1.50	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.2	.20	.20			
Urban land.												
11C:												
Clover---------------	0-9	5-20	1.40-1.65	14.00-42.00	0.11-0.17	0.0-2.5	0.5-2.0	.32	.32	5	3	86
	9-42	27-60	1.40-1.65	4.50-14.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	42-65	7-27	1.20-1.40	4.50-14.00	0.05-0.08	0.0-2.5	0.0-0.2	.28	.28			
11D:												
Clover---------------	0-9	5-20	1.40-1.65	14.00-42.00	0.11-0.17	0.0-2.5	0.5-2.0	.32	.32	5	3	86
	9-42	27-60	1.40-1.65	4.50-14.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	42-65	7-27	1.20-1.40	4.50-14.00	0.05-0.08	0.0-2.5	0.0-0.2	.28	.28			
12B:												
Clover---------------	0-9	5-20	1.40-1.65	14.00-42.00	0.11-0.17	0.0-2.5	0.5-2.0	.32	.32	5	3	86
	9-42	27-60	1.40-1.65	4.50-14.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	42-65	7-27	1.20-1.40	4.50-14.00	0.05-0.08	0.0-2.5	0.0-0.2	.28	.28			
Bentley--------------	0-17	5-14	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.10	.10	5	2	134
	17-23	5-30	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
	23-61	20-65	1.40-1.65	1.50-4.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	61-80	2-60	1.40-1.65	1.50-141.00	0.02-0.18	0.0-5.9	0.0-0.5	.10	.10			
13A:												
Codorus--------------	0-8	10-27	1.20-1.40	4.50-14.00	0.14-0.20	0.0-2.9	2.0-4.0	.24	.24	5	5	56
	8-17	10-40	1.20-1.50	4.50-14.00	0.14-0.18	0.0-2.9	0.0-0.5	.37	.37			
	17-49	27-40	1.20-1.50	4.50-14.00	0.14-0.24	0.0-2.9	0.0-0.5	.28	.28			
	49-62	2-40	1.20-1.60	4.50-141.00	0.02-0.18	0.0-2.9	0.0-0.5	.24	.24			
14A:												
Codorus--------------	0-8	10-27	1.20-1.40	4.50-14.00	0.14-0.20	0.0-2.9	2.0-4.0	.24	.24	5	5	56
	8-17	10-40	1.20-1.50	4.50-14.00	0.14-0.18	0.0-2.9	0.0-0.5	.37	.37			
	17-49	27-40	1.20-1.50	4.50-14.00	0.14-0.24	0.0-2.9	0.0-0.5	.28	.28			
	49-62	2-40	1.20-1.60	4.50-141.00	0.02-0.18	0.0-2.9	0.0-0.5	.24	.24			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
14A:												
Hatboro--------------	0-4	10-20	1.20-1.40	4.10-14.00	0.16-0.22	0.0-2.5	2.0-4.0	.24	.24	5	5	56
	4-35	20-35	1.20-1.40	4.10-14.00	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32			
	35-65	10-35	1.20-1.50	4.10-14.00	0.10-0.14	0.0-2.9	0.0-0.5	.20	.20			
15A:												
Comus----------------	0-10	5-18	1.20-1.40	4.23-14.11	0.13-0.21	0.0-2.9	0.0-2.0	.24	.24	5	3	86
	10-35	5-18	1.20-1.40	4.23-14.11	0.13-0.21	0.0-2.9	0.0-0.5	.43	.43			
	35-65	2-18	1.30-1.60	4.23-42.34	0.07-0.21	0.0-2.9	0.0-0.5	.28	.32			
16A:												
Dan River------------	0-9	10-25	1.20-1.40	4.50-14.00	0.12-0.20	0.0-2.5	1.0-4.0	.28	.28	5	6	48
	9-30	5-27	1.20-1.50	4.50-14.00	0.12-0.20	0.0-2.9	0.0-1.0	.37	.37			
	30-56	20-35	1.30-1.50	4.50-14.00	0.13-0.15	0.0-2.5	0.0-0.5	.28	.28			
	56-62	2-20	1.20-1.40	14.00-141.00	0.02-0.18	0.0-2.5	0.0-0.2	.28	.28			
17B:												
Danripple------------	0-10	10-20	1.20-1.50	14.00-42.00	0.10-0.17	0.0-2.5	1.0-3.0	.17	.20	5	3	86
	10-48	27-55	1.30-1.60	4.50-14.00	0.10-0.17	3.0-5.9	0.0-0.5	.24	.24			
	48-72	10-38	1.45-1.65	1.50-4.00	0.13-0.15	3.0-5.0	0.0-0.5	.32	.32			
18B:												
Delila---------------	0-8	5-18	1.20-1.50	1.40-4.00	0.08-0.19	0.0-2.5	0.5-3.0	.20	.20	5	5	56
	8-30	30-55	1.35-1.65	0.01-0.42	0.10-0.16	3.0-5.9	0.0-0.5	.28	.28			
	30-65	5-30	1.20-1.50	1.40-4.00	0.08-0.19	3.0-4.0	0.0-0.5	.28	.28			
19C:												
Devotion-------------	0-10	7-20	1.35-1.60	14.50-42.00	0.10-0.13	0.0-2.9	1.0-4.0	.24	.24	3	3	86
	10-30	7-20	1.35-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-1.0	.17	.24			
	30-52	---	---	0.01-14.00	---	---	---	---	---			
	52-62	---	---	0.01-14.00	---	---	---	---	---			
Rhodhiss-------------	0-2	5-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.17	.24	5	3	86
	2-14	5-27	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.24	.24			
	14-40	10-40	1.40-1.50	4.50-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.24			
	40-62	5-27	1.40-1.50	4.50-42.00	0.05-0.15	0.0-2.9	0.0-0.5	.20	.24			
19D:												
Devotion-------------	0-10	7-20	1.35-1.60	14.50-42.00	0.10-0.13	0.0-2.9	1.0-4.0	.24	.24	3	3	86
	10-30	7-20	1.35-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-1.0	.17	.24			
	30-52	---	---	0.01-14.00	---	---	---	---	---			
	52-62	---	---	0.01-14.00	---	---	---	---	---			
Rhodhiss-------------	0-2	5-20	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.17	.24	5	3	86
	2-14	5-27	1.30-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.24	.24			
	14-40	10-40	1.40-1.50	4.50-14.00	0.08-0.15	0.0-2.9	0.0-0.5	.20	.24			
	40-62	5-27	1.40-1.50	4.50-42.00	0.05-0.15	0.0-2.9	0.0-0.5	.20	.24			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
20B:												
Dogue----------------	0-11	7-27	1.35-1.45	4.00-42.00	0.14-0.19	0.0-2.9	1.0-2.0	.37	.43	5	3	86
	11-62	20-60	1.25-1.45	1.40-42.00	0.08-0.17	3.0-5.9	0.0-0.5	.20	.20			
	62-80	2-35	1.20-1.40	4.50-141.00	0.02-0.20	0.0-2.9	0.0-0.5	.20	.20			
21D:												
Fairview-------------	0-1	8-20	1.00-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.17	.24	5	3	86
	1-6	8-20	1.00-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.20	.20			
	6-20	25-55	1.20-1.50	4.50-14.00	0.08-0.15	1.0-2.9	0.0-0.5	.28	.28			
	20-62	10-35	1.20-1.50	4.50-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.28	.28			
21E:												
Fairview-------------	0-1	8-20	1.00-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.5-2.0	.17	.24	5	3	86
	1-6	8-20	1.00-1.50	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.20	.20			
	6-20	25-55	1.20-1.50	4.50-14.00	0.08-0.15	1.0-2.9	0.0-0.5	.28	.28			
	20-62	10-35	1.20-1.50	4.50-14.00	0.08-0.15	0.0-2.9	0.0-0.2	.28	.28			
22B:												
Georgeville----------	0-5	12-27	1.20-1.40	4.60-14.00	0.13-0.18	0.0-2.9	0.5-3.0	.32	.43	5	6	48
	5-54	27-65	1.20-1.40	4.50-14.00	0.13-0.18	1.0-2.9	0.0-0.5	.28	.28			
	54-65	15-40	1.20-1.40	4.50-14.00	0.05-0.10	0.0-2.9	0.0-0.5	.32	.32			
22C:												
Georgeville----------	0-5	12-27	1.20-1.40	4.60-14.00	0.13-0.18	0.0-2.9	0.5-3.0	.32	.43	5	6	48
	5-54	27-65	1.20-1.40	4.50-14.00	0.13-0.18	1.0-2.9	0.0-0.5	.28	.28			
	54-65	15-40	1.20-1.40	4.50-14.00	0.05-0.10	0.0-2.9	0.0-0.5	.32	.32			
23D:												
Goldston-------------	0-3	12-27	1.30-1.50	4.50-14.00	0.14-0.19	0.0-2.5	0.0-3.0	.20	.43	2	6	48
	3-16	12-27	1.30-1.60	4.50-14.00	0.12-0.18	0.0-2.5	0.0-0.5	.20	.32			
	16-41	---	---	0.01-14.00	---	---	---	---	---			
	41-51	---	---	0.01-14.00	---	---	---	---	---			
Montonia-------------	0-8	12-27	1.30-1.50	4.50-14.00	0.14-0.19	0.0-2.5	0.0-3.0	.28	.43	3	6	48
	8-30	10-35	1.30-1.60	4.50-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.32			
	30-41	---	---	0.01-14.00	---	---	---	---	---			
	41-51	---	---	0.01-14.00	---	---	---	---	---			
23E:												
Goldston-------------	0-3	12-27	1.30-1.50	4.50-14.00	0.14-0.19	0.0-2.5	0.0-3.0	.20	.43	2	6	48
	3-16	12-27	1.30-1.60	4.50-14.00	0.12-0.18	0.0-2.5	0.0-0.5	.20	.32			
	16-41	---	---	0.01-14.00	---	---	---	---	---			
	41-51	---	---	0.01-14.00	---	---	---	---	---			
Montonia-------------	0-8	12-27	1.30-1.50	4.50-14.00	0.14-0.19	0.0-2.5	0.0-3.0	.28	.43	3	6	48
	8-30	10-35	1.30-1.60	4.50-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.32			
	30-41	---	---	0.01-14.00	---	---	---	---	---			
	41-51	---	---	0.01-14.00	---	---	---	---	---			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
24B:												
Halifax--------------	0-13	5-20	1.58-1.62	14.00-42.00	0.10-0.12	0.0-2.5	0.5-2.0	.24	.24	5	5	56
	13-58	30-60	1.44-1.55	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.5	.28	.28			
	58-65	2-35	1.20-1.50	4.00-42.00	0.05-0.15	0.0-2.9	0.0-0.2	.28	.28			
24C:												
Halifax--------------	0-13	5-20	1.58-1.62	14.00-42.00	0.10-0.12	0.0-2.5	0.5-2.0	.24	.24	5	5	56
	13-58	30-60	1.44-1.55	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.5	.28	.28			
	58-65	2-35	1.20-1.50	4.00-42.00	0.05-0.15	0.0-2.9	0.0-0.2	.28	.28			
25B:												
Herndon--------------	0-8	5-27	1.20-1.40	4.60-14.00	0.14-0.20	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	8-57	27-65	1.20-1.40	4.60-14.00	0.13-0.18	1.0-2.9	0.0-0.5	.28	.28			
	57-65	10-30	1.20-1.40	4.60-14.00	0.05-0.08	0.0-2.9	0.0-0.5	.32	.37			
25C:												
Herndon--------------	0-8	5-27	1.20-1.40	4.60-14.00	0.14-0.20	0.0-2.9	0.5-2.0	.43	.43	5	5	56
	8-57	27-65	1.20-1.40	4.60-14.00	0.13-0.18	1.0-2.9	0.0-0.5	.28	.28			
	57-65	10-30	1.20-1.40	4.60-14.00	0.05-0.08	0.0-2.9	0.0-0.5	.32	.37			
26B:												
Jackland-------------	0-8	7-18	1.00-1.30	4.00-14.00	0.16-0.22	0.0-2.5	0.5-2.0	.24	.24	5	4	86
	8-30	40-70	1.20-1.50	0.01-0.42	0.08-0.12	9.0-25.0	0.0-0.5	.10	.10			
	30-65	10-35	1.30-1.60	4.00-14.00	0.10-0.14	0.0-2.9	0.0-0.5	.15	.15			
Orange---------------	0-6	8-20	1.25-1.55	4.00-14.00	0.14-0.20	0.0-2.5	1.0-3.0	.32	.32	4	5	56
	6-18	10-50	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.5	.24	.24			
	18-35	35-70	1.44-1.55	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.5	.28	.28			
	35-54	8-25	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.5	0.0-0.2	.24	.24			
	54-64	---	---	0.01-14.00	---	---	---	---	---			
27B:												
Lackstown------------	0-9	7-20	1.55-1.70	14.00-42.00	0.10-0.14	0.0-2.5	0.5-2.0	.32	.32	4	3	86
	9-14	4-27	1.45-1.65	4.00-14.00	0.13-0.15	0.5-2.5	0.0-0.5	.32	.32			
	14-54	20-60	1.30-1.50	0.01-0.42	0.13-0.15	3.0-5.9	0.0-0.5	.32	.32			
	54-65	5-50	1.60-1.95	0.01-0.42	0.10-0.14	0.0-2.9	0.0-0.2	.37	.37			
27C:												
Lackstown------------	0-9	7-20	1.55-1.70	14.00-42.00	0.10-0.14	0.0-2.5	0.5-2.0	.32	.32	4	3	86
	9-14	4-27	1.45-1.65	4.00-14.00	0.13-0.15	0.5-2.5	0.0-0.5	.32	.32			
	14-54	20-60	1.30-1.50	0.01-0.42	0.13-0.15	3.0-5.9	0.0-0.5	.32	.32			
	54-65	5-50	1.60-1.95	0.01-0.42	0.10-0.14	0.0-2.9	0.0-0.2	.37	.37			
28B:												
Masada---------------	0-8	10-27	1.20-1.50	14.00-42.00	0.10-0.17	0.0-2.9	1.0-3.0	.17	.20	5	3	86
	8-58	27-55	1.30-1.60	4.00-14.00	0.10-0.17	3.0-5.9	0.0-0.5	.24	.24			
	58-62	15-40	1.30-1.60	4.00-14.00	0.10-0.17	3.0-5.9	0.0-0.5	.24	.24			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
29B:												
Mattaponi------------	0-10	5-18	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	10-14	3-30	1.30-1.55	4.00-42.00	0.08-0.15	0.0-2.9	0.0-0.5	.28	.28			
	14-35	20-65	1.40-1.65	1.50-4.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	35-60	20-50	1.40-1.65	1.50-4.00	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
30B:												
Meadows--------------	0-4	7-27	1.35-1.55	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.20	.32	2	5	56
	4-9	7-27	1.40-1.60	14.50-42.00	0.07-0.16	0.0-2.9	0.0-0.5	.20	.24			
	9-16	7-27	1.40-1.60	14.50-42.00	0.10-0.16	0.0-2.9	0.0-0.2	.20	.24			
	16-24	---	---	0.01-1.40	---	---	---	---	---			
	24-34	---	---	0.01-0.42	---	---	---	---	---			
31B:												
Minnieville----------	0-6	7-25	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.0	0.5-2.0	.32	.32	5	6	48
	6-60	27-60	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
	60-65	7-30	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.0	0.0-0.5	.28	.28			
32B3:												
Minnieville----------	0-8	27-40	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.9	0.5-1.5	.24	.24	4	6	48
	8-50	27-60	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
	50-65	7-30	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.0	0.0-0.5	.28	.28			
32C3:												
Minnieville----------	0-8	27-40	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.9	0.5-1.5	.24	.24	4	6	48
	8-50	27-60	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24			
	50-65	7-30	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.0	0.0-0.5	.28	.28			
33C:												
Montonia-------------	0-8	12-27	1.30-1.50	4.50-14.00	0.14-0.19	0.0-2.5	0.0-3.0	.28	.43	3	6	48
	8-30	10-35	1.30-1.60	4.50-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.32			
	30-41	---	---	0.01-14.00	---	---	---	---	---			
	41-51	---	---	0.01-14.00	---	---	---	---	---			
Goldston-------------	0-3	12-27	1.30-1.50	4.50-14.00	0.14-0.19	0.0-2.5	0.0-3.0	.20	.43	2	6	48
	3-16	12-27	1.30-1.60	4.50-14.00	0.12-0.18	0.0-2.5	0.0-0.5	.20	.32			
	16-41	---	---	0.01-14.00	---	---	---	---	---			
	41-51	---	---	0.01-14.00	---	---	---	---	---			
34B:												
Montonia-------------	0-8	12-27	1.30-1.50	4.50-14.00	0.14-0.19	0.0-2.5	0.0-3.0	.28	.43	3	6	48
	8-30	10-35	1.30-1.60	4.50-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.20	.32			
	30-41	---	---	0.01-14.00	---	---	---	---	---			
	41-51	---	---	0.01-14.00	---	---	---	---	---			
Nanford--------------	0-8	10-27	1.25-1.55	4.50-14.00	0.14-0.20	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	8-42	27-50	1.30-1.60	4.50-14.00	0.12-0.19	1.0-2.9	0.0-0.5	.28	.28			
	42-59	---	---	0.01-14.00	---	---	---	---	---			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
35B:												
Nanford--------------	0-8	10-27	1.25-1.55	4.50-14.00	0.14-0.20	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	8-42	27-50	1.30-1.60	4.50-14.00	0.12-0.19	1.0-2.9	0.0-0.5	.28	.28			
	42-59	---	---	0.01-14.00	---	---	---	---	---			
Badin----------------	0-2	12-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	1.0-3.0	.37	.43	3	5	56
	2-6	7-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	0.0-0.5	.32	.37			
	6-25	27-55	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	25-38	12-40	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	38-48	---	---	0.01-14.00	---	---	---	---	---			
	48-58	---	---	0.01-14.00	---	---	---	---	---			
35C:												
Nanford--------------	0-8	10-27	1.25-1.55	4.50-14.00	0.14-0.20	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	8-42	27-50	1.30-1.60	4.50-14.00	0.12-0.19	1.0-2.9	0.0-0.5	.28	.28			
	42-59	---	---	0.01-14.00	---	---	---	---	---			
Badin----------------	0-2	12-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	1.0-3.0	.37	.43	3	5	56
	2-6	7-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	0.0-0.5	.32	.37			
	6-25	27-55	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	25-38	12-40	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	38-48	---	---	0.01-14.00	---	---	---	---	---			
	48-58	---	---	0.01-14.00	---	---	---	---	---			
35D:												
Nanford--------------	0-8	10-27	1.25-1.55	4.50-14.00	0.14-0.20	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	8-42	27-50	1.30-1.60	4.50-14.00	0.12-0.19	1.0-2.9	0.0-0.5	.28	.28			
	42-59	---	---	0.01-14.00	---	---	---	---	---			
Badin----------------	0-2	12-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	1.0-3.0	.37	.43	3	5	56
	2-6	7-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	0.0-0.5	.32	.37			
	6-25	27-55	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	25-38	12-40	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	38-48	---	---	0.01-14.00	---	---	---	---	---			
	48-58	---	---	0.01-14.00	---	---	---	---	---			
36B:												
Nathalie-------------	0-9	5-20	1.40-1.65	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	9-52	20-60	1.25-1.45	4.50-14.00	0.15-0.17	1.0-2.9	0.0-0.5	.20	.20			
	52-65	5-35	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.2	.24	.24			
36C:												
Nathalie-------------	0-9	5-20	1.40-1.65	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	9-52	20-60	1.25-1.45	4.50-14.00	0.15-0.17	1.0-2.9	0.0-0.5	.20	.20			
	52-65	5-35	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.2	.24	.24			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
37B:												
Oak Level------------	0-6	8-25	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.5	0.5-2.0	.32	.32	5	5	56
	6-42	27-55	1.40-1.60	1.45-4.00	0.12-0.14	3.0-5.9	0.0-0.5	.32	.32			
	42-65	15-35	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.2	.24	.24			
37C:												
Oak Level------------	0-6	8-25	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.5	0.5-2.0	.32	.32	5	5	56
	6-42	27-55	1.40-1.60	1.45-4.00	0.12-0.14	3.0-5.9	0.0-0.5	.32	.32			
	42-65	15-35	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.2	.24	.24			
38C:												
Pinkston-------------	0-5	5-18	1.20-1.40	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.28	.32	2	3	86
	5-16	10-35	1.20-1.50	14.00-42.00	0.06-0.18	0.0-2.9	0.5-1.0	.24	.28			
	16-23	10-20	1.20-1.50	14.00-42.00	0.05-0.16	0.0-2.9	0.0-0.5	.24	.28			
	23-33	---	---	0.01-0.42	0.00-0.01	---	---	---	---			
38D:												
Pinkston-------------	0-5	5-18	1.20-1.40	14.00-42.00	0.10-0.15	0.0-2.9	0.5-2.0	.28	.32	2	3	86
	5-16	10-35	1.20-1.50	14.00-42.00	0.06-0.18	0.0-2.9	0.5-1.0	.24	.28			
	16-23	10-20	1.20-1.50	14.00-42.00	0.05-0.16	0.0-2.9	0.0-0.5	.24	.28			
	23-33	---	---	0.01-0.42	0.00-0.01	---	---	---	---			
39D:												
Poindexter-----------	0-4	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.5-2.0	.28	.43	3	6	48
	4-12	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.0-0.5	.37	.37			
	12-33	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.0	0.0-0.5	.37	.43			
	33-41	---	---	0.01-14.00	---	---	---	---	---			
	41-51	---	---	0.01-14.00	---	---	---	---	---			
40B:												
Rasalo---------------	0-6	5-15	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	6-30	20-60	1.20-1.40	1.45-4.00	0.12-0.16	6.0-8.9	0.0-0.2	.28	.28			
	30-60	5-15	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.2	.24	.28			
Orange---------------	0-6	8-20	1.25-1.55	4.00-14.00	0.14-0.20	0.0-2.5	1.0-3.0	.32	.32	4	5	56
	6-18	10-50	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.9	0.0-0.5	.24	.24			
	18-35	35-70	1.44-1.55	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.5	.28	.28			
	35-54	8-25	1.30-1.50	4.00-14.00	0.14-0.19	0.0-2.5	0.0-0.2	.24	.24			
	54-64	---	---	0.01-14.00	---	---	---	---	---			
41A:												
Riverview------------	0-15	10-25	1.20-1.40	4.50-14.00	0.12-0.20	0.0-2.9	1.0-4.0	.28	.28	5	6	48
	15-58	5-34	1.30-1.50	14.00-42.00	0.12-0.14	0.0-2.9	0.0-1.0	.24	.24			
	58-75	3-18	1.30-1.60	4.23-141.00	0.03-0.21	0.0-2.9	0.0-0.2	.28	.32			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
42C:												
Spriggs----------------	0-4	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.5-2.0	.24	.24	3	3	86
	4-9	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.0-0.5	.37	.37			
	9-38	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.0	0.0-0.5	.37	.43			
	38-59	---	---	0.01-14.00	---	---	---	---	---			
42D:												
Spriggs----------------	0-4	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.5-2.0	.24	.24	3	3	86
	4-9	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.0-0.5	.37	.37			
	9-38	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.0	0.0-0.5	.37	.43			
	38-59	---	---	0.01-14.00	---	---	---	---	---			
42E:												
Spriggs----------------	0-4	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.5-2.0	.24	.24	3	3	86
	4-9	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.0-0.5	.37	.37			
	9-38	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.0	0.0-0.5	.37	.43			
	38-59	---	---	0.01-14.00	---	---	---	---	---			
43B:												
Spriggs----------------	0-4	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.5-2.0	.24	.24	3	3	86
	4-9	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.0-0.5	.37	.37			
	9-38	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.0	0.0-0.5	.37	.43			
	38-59	---	---	0.01-14.00	---	---	---	---	---			
Rasalo-----------------	0-6	5-15	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	6-30	20-60	1.20-1.40	1.45-4.00	0.12-0.16	6.0-8.9	0.0-0.2	.28	.28			
	30-60	5-15	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.2	.24	.28			
43C:												
Spriggs----------------	0-4	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.5-2.0	.24	.24	3	3	86
	4-9	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.0-0.5	.37	.37			
	9-38	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.0	0.0-0.5	.37	.43			
	38-59	---	---	0.01-14.00	---	---	---	---	---			
Rasalo-----------------	0-6	5-15	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	6-30	20-60	1.20-1.40	1.45-4.00	0.12-0.16	6.0-8.9	0.0-0.2	.28	.28			
	30-60	5-15	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.2	.24	.28			
43D:												
Spriggs----------------	0-4	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.5-2.0	.24	.24	3	3	86
	4-9	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.0-0.5	.37	.37			
	9-38	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.0	0.0-0.5	.37	.43			
	38-59	---	---	0.01-14.00	---	---	---	---	---			
Rasalo-----------------	0-6	5-15	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	6-30	20-60	1.20-1.40	1.45-4.00	0.12-0.16	6.0-8.9	0.0-0.2	.28	.28			
	30-60	5-15	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.2	.24	.28			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
44B:												
Spriggs--------------	0-4	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.5-2.0	.24	.24	3	3	86
	4-9	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.0-0.5	.37	.37			
	9-38	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.0	0.0-0.5	.37	.43			
	38-59	---	---	0.01-14.00	---	---	---	---	---			
Urban land.												
44D:												
Spriggs--------------	0-4	10-18	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.5-2.0	.24	.24	3	3	86
	4-9	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.0-0.5	.37	.37			
	9-38	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.0	0.0-0.5	.37	.43			
	38-59	---	---	0.01-14.00	---	---	---	---	---			
Urban land.												
45C:												
Stoneville-----------	0-5	7-27	1.35-1.55	4.00-14.00	0.14-0.20	0.0-2.5	0.5-2.0	.32	.32	4	5	56
	5-13	7-27	1.30-1.45	4.00-14.00	0.14-0.20	0.0-2.9	0.2-1.5	.32	.32			
	13-38	35-60	1.25-1.40	4.00-14.00	0.14-0.20	3.0-5.9	0.0-0.2	.28	.28			
	38-48	10-27	1.30-1.45	4.00-14.00	0.14-0.20	0.0-2.5	0.0-0.2	.24	.24			
	48-59	---	---	0.01-0.42	---	---	---	---	---			
46B:												
Straightstone--------	0-8	7-27	1.35-1.55	4.50-14.00	0.14-0.20	0.0-2.5	0.5-2.0	.32	.32	5	5	56
	8-54	27-60	1.25-1.40	4.50-14.00	0.14-0.20	3.0-5.9	0.0-0.5	.28	.28			
	54-65	10-35	1.30-1.45	4.50-14.00	0.14-0.20	0.0-2.5	0.0-0.2	.24	.24			
47B:												
Tarrus---------------	0-5	12-27	1.30-1.50	4.60-14.00	0.14-0.18	0.0-2.9	0.0-2.0	.43	.43	4	6	48
	5-11	15-35	1.40-1.60	4.50-14.00	0.10-0.19	1.0-2.9	0.0-0.5	.28	.28			
	11-49	27-60	1.20-1.40	4.60-14.00	0.13-0.18	0.0-2.9	0.0-0.5	.28	.28			
	49-59	---	---	0.01-14.00	---	---	---	---	---			
Badin----------------	0-2	12-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	1.0-3.0	.37	.43	3	5	56
	2-6	7-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	0.0-0.5	.32	.37			
	6-25	27-55	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	25-38	12-40	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	38-48	---	---	0.01-14.00	---	---	---	---	---			
	48-58	---	---	0.01-14.00	---	---	---	---	---			
47C:												
Tarrus---------------	0-5	12-27	1.30-1.50	4.60-14.00	0.14-0.18	0.0-2.9	0.0-2.0	.43	.43	4	6	48
	5-11	15-35	1.40-1.60	4.50-14.00	0.10-0.19	1.0-2.9	0.0-0.5	.28	.28			
	11-49	27-60	1.20-1.40	4.60-14.00	0.13-0.18	0.0-2.9	0.0-0.5	.28	.28			
	49-59	---	---	0.01-14.00	---	---	---	---	---			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
47C:												
Badin----------------	0-2	12-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	1.0-3.0	.37	.43	3	5	56
	2-6	7-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	0.0-0.5	.32	.37			
	6-25	27-55	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	25-38	12-40	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	38-48	---	---	0.01-14.00	---	---	---	---	---			
	48-58	---	---	0.01-14.00	---	---	---	---	---			
47D:												
Tarrus---------------	0-5	12-27	1.30-1.50	4.60-14.00	0.14-0.18	0.0-2.9	0.0-2.0	.43	.43	4	6	48
	5-11	15-35	1.40-1.60	4.50-14.00	0.10-0.19	1.0-2.9	0.0-0.5	.28	.28			
	11-49	27-60	1.20-1.40	4.60-14.00	0.13-0.18	0.0-2.9	0.0-0.5	.28	.28			
	49-59	---	---	0.01-14.00	---	---	---	---	---			
Badin----------------	0-2	12-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	1.0-3.0	.37	.43	3	5	56
	2-6	7-27	1.20-1.45	4.10-14.00	0.16-0.20	0.0-2.5	0.0-0.5	.32	.37			
	6-25	27-55	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	25-38	12-40	1.30-1.50	4.10-14.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	38-48	---	---	0.01-14.00	---	---	---	---	---			
	48-58	---	---	0.01-14.00	---	---	---	---	---			
48D:												
Toast----------------	0-6	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.5	0.5-3.0	.24	.24	5	3	86
	6-12	5-20	1.25-1.60	14.00-42.00	0.10-0.18	0.0-2.5	0.0-0.5	.24	.24			
	12-38	27-55	1.30-1.55	4.50-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.28			
	38-65	2-27	1.20-1.50	4.50-42.00	0.08-0.15	0.0-2.5	0.0-0.5	.28	.28			
49A:												
Toccoa---------------	0-12	2-15	1.40-1.55	14.00-42.00	0.09-0.12	0.0-2.5	1.0-2.0	.32	.32	5	3	86
	12-62	2-19	1.40-1.50	14.00-141.00	0.02-0.12	0.0-2.9	0.0-0.5	.24	.24			
50B:												
Turbeville-----------	0-8	7-18	1.35-1.55	14.00-42.00	0.08-0.15	0.0-2.0	0.5-2.0	.32	.32	5	3	86
	8-60	34-60	1.35-1.50	4.50-14.00	0.13-0.16	3.0-5.0	0.0-0.5	.24	.28			
50C:												
Turbeville-----------	0-8	7-18	1.35-1.55	14.00-42.00	0.08-0.15	0.0-2.0	0.5-2.0	.32	.32	5	3	86
	8-60	34-60	1.35-1.50	4.50-14.00	0.13-0.16	3.0-5.0	0.0-0.5	.24	.28			
51B.												
Udorthents												
52B.												
Urban land												

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
53B:												
Virgilina------------	0-3	5-20	1.20-1.50	4.00-14.00	0.12-0.18	0.0-2.5	0.5-2.0	.28	.43	2	5	56
	3-11	5-20	1.20-1.50	4.00-14.00	0.12-0.18	0.0-2.5	0.0-0.5	.32	.37			
	11-32	35-65	1.20-1.50	0.01-0.40	0.10-0.21	9.0-12.0	0.0-0.5	.28	.28			
	32-42	---	---	0.01-14.00	---	---	---	---	---			
54B:												
Virgilina------------	0-3	5-20	1.20-1.50	4.00-14.00	0.12-0.18	0.0-2.5	0.5-2.0	.28	.43	2	5	56
	3-11	5-20	1.20-1.50	4.00-14.00	0.12-0.18	0.0-2.5	0.0-0.5	.32	.37			
	11-32	35-65	1.20-1.50	0.01-0.40	0.10-0.21	9.0-12.0	0.0-0.5	.28	.28			
	32-42	---	---	0.01-14.00	---	---	---	---	---			
55C:												
Virgilina------------	0-3	5-20	1.20-1.50	4.00-14.00	0.12-0.18	0.0-2.5	0.5-2.0	.28	.43	2	5	56
	3-11	5-20	1.20-1.50	4.00-14.00	0.12-0.18	0.0-2.5	0.0-0.5	.32	.37			
	11-32	35-65	1.20-1.50	0.01-0.40	0.10-0.21	9.0-12.0	0.0-0.5	.28	.28			
	32-42	---	---	0.01-14.00	---	---	---	---	---			
Poindexter-----------	0-4	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.5-2.0	.28	.43	3	6	48
	4-12	10-27	1.30-1.40	4.50-14.00	0.18-0.24	0.0-2.5	0.0-0.5	.37	.37			
	12-33	18-35	1.30-1.40	4.50-14.00	0.12-0.20	3.0-5.0	0.0-0.5	.37	.43			
	33-41	---	---	0.01-14.00	---	---	---	---	---			
	41-51	---	---	0.01-14.00	---	---	---	---	---			
56B:												
Wolftrap-------------	0-8	10-20	1.30-1.65	4.00-14.00	0.14-0.16	0.0-2.5	0.5-2.0	.32	.32	3	5	56
	8-31	35-70	1.15-1.35	0.01-0.42	0.15-0.17	9.0-25.0	0.0-0.5	.37	.37			
	31-38	20-40	1.15-1.35	0.50-1.40	0.13-0.17	3.0-5.9	0.0-0.2	.32	.32			
	38-65	5-27	1.60-1.95	0.01-0.42	0.10-0.14	0.0-2.9	0.0-0.2	.37	.37			
Easthamlet-----------	0-5	10-20	1.30-1.65	4.00-14.00	0.14-0.16	0.0-2.5	0.5-2.0	.24	.24	3	5	56
	5-30	35-70	1.15-1.35	0.01-0.42	0.15-0.17	9.0-25.0	0.0-0.5	.37	.37			
	30-47	---	---	0.01-1.40	---	---	---	---	---			
	47-57	---	---	0.01-0.42	---	---	---	---	---			
57B:												
Yadkin---------------	0-11	3-18	1.35-1.55	14.00-42.00	0.08-0.15	0.0-2.0	0.5-2.0	.32	.32	5	3	86
	11-58	34-60	1.35-1.50	4.50-14.00	0.13-0.16	3.0-5.0	0.0-0.5	.24	.28			
	58-80	10-35	1.30-1.45	4.50-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.32			
57C:												
Yadkin---------------	0-11	3-18	1.35-1.55	14.00-42.00	0.08-0.15	0.0-2.0	0.5-2.0	.32	.32	5	3	86
	11-58	34-60	1.35-1.50	4.50-14.00	0.13-0.16	3.0-5.0	0.0-0.5	.24	.28			
	58-80	10-35	1.30-1.45	4.50-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.32			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	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	um/sec	In/in	Pct	Pct					
58B3:												
Yadkin---------------	0-6	27-40	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.9	0.5-1.5	.24	.24	4	6	48
	6-65	34-60	1.30-1.45	4.50-14.00	0.12-0.15	3.0-5.9	0.0-0.5	.28	.28			
58C3:												
Yadkin---------------	0-6	27-40	1.25-1.35	4.50-14.00	0.10-0.14	3.0-5.9	0.5-1.5	.24	.24	4	6	48
	6-65	34-60	1.30-1.45	4.50-14.00	0.12-0.15	3.0-5.9	0.0-0.5	.28	.28			
W.												
Water												

Table 17.—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
	Inches	meq/100 g	meq/100 g	pH
1B3:				
Appomattox-----------	0-8	5.0-13	3.8-9.9	4.5-6.0
	8-54	5.0-16	3.8-12	4.5-6.0
	54-79	1.2-12	0.9-9.9	4.5-6.0
1C3:				
Appomattox-----------	0-8	5.0-13	3.8-9.9	4.5-6.0
	8-54	5.0-16	3.8-12	4.5-6.0
	54-79	1.2-12	0.9-9.9	4.5-6.0
2B:				
Banister-------------	0-14	4.0-11	3.0-8.4	3.6-5.5
	14-58	5.0-16	3.8-12	3.6-6.5
	58-65	2.0-16	1.5-12	3.6-7.2
Kinkora--------------	0-4	3.6-14	2.7-10	4.5-5.5
	4-45	5.0-16	3.8-12	4.5-5.5
	45-62	1.2-14	0.9-10	4.5-5.5
3B:				
Bentley--------------	0-17	2.4-8.0	1.8-6.0	4.5-6.5
	17-23	2.4-9.5	1.8-7.1	4.5-5.5
	23-61	5.0-17	3.8-13	4.5-5.5
	61-80	2.0-17	1.2-13	4.5-5.5
3C:				
Bentley--------------	0-17	2.4-8.0	1.8-6.0	4.5-6.5
	17-23	2.4-9.5	1.8-7.1	4.5-5.5
	23-61	5.0-17	3.8-13	4.5-5.5
	61-80	2.0-17	1.2-13	4.5-5.5
4A:				
Chewacla-------------	0-8	6.2-16	4.7-12	4.5-6.5
	8-36	2.9-11	2.2-8.4	4.5-6.5
	36-55	5.0-11	3.8-8.3	4.5-6.5
	55-60	1.0-9.0	0.4-6.8	4.5-6.5
5A:				
Chewacla-------------	0-8	6.2-16	4.7-12	4.5-6.5
	8-36	2.9-11	2.2-8.4	4.5-6.5
	36-55	5.0-11	3.8-8.3	4.5-6.5
	55-60	1.0-9.0	0.4-6.8	4.5-6.5
Wehadkee-------------	0-4	7.0-14	5.2-10	4.5-7.3
	4-16	1.2-9.0	0.9-6.8	4.5-7.3
	16-26	5.0-9.9	3.8-7.4	4.5-7.3
	26-62	5.0-9.9	3.8-7.4	4.5-7.3
	62-72	2.5-9.9	1.9-7.4	4.5-7.3
6C:				
Cid------------------	0-6	3.6-11	2.7-8.1	4.5-5.5
	6-31	6.8-16	5.1-12	4.5-5.5
	31-35	---	---	---
	35-45	---	---	---

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
7B:				
Cid	0-6	3.6-11	2.7-8.1	4.5-5.5
	6-31	6.8-16	5.1-12	4.5-5.5
	31-35	---	---	---
	35-45	---	---	---
Lignum	0-6	3.6-11	2.7-8.1	4.5-5.5
	6-35	8.8-15	6.6-11	4.5-5.5
	35-56	5.0-11	3.8-8.3	4.5-5.5
	56-66	---	---	---
8B:				
Clifford	0-6	2.8-6.5	2.1-4.9	4.5-6.5
	6-55	3.4-7.1	2.5-5.3	4.5-5.5
	55-65	1.6-6.8	1.2-4.3	4.5-6.5
8C:				
Clifford	0-6	2.8-6.5	2.1-4.9	4.5-6.5
	6-55	3.4-7.1	2.5-5.3	4.5-5.5
	55-65	1.6-6.8	1.2-4.3	4.5-6.5
9B3:				
Clifford	0-5	3.8-7.4	1.4-6.0	5.1-6.0
	5-58	3.4-7.1	2.5-5.3	4.5-5.5
	58-62	1.6-6.8	1.2-4.3	4.5-6.5
9C3:				
Clifford	0-5	3.8-7.4	1.4-6.0	5.1-6.0
	5-58	3.4-7.1	2.5-5.3	4.5-5.5
	58-62	1.6-6.8	1.2-4.3	4.5-6.5
10B:				
Clifford	0-6	2.8-6.5	2.1-4.9	4.5-6.5
	6-55	3.4-7.1	2.5-5.3	4.5-5.5
	55-65	1.6-6.8	1.2-4.3	4.5-6.5
Urban land.				
10D:				
Clifford	0-6	2.8-6.5	2.1-4.9	4.5-6.5
	6-55	3.4-7.1	2.5-5.3	4.5-5.5
	55-65	1.6-6.8	1.2-4.3	4.5-6.5
Urban land.				
11C:				
Clover	0-9	2.4-9.5	1.8-7.1	4.5-6.0
	9-42	6.8-16	5.1-12	4.5-5.5
	42-65	1.8-7.3	1.3-5.5	4.5-5.5
11D:				
Clover	0-9	2.4-9.5	1.8-7.1	4.5-6.0
	9-42	6.8-16	5.1-12	4.5-5.5
	42-65	1.8-7.3	1.3-5.5	4.5-5.5
12B:				
Clover	0-9	2.4-9.5	1.8-7.1	4.5-6.0
	9-42	6.8-16	5.1-12	4.5-5.5
	42-65	1.8-7.3	1.3-5.5	4.5-5.5

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
12B:				
Bentley	0-17	2.4-8.0	1.8-6.0	4.5-5.5
	17-23	2.4-9.5	1.8-7.1	4.5-5.5
	23-61	5.0-17	3.8-13	4.5-5.5
	61-80	1.0-17	0.6-13	4.5-5.5
13A:				
Codorus	0-8	6.2-16	4.7-12	4.5-6.5
	8-17	1.8-11	1.3-8.3	4.5-6.5
	17-49	5.0-11	3.8-8.3	4.5-6.5
	49-62	1.0-10	0.5-8.9	4.5-6.5
14A:				
Codorus	0-8	6.2-16	4.7-12	4.5-6.5
	8-17	1.8-11	1.3-8.3	4.5-6.5
	17-49	5.0-11	3.8-8.3	4.5-6.5
	49-62	1.0-10	0.5-8.9	4.5-6.5
Hatboro	0-4	7.0-14	5.2-10	4.5-7.3
	4-35	15-25	---	4.5-7.3
	35-65	15-25	---	5.6-6.5
15A:				
Comus	0-10	1.2-9.0	0.9-6.8	5.1-6.5
	10-35	1.2-9.0	0.9-6.8	5.1-6.5
	35-65	0.8-5.6	0.7-4.2	5.1-6.5
16A:				
Dan River	0-9	4.8-15	3.6-11	4.5-6.5
	9-30	3.5-14	2.6-10	4.5-6.5
	30-56	5.0-9.9	3.8-7.4	4.5-6.5
	56-62	1.2-10	0.8-9.4	4.5-6.5
17B:				
Danripple	0-10	4.8-12	3.6-8.8	4.5-6.0
	10-48	6.8-15	5.1-11	4.5-6.0
	48-72	2.5-11	1.9-8.0	4.5-6.0
18B:				
Delila	0-8	1.2-11	0.9-8.4	4.5-5.5
	8-30	7.5-15	5.6-11	4.5-5.5
	30-65	1.2-8.6	0.9-6.5	4.5-5.5
19C:				
Devotion	0-10	4.0-14	3.0-10	4.5-6.0
	10-30	1.8-7.2	1.3-5.4	4.5-6.0
	30-52	---	---	---
	52-62	---	---	---
Rhodhiss	0-2	2.4-9.5	1.8-7.1	4.5-6.5
	2-14	2.4-11	1.8-8.4	4.5-6.5
	14-40	2.5-11	1.9-8.3	4.5-6.5
	40-62	1.2-7.9	0.9-5.9	4.5-6.5
19D:				
Devotion	0-10	4.0-14	3.0-10	4.5-6.0
	10-30	1.8-7.2	1.3-5.4	4.5-6.0
	30-52	---	---	---
	52-62	---	---	---

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
19D:				
Rhodhiss	0-2	2.4-9.5	1.8-7.1	4.5-6.5
	2-14	2.4-11	1.8-8.4	4.5-6.5
	14-40	2.5-11	1.9-8.3	4.5-6.5
	40-62	1.2-7.9	0.9-5.9	4.5-6.5
20B:				
Dogue	0-11	4.0-11	3.0-8.4	3.6-6.0
	11-62	5.0-16	3.8-12	3.6-5.5
	62-80	1.2-10	0.7-9.4	3.6-5.5
21D:				
Fairview	0-1	1.9-6.5	1.4-4.9	3.5-6.0
	1-6	1.9-6.5	1.4-4.9	3.5-6.0
	6-20	2.5-6.6	1.9-5.0	3.5-6.0
	20-62	1.0-4.6	0.8-3.5	3.5-6.0
21E:				
Fairview	0-1	1.9-6.5	1.4-4.9	3.5-6.0
	1-6	1.9-6.5	1.4-4.9	3.5-6.0
	6-20	2.5-6.6	1.9-5.0	3.5-6.0
	20-62	1.0-4.6	0.8-3.5	3.5-6.0
22B:				
Georgeville	0-5	1.2-3.8	0.9-2.9	4.5-6.5
	5-54	2.7-7.6	2.0-5.7	4.5-6.5
	54-65	1.5-5.1	1.1-3.8	4.5-6.5
22C:				
Georgeville	0-5	1.2-3.8	0.9-2.9	4.5-6.5
	5-54	2.7-7.6	2.0-5.7	4.5-6.5
	54-65	1.5-5.1	1.1-3.8	4.5-6.5
23D:				
Goldston	0-3	3.0-14	2.2-10	3.5-5.5
	3-16	2.5-9.9	1.9-7.4	3.5-5.5
	16-41	---	---	---
	41-51	---	---	---
Montonia	0-8	3.0-14	2.2-10	4.5-6.0
	8-30	2.5-9.9	1.9-7.4	4.5-6.0
	30-41	---	---	---
	41-51	---	---	---
23E:				
Goldston	0-3	3.0-14	2.2-10	3.5-5.5
	3-16	2.5-9.9	1.9-7.4	3.5-5.5
	16-41	---	---	---
	41-51	---	---	---
Montonia	0-8	3.0-14	2.2-10	4.5-6.0
	8-30	2.5-9.9	1.9-7.4	4.5-6.0
	30-41	---	---	---
	41-51	---	---	---
24B:				
Halifax	0-13	2.9-12	2.2-8.6	3.5-6.5
	13-58	10-22	7.9-17	3.5-5.5
	58-65	1.6-13	1.1-9.5	3.5-5.5

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
24C:				
Halifax	0-13	2.9-12	2.2-8.6	3.5-6.5
	13-58	10-22	7.9-17	3.5-5.5
	58-65	1.6-13	1.1-9.5	3.5-5.5
25B:				
Herndon	0-8	1.6-5.0	1.2-3.7	4.5-6.5
	8-57	2.7-7.6	2.0-5.7	4.5-6.5
	57-65	1.0-3.8	0.8-2.9	4.5-6.5
25C:				
Herndon	0-8	1.6-5.0	1.2-3.7	4.5-6.5
	8-57	2.7-7.6	2.0-5.7	4.5-6.5
	57-65	1.0-3.8	0.8-2.9	4.5-6.5
26B:				
Jackland	0-8	2.9-11	2.2-8.1	5.1-6.5
	8-30	14-26	10-19	5.1-6.5
	30-65	3.5-13	2.6-10	5.1-6.5
Orange	0-6	5.0-14	3.8-10	5.1-8.4
	6-18	4.6-20	3.5-15	5.1-8.4
	18-35	12-26	9.2-19	5.1-8.4
	35-54	3.9-13	2.9-9.9	5.1-8.4
	54-64	---	---	---
27B:				
Lackstown	0-9	3.6-12	2.7-8.6	3.6-6.5
	9-14	2.5-11	1.8-7.9	3.6-5.5
	14-54	7.0-22	5.2-17	3.6-5.5
	54-65	1.8-19	1.3-15	3.6-5.5
27C:				
Lackstown	0-9	3.6-12	2.7-8.6	3.6-6.5
	9-14	2.5-11	1.8-7.9	3.6-5.5
	14-54	7.0-22	5.2-17	3.6-5.5
	54-65	1.8-19	1.3-15	3.6-5.5
28B:				
Masada	0-8	4.8-14	3.6-10	4.5-5.5
	8-58	6.8-15	5.1-11	4.5-5.5
	58-62	5.0-11	3.8-8.3	4.5-5.5
29B:				
Mattaponi	0-10	2.4-9.0	1.8-6.8	4.5-7.3
	10-14	2.4-9.0	1.8-6.8	4.5-6.5
	14-35	5.0-17	3.8-13	4.5-5.5
	35-60	6.8-11	5.1-8.3	4.5-5.5
30B:				
Meadows	0-4	2.9-11	2.2-8.4	4.5-6.5
	4-9	1.8-7.9	1.3-5.9	4.5-6.5
	9-16	1.8-7.3	1.3-5.5	4.5-6.5
	16-24	---	---	---
	24-34	---	---	---

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
31B:				
Minnieville	0-6	1.8-7.0	1.4-5.0	5.1-6.5
	6-60	2.7-7.1	2.0-5.3	5.1-6.1
	60-65	1.8-7.2	1.4-5.4	5.1-6.1
32B3:				
Minnieville	0-8	3.8-7.4	1.4-6.0	5.1-6.5
	8-50	2.7-7.1	2.0-5.3	5.1-6.1
	50-65	1.8-7.2	1.4-5.4	5.1-6.1
32C3:				
Minnieville	0-8	3.8-7.4	1.4-6.0	5.1-6.5
	8-50	2.7-7.1	2.0-5.3	5.1-6.1
	50-65	1.8-7.2	1.4-5.4	5.1-6.1
33C:				
Montonia	0-8	3.0-14	2.2-10	4.5-6.0
	8-30	2.5-9.9	1.9-7.4	4.5-6.0
	30-41	---	---	---
	41-51	---	---	---
Goldston	0-3	3.0-14	2.2-10	3.5-5.5
	3-16	2.5-9.9	1.9-7.4	3.5-5.5
	16-41	---	---	---
	41-51	---	---	---
34B:				
Montonia	0-8	3.0-14	2.2-10	4.5-6.0
	8-30	2.5-9.9	1.9-7.4	4.5-6.0
	30-41	---	---	---
	41-51	---	---	---
Nanford	0-8	3.2-9.4	2.4-7.1	4.5-6.1
	8-42	2.7-6.1	2.0-4.6	4.5-5.5
	42-59	---	---	---
35B:				
Nanford	0-8	3.2-9.4	2.4-7.1	4.5-6.1
	8-42	2.7-6.1	2.0-4.6	4.5-5.5
	42-59	---	---	---
Badin	0-2	5.2-14	3.9-10	4.5-5.5
	2-6	4.0-14	3.0-10	4.5-5.5
	6-25	6.8-15	5.1-11	4.5-5.5
	25-38	3.0-11	2.2-8.3	4.5-5.5
	38-48	---	---	---
	48-58	---	---	---
35C:				
Nanford	0-8	3.2-9.4	2.4-7.1	4.5-6.1
	8-42	2.7-6.1	2.0-4.6	4.5-5.5
	42-59	---	---	---
Badin	0-2	5.2-14	3.9-10	4.5-5.5
	2-6	4.0-14	3.0-10	4.5-5.5
	6-25	6.8-15	5.1-11	4.5-5.5
	25-38	3.0-11	2.2-8.3	4.5-5.5
	38-48	---	---	---
	48-58	---	---	---

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
35D:				
Nanford	0-8	3.2-9.4	2.4-7.1	4.5-6.1
	8-42	2.7-6.1	2.0-4.6	4.5-5.5
	42-59	---	---	---
Badin	0-2	5.2-14	3.9-10	4.5-5.5
	2-6	4.0-14	3.0-10	4.5-5.5
	6-25	6.8-15	5.1-11	4.5-5.5
	25-38	3.0-11	2.2-8.3	4.5-5.5
	38-48	---	---	---
	48-58	---	---	---
36B:				
Nathalie	0-9	1.6-6.5	1.2-4.9	4.5-6.5
	9-52	2.0-7.1	1.5-5.3	4.5-5.5
	52-65	1.0-5.0	0.6-4.4	4.5-5.5
36C:				
Nathalie	0-9	1.6-6.5	1.2-4.9	4.5-6.5
	9-52	2.0-7.1	1.5-5.3	4.5-5.5
	52-65	1.0-5.0	0.6-4.4	4.5-5.5
37B:				
Oak Level	0-6	3.1-11	2.3-8.1	5.1-6.5
	6-42	6.8-16	5.1-12	5.1-6.5
	42-65	3.8-9.9	2.8-7.4	5.6-7.3
37C:				
Oak Level	0-6	3.1-11	2.3-8.1	5.1-6.5
	6-42	6.8-16	5.1-12	5.1-6.5
	42-65	3.8-9.9	2.8-7.4	5.6-7.3
38C:				
Pinkston	0-5	2.4-9.0	1.8-6.8	4.5-5.5
	5-16	3.6-7.8	2.7-6.0	4.5-5.5
	16-23	2.5-6.1	1.9-4.6	4.5-5.5
	23-33	---	---	---
38D:				
Pinkston	0-5	2.4-9.0	1.8-6.8	4.5-5.5
	5-16	3.6-7.8	2.7-6.0	4.5-5.5
	16-23	2.5-6.1	1.9-4.6	4.5-5.5
	23-33	---	---	---
39D:				
Poindexter	0-4	4.6-14	3.5-10	5.1-7.0
	4-12	4.6-14	3.5-10	5.1-7.0
	12-33	6.3-13	4.7-10	5.1-7.0
	33-41	---	---	---
	41-51	---	---	---
40B:				
Rasalo	0-6	2.9-9.8	2.2-7.3	5.1-6.5
	6-30	7.0-22	5.2-16	5.1-6.5
	30-60	1.8-5.8	1.3-4.4	5.1-6.5

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
40B:				
Orange	0-6	5.0-14	3.8-10	5.1-8.4
	6-18	4.6-20	3.5-15	5.1-8.4
	18-35	12-26	9.2-19	5.1-8.4
	35-54	3.9-13	2.9-9.9	5.1-8.4
	54-64	---	---	---
41A:				
Riverview	0-15	4.8-15	3.6-11	4.5-6.5
	15-58	1.0-5.0	0.9-4.5	4.5-6.0
	58-75	0.8-5.6	0.5-4.2	4.5-6.0
42C:				
Spriggs	0-4	4.6-11	3.5-8.1	4.5-6.5
	4-9	4.6-14	3.5-10	4.5-6.5
	9-38	6.3-13	4.7-10	4.5-6.5
	38-59	---	---	---
42D:				
Spriggs	0-4	4.6-11	3.5-8.1	4.5-6.5
	4-9	4.6-14	3.5-10	4.5-6.5
	9-38	6.3-13	4.7-10	4.5-6.5
	38-59	---	---	---
42E:				
Spriggs	0-4	4.6-11	3.5-8.1	4.5-6.5
	4-9	4.6-14	3.5-10	4.5-6.5
	9-38	6.3-13	4.7-10	4.5-6.5
	38-59	---	---	---
43B:				
Spriggs	0-4	4.6-11	3.5-8.1	4.5-6.5
	4-9	4.6-14	3.5-10	4.5-6.5
	9-38	6.3-13	4.7-10	4.5-6.5
	38-59	---	---	---
Rasalo	0-6	2.9-9.8	2.2-7.3	5.1-6.5
	6-30	7.0-22	5.2-16	5.1-6.5
	30-60	1.8-5.8	1.3-4.4	5.1-6.5
43C:				
Spriggs	0-4	4.6-11	3.5-8.1	4.5-6.5
	4-9	4.6-14	3.5-10	4.5-6.5
	9-38	6.3-13	4.7-10	4.5-6.5
	38-59	---	---	---
Rasalo	0-6	2.9-9.8	2.2-7.3	5.1-6.5
	6-30	7.0-22	5.2-16	5.1-6.5
	30-60	1.8-5.8	1.3-4.4	5.1-6.5
43D:				
Spriggs	0-4	4.6-11	3.5-8.1	4.5-6.5
	4-9	4.6-14	3.5-10	4.5-6.5
	9-38	6.3-13	4.7-10	4.5-6.5
	38-59	---	---	---
Rasalo	0-6	2.9-9.8	2.2-7.3	5.1-6.5
	6-30	7.0-22	5.2-16	5.1-6.5
	30-60	1.8-5.8	1.3-4.4	5.1-6.5

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
44B:				
Spriggs	0-4	4.6-11	3.5-8.1	4.5-6.5
	4-9	4.6-14	3.5-10	4.5-6.5
	9-38	6.3-13	4.7-10	4.5-6.5
	38-59	---	---	---
Urban land.				
44D:				
Spriggs	0-4	4.6-11	3.5-8.1	4.5-6.5
	4-9	4.6-14	3.5-10	4.5-6.5
	9-38	6.3-13	4.7-10	4.5-6.5
	38-59	---	---	---
Urban land.				
45C:				
Stoneville	0-5	2.9-11	2.2-8.4	4.5-6.0
	5-13	2.3-10	1.7-7.6	4.5-6.0
	13-38	8.8-16	6.6-12	4.5-6.0
	38-48	2.5-7.2	1.9-5.4	4.5-6.0
	48-59	---	---	---
46B:				
Straightstone	0-8	2.9-11	2.2-8.4	4.5-5.5
	8-54	6.8-16	5.1-12	4.5-5.5
	54-65	2.5-9.2	1.9-6.9	4.5-5.5
47B:				
Tarrus	0-5	1.2-7.2	0.9-5.4	4.5-5.5
	5-11	1.5-4.6	1.1-3.5	4.5-5.5
	11-49	2.7-7.1	2.0-5.3	4.5-5.5
	49-59	---	---	---
Badin	0-2	5.2-14	3.9-10	4.5-5.5
	2-6	4.0-14	3.0-10	4.5-5.5
	6-25	6.8-15	5.1-11	4.5-5.5
	25-38	3.0-11	2.2-8.3	4.5-5.5
	38-48	---	---	---
	48-58	---	---	---
47C:				
Tarrus	0-5	1.2-7.2	0.9-5.4	4.5-5.5
	5-11	1.5-4.6	1.1-3.5	4.5-5.5
	11-49	2.7-7.1	2.0-5.3	4.5-5.5
	49-59	---	---	---
Badin	0-2	5.2-14	3.9-10	4.5-5.5
	2-6	4.0-14	3.0-10	4.5-5.5
	6-25	6.8-15	5.1-11	4.5-5.5
	25-38	3.0-11	2.2-8.3	4.5-5.5
	38-48	---	---	---
	48-58	---	---	---
47D:				
Tarrus	0-5	1.2-7.2	0.9-5.4	4.5-5.5
	5-11	1.5-4.6	1.1-3.5	4.5-5.5
	11-49	2.7-7.1	2.0-5.3	4.5-5.5
	49-59	---	---	---

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
47D:				
Badin----------------	0-2	5.2-14	3.9-10	4.5-5.5
	2-6	4.0-14	3.0-10	4.5-5.5
	6-25	6.8-15	5.1-11	4.5-5.5
	25-38	3.0-11	2.2-8.3	4.5-5.5
	38-48	---	---	---
	48-58	---	---	---
48D:				
Toast----------------	0-6	1.6-8.8	1.2-6.6	3.6-6.5
	6-12	0.5-3.1	0.4-2.3	3.6-5.5
	12-38	2.7-6.6	2.0-5.0	3.6-5.5
	38-65	0.2-3.8	0.2-2.9	3.6-5.5
49A:				
Toccoa---------------	0-12	2.8-8.2	2.1-6.2	5.1-6.5
	12-62	0.5-5.9	0.4-4.4	5.1-6.5
50B:				
Turbeville-----------	0-8	1.4-6.3	1.1-4.7	4.5-6.0
	8-60	3.4-7.1	2.5-5.3	4.5-6.0
50C:				
Turbeville-----------	0-8	1.4-6.3	1.1-4.7	4.5-6.0
	8-60	3.4-7.1	2.5-5.3	4.5-6.0
51B.				
Udorthents				
52B.				
Urban land				
53B:				
Virgilina------------	0-3	3.6-14	2.7-11	4.6-6.5
	3-11	2.5-11	1.9-8.3	4.6-6.5
	11-32	18-34	13-25	4.6-6.5
	32-42	---	---	---
54B:				
Virgilina------------	0-3	3.6-14	2.7-11	4.6-6.5
	3-11	2.5-11	1.9-8.3	4.6-6.5
	11-32	18-34	13-25	4.6-6.5
	32-42	---	---	---
55C:				
Virgilina------------	0-3	3.6-14	2.7-11	4.6-6.5
	3-11	2.5-11	1.9-8.3	4.6-6.5
	11-32	18-34	13-25	4.6-6.5
	32-42	---	---	---
Poindexter-----------	0-4	4.6-14	3.5-10	5.1-7.0
	4-12	4.6-14	3.5-10	5.1-7.0
	12-33	6.3-13	4.7-10	5.1-7.0
	33-41	---	---	---
	41-51	---	---	---

Table 17.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	Inches	meq/100 g	meq/100 g	pH
56B:				
Wolftrap	0-8	4.6-12	3.5-8.6	3.5-5.5
	8-31	12-26	9.2-19	3.5-5.5
	31-38	7.0-14	5.2-11	3.5-5.5
	38-65	1.8-9.9	1.3-7.4	3.5-5.5
Easthamlet	0-5	4.6-12	3.5-8.6	3.5-5.5
	5-30	12-24	9.2-18	3.5-5.5
	30-47	---	---	---
	47-57	---	---	---
57B:				
Yadkin	0-11	1.4-6.3	1.1-4.7	4.5-6.0
	11-58	3.4-7.1	2.5-5.3	4.5-6.0
	58-80	1.0-4.6	0.8-3.5	4.5-5.5
57C:				
Yadkin	0-11	1.4-6.3	1.1-4.7	4.5-6.0
	11-58	3.4-7.1	2.5-5.3	4.5-6.0
	58-80	1.0-4.6	0.8-3.5	4.5-5.5
58B3:				
Yadkin	0-6	3.8-7.4	2.9-5.5	5.1-6.0
	6-65	3.4-7.1	2.5-5.3	4.5-6.0
58C3:				
Yadkin	0-6	3.8-7.4	2.9-5.5	5.1-6.0
	6-65	3.4-7.1	2.5-5.3	4.5-6.0
W.				
Water				

Table 18.—Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1B3:										
Appomattox----------	B	Medium	Jan-April	3.0-3.3	4.2-5.0	---	---	None	---	None
			May-Oct	---	---	---	---	None	---	None
			Nov-Dec	3.0-3.3	4.2-5.0	---	---	None	---	None
1C3:										
Appomattox----------	B	Medium	Jan-April	3.0-3.3	4.2-5.0	---	---	None	---	None
			May-Oct	---	---	---	---	None	---	None
			Nov-Dec	3.0-3.3	4.2-5.0	---	---	None	---	None
2B:										
Banister------------	C	Low	Jan-March	1.5-2.5	>6.0	---	---	None	Very brief	Rare
			April-Nov	---	---	---	---	None	Very brief	Rare
			December	1.5-2.5	>6.0	---	---	None	Very brief	Rare
Kinkora-------------	D	Medium	Jan-May	0.0-1.0	>6.0	---	---	None	Very brief	Rare
			June-Oct	---	---	---	---	None	Very brief	Rare
			Nov-Dec	0.0-1.0	>6.0	---	---	None	Very brief	Rare
3B:										
Bentley-------------	C	Medium	Jan-March	2.5-3.5	3.5-5.0	---	---	None	---	None
			April-Nov	---	---	---	---	None	---	None
			December	2.5-3.5	3.5-5.0	---	---	None	---	None
3C:										
Bentley-------------	C	Medium	Jan-March	2.5-3.5	3.5-5.0	---	---	None	---	None
			April-Nov	---	---	---	---	None	---	None
			December	2.5-3.5	3.5-5.0	---	---	None	---	None
4A:										
Chewacla------------	C	Low	Jan-April	0.5-1.5	>6.0	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June-Aug	---	---	---	---	None	Very brief	Rare
			Sep-Oct	---	---	---	---	None	Very brief	Occasional
			Nov-Dec	0.5-1.5	>6.0	---	---	None	Very brief	Occasional
5A:										
Chewacla------------	C	Low	Jan-April	0.5-1.5	>6.0	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Frequent
			June-Aug	---	---	---	---	None	Very brief	Occasional
			Sept-Oct	---	---	---	---	None	Very brief	Frequent
			Nov-Dec	0.5-1.5	>6.0	---	---	None	Very brief	Frequent

Table 18.—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				
5A:										
Wehadkee	D	Low								
			Jan-April	0.0-1.0	>6.0	0.0-0.5	Brief	Frequent	Very brief	Frequent
			May	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Very brief	Occasional
			June	0.5-2.0	>6.0	0.0-0.5	Brief	Rare	Very brief	Rare
			July	1.0-3.0	>6.0	0.0-0.5	Brief	Rare	Very brief	Rare
			August	2.0-5.0	>6.0	0.0-0.5	Brief	Rare	Very brief	Rare
			September	0.5-2.0	>6.0	0.0-0.5	Brief	Rare	Very brief	Rare
			October	0.0-1.0	>6.0	0.0-0.5	Brief	Rare	Very brief	Rare
			November	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Very brief	Occasional
			December	0.0-1.0	>6.0	0.0-0.5	Brief	Frequent	Very brief	Frequent
6C:										
Cid	C	Very high	Jan-May	1.5-2.5	2.5-3.3	---	---	None	---	None
			June-Nov	---	---	---	---	None	---	None
			December	1.5-2.5	2.5-3.3	---	---	None	---	None
7B:										
Cid	C	High	Jan-May	1.5-2.5	2.5-3.3	---	---	None	---	None
			June-Nov	---	---	---	---	None	---	None
			December	1.5-2.5	2.5-3.3	---	---	None	---	None
Lignum	C	Very high	Jan-May	1.0-2.5	2.0-3.5	---	---	None	---	None
			June-Nov	---	---	---	---	None	---	None
			December	1.0-2.5	2.0-3.5	---	---	None	---	None
8B:										
Clifford	B	Medium	Jan-Dec	---	---	---	---	None	---	None
8C:										
Clifford	B	Medium	Jan-Dec	---	---	---	---	None	---	None
9B3:										
Clifford	B	Medium	Jan-Dec	---	---	---	---	None	---	None
9C3:										
Clifford	B	Medium	Jan-Dec	---	---	---	---	None	---	None
10B:										
Clifford	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
10D:										
Clifford	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										

Table 18.—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				
11C:										
Clover	B	Medium	Jan-Dec	---	---	---	---	None	---	None
11D:										
Clover	B	High	Jan-Dec	---	---	---	---	None	---	None
12B:										
Clover	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Bentley	C	Medium	Jan-March	2.5-3.5	3.5-5.0	---	---	None	---	None
			April-Nov	---	---	---	---	None	---	None
			December	2.5-3.5	3.5-5.0	---	---	None	---	None
13A:										
Codorus	C	Low	Jan-April	0.5-1.5	>6.0	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June-Aug	---	---	---	---	None	Very brief	Rare
			Sept-Oct	---	---	---	---	None	Very brief	Occasional
			Nov-Dec	0.5-1.5	>6.0	---	---	None	Very brief	Occasional
14A:										
Codorus	C	Low	Jan-April	0.5-1.5	>6.0	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Occasional
			June-Oct	---	---	---	---	None	Very brief	Rare
			November	0.5-1.5	>6.0	---	---	None	Very brief	Occasional
			December	0.5-1.5	>6.0	---	---	None	Very brief	Frequent
Hatboro	D	Low	Jan-April	0.0-1.0	>6.0	0.0-0.5	Brief	Frequent	Very brief	Frequent
			May	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Very brief	Occasional
			June	0.5-2.0	>6.0	0.0-0.5	Brief	Rare	Very brief	Rare
			July	1.0-3.0	>6.0	0.0-0.5	Brief	Rare	Very brief	Rare
			August	2.0-5.0	>6.0	0.0-0.5	Brief	Rare	Very brief	Rare
			September	0.5-2.0	>6.0	0.0-0.5	Brief	Rare	Very brief	Rare
			October	0.0-1.0	>6.0	0.0-0.5	Brief	Rare	Very brief	Rare
			November	0.0-1.0	>6.0	0.0-0.5	Brief	Occasional	Very brief	Occasional
			December	0.0-1.0	>6.0	0.0-0.5	Brief	Frequent	Very brief	Frequent
15A:										
Comus	B	Low	January	---	---	---	---	None	Very brief	Rare
			Feb-May	---	---	---	---	None	Very brief	Occasional
			June-Dec	---	---	---	---	None	Very brief	Rare
16A:										
Dan River	B	Low	Jan-April	2.5-3.3	>6.0	---	---	None	Very brief	Occasional
			May-Aug	---	---	---	---	None	Very brief	Rare
			Sept-Oct	---	---	---	---	None	Very brief	Occasional
			Nov-Dec	2.5-3.3	>6.0	---	---	None	Very brief	Occasional

Table 18.—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				
17B:										
Danripple----------	C	Low	Jan-April	3.3-5.0	>6.0	---	---	None	Very brief	Very rare
			May-Nov	---	---	---	---	None	Very brief	Very rare
			December	3.3-5.0	>6.0	---	---	None	Very brief	Very rare
18B:										
Delila-------------	D	Very high	Jan-May	0.0-1.0	>6.0	---	---	None	---	None
			June	0.5-2.0	>6.0	---	---	None	---	None
			July	1.0-3.0	>6.0	---	---	None	---	None
			August	2.0-5.0	>6.0	---	---	None	---	None
			September	0.5-2.0	>6.0	---	---	None	---	None
			Oct-Dec	0.0-1.0	>6.0	---	---	None	---	None
19C:										
Devotion-----------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Rhodhiss-----------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
19D:										
Devotion-----------	B	High	Jan-Dec	---	---	---	---	None	---	None
Rhodhiss-----------	B	High	Jan-Dec	---	---	---	---	None	---	None
20B:										
Dogue--------------	C	Medium	Jan-March	1.5-3.0	>6.0	---	---	None	Very brief	Rare
			April-Nov	---	---	---	---	None	Very brief	Rare
			December	1.5-3.0	>6.0	---	---	None	Very brief	Rare
21D:										
Fairview-----------	B	High	Jan-Dec	---	---	---	---	None	---	None
21E:										
Fairview-----------	B	High	Jan-Dec	---	---	---	---	None	---	None
22B:										
Georgeville--------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
22C:										
Georgeville--------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
23D:										
Goldston-----------	C	Very high	Jan-Dec	---	---	---	---	None	---	None
Montonia-----------	B	High	Jan-Dec	---	---	---	---	None	---	None

Table 18.—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				
23E:										
Goldston------------	C	Very high	Jan-Dec	---	---	---	---	None	---	None
Montonia------------	B	High	Jan-Dec	---	---	---	---	None	---	None
24B:										
Halifax-------------	C	Very high	Jan-May	1.5-2.5	2.5-4.8	---	---	None	---	None
			June-Nov	---	---	---	---	None	---	None
			December	1.5-2.5	2.5-4.8	---	---	None	---	None
24C:										
Halifax-------------	C	Very high	Jan-May	1.5-2.5	2.5-4.8	---	---	None	---	None
			June-Nov	---	---	---	---	None	---	None
			December	1.5-2.5	2.5-4.8	---	---	None	---	None
25B:										
Herndon-------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
25C:										
Herndon-------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
26B:										
Jackland------------	D	Very high	Jan-April	1.0-1.5	1.5-2.5	---	---	None	---	None
			May-Nov	---	---	---	---	None	---	None
			December	1.0-1.5	1.5-2.5	---	---	None	---	None
Orange--------------	D	High	Jan-May	1.0-1.5	1.5-2.9	---	---	None	---	None
			June-Nov	---	---	---	---	None	---	None
			December	1.0-1.5	1.5-2.9	---	---	None	---	None
27B:										
Lackstown-----------	C	Very high	Jan-March	1.0-2.5	3.8-4.5	---	---	None	---	None
			April-Nov	---	---	---	---	None	---	None
			December	1.0-2.5	3.8-4.5	---	---	None	---	None
27C:										
Lackstown-----------	C	Very high	Jan-March	1.0-2.5	3.8-4.5	---	---	None	---	None
			April-Nov	---	---	---	---	None	---	None
			December	1.0-2.5	3.8-4.5	---	---	None	---	None
28B:										
Masada--------------	C	Low	Jan-March	3.3-6.6	>6.0	---	---	None	Very brief	Rare
			April-Nov	---	---	---	---	None	Very brief	Rare
			December	3.3-6.6	>6.0	---	---	None	Very brief	Rare

Table 18.—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				
29B:										
Mattaponi-----------	C	Medium	Jan-March	2.5-3.3	4.0-5.0	---	---	None	---	None
			April-Nov	---	---	---	---	None	---	None
			December	2.5-3.3	4.0-5.0	---	---	None	---	None
30B:										
Meadows-------------	D	Low	Jan-Dec	---	---	---	---	None	---	None
31B:										
Minnieville---------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
32B3:										
Minnieville---------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
32C3:										
Minnieville---------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
33C:										
Montonia------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Goldston------------	C	High	Jan-Dec	---	---	---	---	None	---	None
34B:										
Montonia------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Nanford-------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
35B:										
Nanford-------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Badin---------------	B	Low	Jan-Dec	---	---	---	---	None	---	None
35C:										
Nanford-------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Badin---------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
35D:										
Nanford-------------	C	High	Jan-Dec	---	---	---	---	None	---	None
Badin---------------	B	High	Jan-Dec	---	---	---	---	None	---	None
36B:										
Nathalie------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
36C:										
Nathalie------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None

Table 18.—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				
37B:										
Oak Level-----------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
37C:										
Oak Level-----------	C	High	Jan-Dec	---	---	---	---	None	---	None
38C:										
Pinkston------------	B	High	Jan-Dec	---	---	---	---	None	---	None
38D:										
Pinkston------------	B	High	Jan-Dec	---	---	---	---	None	---	None
39D:										
Poindexter----------	C	High	Jan-Dec	---	---	---	---	None	---	None
40B:										
Rasalo--------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Orange--------------	D	High	Jan-May	1.0-1.5	1.5-2.9	---	---	None	---	None
			June-Nov	---	---	---	---	None	---	None
			December	1.0-1.5	1.5-2.9	---	---	None	---	None
41A:										
Riverview-----------	B	Low	Jan-March	2.5-3.3	>6.0	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May-Aug	---	---	---	---	None	Very brief	Rare
			Sept-Nov	---	---	---	---	None	Very brief	Occasional
			December	2.5-3.3	>6.0	---	---	None	Very brief	Occasional
42C:										
Spriggs-------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
42D:										
Spriggs-------------	C	High	Jan-Dec	---	---	---	---	None	---	None
42E:										
Spriggs-------------	C	High	Jan-Dec	---	---	---	---	None	---	None
43B:										
Spriggs-------------	C	Low	Jan-Dec	---	---	---	---	None	---	None
Rasalo--------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
43C:										
Spriggs-------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Rasalo--------------	C	High	Jan-Dec	---	---	---	---	None	---	None

Table 18.—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				
43D:										
Spriggs	C	High	Jan-Dec	---	---	---	---	None	---	None
Rasalo	C	Very high	Jan-Dec	---	---	---	---	None	---	None
44B:										
Spriggs	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
44D:										
Spriggs	C	Medium	Jan-Dec	---	---	---	---	None	---	None
Urban land.										
45C:										
Stoneville	B	Medium	Jan-Dec	---	---	---	---	None	---	None
46B:										
Straightstone	B	Low	Jan-Dec	---	---	---	---	None	---	None
47B:										
Tarrus	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Badin	B	Medium	Jan-Dec	---	---	---	---	None	---	None
47C:										
Tarrus	B	Medium	Jan-Dec	---	---	---	---	None	---	None
Badin	B	Medium	Jan-Dec	---	---	---	---	None	---	None
47D:										
Tarrus	B	High	Jan-Dec	---	---	---	---	None	---	None
Badin	B	High	Jan-Dec	---	---	---	---	None	---	None
48D:										
Toast	B	Medium	Jan-Dec	---	---	---	---	None	---	None
49A:										
Toccoa	B	Very low	Jan-Dec	2.5-5.0	>6.0	---	---	None	Brief	Occasional
50B:										
Turbeville	C	Low	Jan-Dec	---	---	---	---	None	---	None
50C:										
Turbeville	C	Medium	Jan-Dec	---	---	---	---	None	---	None

Table 18.—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				
51B. Udorthents										
52B. Urban land										
53B:										
Virgilina-----------	C	Very high	Jan-May	1.0-1.5	1.5-2.7	---	---	None	---	None
			June-Oct	---	---	---	---	None	---	None
			Nov-Dec	1.0-1.5	1.5-2.7	---	---	None	---	None
54B:										
Virgilina-----------	C	Very high	Jan-May	1.0-1.5	1.5-2.7	---	---	None	---	None
			June-Oct	---	---	---	---	None	---	None
			Nov-Dec	1.0-1.5	1.5-2.7	---	---	None	---	None
55C:										
Virgilina-----------	C	Very high	Jan-May	1.0-1.5	1.5-2.7	---	---	None	---	None
			June-Oct	---	---	---	---	None	---	None
			Nov-Dec	1.0-1.5	1.5-2.7	---	---	None	---	None
Poindexter----------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
56B:										
Wolftrap------------	D	Very high	Jan-March	1.5-2.5	2.5-3.3	---	---	None	---	None
			April-Nov	---	---	---	---	None	---	None
			December	1.5-2.5	2.5-3.3	---	---	None	---	None
Easthamlet----------	D	Very high	Jan-March	1.0-1.5	1.5-2.5	---	---	None	---	None
			April-Nov	---	---	---	---	None	---	None
			December	1.0-1.5	1.5-2.5	---	---	None	---	None
57B:										
Yadkin--------------	C	Low	Jan-Dec	---	---	---	---	None	---	None
57C:										
Yadkin--------------	C	Medium	Jan-Dec	---	---	---	---	None	---	None
58B3:										
Yadkin--------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
58C3:										
Yadkin--------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
W. Water										

Table 19.—Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In			
1B3:					
Appomattox	---	---	---	High	Moderate
1C3:					
Appomattox	---	---	---	High	Moderate
2B:					
Banister	---	---	---	High	High
Kinkora	---	---	---	High	High
3B:					
Bentley	---	---	---	High	High
3C:					
Bentley	---	---	---	High	High
4A:					
Chewacla	---	---	---	High	Moderate
5A:					
Chewacla	---	---	---	High	Moderate
Wehadkee	---	---	---	High	Moderate
6C:					
Cid	Paralithic bedrock	20-31	Strongly cemented	High	High
	Lithic bedrock	20-40	Indurated		
7B:					
Cid	Paralithic bedrock	20-31	Strongly cemented	High	High
	Lithic bedrock	20-40	Indurated		
Lignum	Paralithic bedrock	40-60	Strongly cemented	High	High
8B:					
Clifford	---	---	---	Moderate	Moderate
8C:					
Clifford	---	---	---	Moderate	Moderate
9B3:					
Clifford	---	---	---	High	High
9C3:					
Clifford	---	---	---	High	High
10B:					
Clifford	---	---	---	Moderate	Moderate
Urban land.					

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In			
10D:					
Clifford	---	---	---	Moderate	Moderate
Urban land.					
11C:					
Clover	---	---	---	High	Moderate
11D:					
Clover	---	---	---	High	Moderate
12B:					
Clover	---	---	---	High	Moderate
Bentley	---	---	---	High	High
13A:					
Codorus	---	---	---	High	Moderate
14A:					
Codorus	---	---	---	High	Moderate
Hatboro	---	---	---	High	Moderate
15A:					
Comus	---	---	---	Low	High
16A:					
Dan River	---	---	---	Moderate	Moderate
17B:					
Danripple	---	---	---	High	High
18B:					
Delila	---	---	---	High	Moderate
19C:					
Devotion	Paralithic bedrock	20-40	Very strongly cemented	Low	High
	Lithic bedrock	40-60	Indurated		
Rhodhiss	---	---	---	Moderate	High
19D:					
Devotion	Paralithic bedrock	20-40	Very strongly cemented	Low	High
	Lithic bedrock	40-60	Indurated		
Rhodhiss	---	---	---	Moderate	High
20B:					
Dogue	---	---	---	High	High
21D:					
Fairview	---	---	---	High	High
21E:					
Fairview	---	---	---	High	High

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In			
22B:					
Georgeville	---	---	---	High	High
22C:					
Georgeville	---	---	---	High	High
23D:					
Goldston	Paralithic bedrock	10-20	Strongly cemented	Moderate	High
	Lithic bedrock	20-41	Indurated		
Montonia	Paralithic bedrock	20-40	Moderately cemented	Moderate	High
	Lithic bedrock	40-60	Very strongly cemented		
23E:					
Goldston	Paralithic bedrock	10-20	Strongly cemented	Moderate	High
	Lithic bedrock	20-41	Indurated		
Montonia	Paralithic bedrock	20-40	Moderately cemented	Moderate	High
	Lithic bedrock	40-60	Very strongly cemented		
24B:					
Halifax	---	---	---	High	High
24C:					
Halifax	---	---	---	High	High
25B:					
Herndon	---	---	---	High	High
25C:					
Herndon	---	---	---	High	High
26B:					
Jackland	---	---	---	High	Low
Orange	Paralithic bedrock	40-55	Very strongly cemented	High	Moderate
27B:					
Lackstown	---	---	---	High	High
27C:					
Lackstown	---	---	---	High	High
28B:					
Masada	---	---	---	High	High
29B:					
Mattaponi	---	---	---	High	High
30B:					
Meadows	Paralithic bedrock	10-20	Very strongly cemented	Low	High
	Lithic bedrock	20-40	Indurated		

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In			
31B:					
Minnieville--------	---	---	---	High	Moderate
32B3:					
Minnieville--------	---	---	---	High	Moderate
32C3:					
Minnieville--------	---	---	---	High	Moderate
33C:					
Montonia-----------	Paralithic bedrock	20-40	Moderately cemented	Moderate	High
	Lithic bedrock	40-60	Very strongly cemented		
Goldston-----------	Paralithic bedrock	10-20	Strongly cemented	Moderate	High
	Lithic bedrock	20-41	Indurated		
34B:					
Montonia-----------	Paralithic bedrock	20-40	Moderately cemented	Moderate	High
	Lithic bedrock	40-60	Very strongly cemented		
Nanford------------	Paralithic bedrock	40-60	Strongly cemented	Moderate	High
35B:					
Nanford------------	Paralithic bedrock	40-60	Strongly cemented	Moderate	High
Badin--------------	Paralithic bedrock	20-40	Strongly cemented	High	High
	Lithic bedrock	40-58	Very strongly cemented		
35C:					
Nanford------------	Paralithic bedrock	40-60	Strongly cemented	Moderate	High
Badin--------------	Paralithic bedrock	20-40	Strongly cemented	High	High
	Lithic bedrock	40-58	Very strongly cemented		
35D:					
Nanford------------	Paralithic bedrock	40-60	Strongly cemented	Moderate	High
Badin--------------	Paralithic bedrock	20-40	Strongly cemented	High	High
	Lithic bedrock	40-58	Very strongly cemented		
36B:					
Nathalie-----------	---	---	---	Moderate	Moderate
36C:					
Nathalie-----------	---	---	---	Moderate	Moderate

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In			
37B:					
Oak Level	---	---	---	High	Moderate
37C:					
Oak Level	---	---	---	High	Moderate
38C:					
Pinkston	Lithic bedrock	20-40	Very strongly cemented	Low	High
38D:					
Pinkston	Lithic bedrock	20-40	Very strongly cemented	Low	High
39D:					
Poindexter	Paralithic bedrock	20-40	Very strongly cemented	Low	Moderate
	Lithic bedrock	40-60	Indurated		
40B:					
Rasalo	---	---	---	High	Moderate
Orange	Paralithic bedrock	40-55	Very strongly cemented	High	Moderate
41A:					
Riverview	---	---	---	Moderate	Moderate
42C:					
Spriggs	Paralithic bedrock	20-40	Strongly cemented	Low	Moderate
42D:					
Spriggs	Paralithic bedrock	20-40	Strongly cemented	Low	Moderate
42E:					
Spriggs	Paralithic bedrock	20-40	Strongly cemented	Low	Moderate
43B:					
Spriggs	Paralithic bedrock	20-40	Strongly cemented	Low	Moderate
Rasalo	---	---	---	High	Moderate
43C:					
Spriggs	Paralithic bedrock	20-40	Strongly cemented	Low	Moderate
Rasalo	---	---	---	High	Moderate
43D:					
Spriggs	Paralithic bedrock	20-40	Strongly cemented	Low	Moderate
Rasalo	---	---	---	High	Moderate

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In			
44B:					
Spriggs------------	Paralithic bedrock	20-40	Strongly cemented	Low	Moderate
Urban land.					
44D:					
Spriggs------------	Paralithic bedrock	20-40	Strongly cemented	Low	Moderate
Urban land.					
45C:					
Stoneville---------	Paralithic bedrock	40-60	Moderately cemented	High	High
46B:					
Straightstone------	---	---	---	High	High
47B:					
Tarrus-------------	Paralithic bedrock	40-60	Strongly cemented	High	High
Badin--------------	Paralithic bedrock	20-40	Strongly cemented	High	High
	Lithic bedrock	40-58	Very strongly cemented		
47C:					
Tarrus-------------	Paralithic bedrock	40-60	Strongly cemented	High	High
Badin--------------	Paralithic bedrock	20-40	Strongly cemented	High	High
	Lithic bedrock	40-58	Very strongly cemented		
47D:					
Tarrus-------------	Paralithic bedrock	40-60	Strongly cemented	High	High
Badin--------------	Paralithic bedrock	20-40	Strongly cemented	High	High
	Lithic bedrock	40-58	Very strongly cemented		
48D:					
Toast--------------	---	---	---	High	High
49A:					
Toccoa-------------	---	---	---	Low	Moderate
50B:					
Turbeville---------	---	---	---	High	High
50C:					
Turbeville---------	---	---	---	High	High
51B.					
Udorthents					

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In			
52B. Urban land					
53B:					
Virgilina----------	Lithic bedrock	20-40	Indurated	High	Moderate
54B:					
Virgilina----------	Lithic bedrock	20-40	Indurated	High	Moderate
55C:					
Virgilina----------	Lithic bedrock	20-40	Indurated	High	Moderate
Poindexter---------	Paralithic bedrock	20-40	Very strongly cemented	Low	Moderate
	Lithic bedrock	40-60	Indurated		
56B:					
Wolftrap-----------	---	---	---	High	High
Easthamlet---------	Paralithic bedrock	20-40	Very weakly cemented	High	High
	Lithic bedrock	40-60	Strongly cemented		
57B:					
Yadkin-------------	---	---	---	High	High
57C:					
Yadkin-------------	---	---	---	High	High
58B3:					
Yadkin-------------	---	---	---	Moderate	Moderate
58C3:					
Yadkin-------------	---	---	---	Moderate	Moderate
W. Water					

Table 20.—Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Appomattox	Fine, mixed, semiactive, mesic Oxyaquic Hapludults
Badin	Fine, mixed, semiactive, thermic Typic Hapludults
Banister	Fine, mixed, active, mesic Aquic Hapludalfs
Bentley	Fine, mixed, semiactive, mesic Oxyaquic Hapludults
Chewacla	Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts
Cid	Fine, mixed, semiactive, thermic Aquic Hapludults
Clifford	Fine, kaolinitic, mesic Typic Kanhapludults
Clover	Fine, mixed, semiactive, mesic Typic Hapludults
Codorus	Fine-loamy, mixed, active, mesic Fluvaquentic Dystrudepts
Comus	Coarse-loamy, mixed, active, mesic Fluventic Dystrudepts
Dan River	Fine-loamy, mixed, active, mesic Oxyaquic Dystrudepts
Danripple	Fine, mixed, semiactive, mesic Typic Hapludults
Delila	Fine, mixed, active, mesic Typic Endoaquults
Devotion	Coarse-loamy, mixed, semiactive, mesic Typic Dystrudepts
Dogue	Fine, mixed, semiactive, thermic Aquic Hapludults
Easthamlet	Fine, mixed, active, mesic Aquertic Chromic Hapludalfs
Fairview	Fine, kaolinitic, mesic Typic Kanhapludults
Georgeville	Fine, kaolinitic, thermic Typic Kanhapludults
Goldston	Loamy-skeletal, siliceous, semiactive, thermic, shallow Typic Dystrudepts
Halifax	Fine, mixed, semiactive, mesic Aquic Hapludults
Hatboro	Fine-loamy, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts
Herndon	Fine, kaolinitic, thermic Typic Kanhapludults
Jackland	Fine, smectitic, mesic Aquic Hapludalfs
Kinkora	Fine, mixed, semiactive, mesic Typic Endoaquults
Lackstown	Fine, mixed, semiactive, mesic Aquic Hapludults
Lignum	Fine, mixed, semiactive, thermic Aquic Hapludults
Masada	Fine, mixed, semiactive, thermic Typic Hapludults
Mattaponi	Fine, mixed, subactive, thermic Oxyaquic Hapludults
Meadows	Loamy, mixed, semiactive, mesic, shallow Humic Dystrudepts
Minnieville	Fine, kaolinitic, mesic Typic Hapludults
Montonia	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Nanford	Fine, kaolinitic, thermic Typic Kanhapludults
Nathalie	Fine, kaolinitic, mesic Typic Kanhapludults
Oak Level	Fine, mixed, active, mesic Ultic Hapludalfs
Orange	Fine, smectitic, mesic Albaquic Hapludalfs
Pinkston	Coarse-loamy, mixed, semiactive, mesic Ruptic-Ultic Dystrudepts
Poindexter	Fine-loamy, mixed, active, thermic Typic Hapludalfs
Rasalo	Fine, mixed, active, mesic Ultic Hapludalfs
Rhodhiss	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Riverview	Fine-loamy, mixed, active, thermic Fluventic Dystrudepts
Spriggs	Fine-loamy, mixed, active, mesic Ultic Hapludalfs
Stoneville	Fine, mixed, semiactive, mesic Typic Rhodudults
Straightstone	Fine, mixed, semiactive, mesic Typic Rhodudults
Tarrus	Fine, kaolinitic, thermic Typic Kanhapludults
Toast	Fine, kaolinitic, mesic Typic Kanhapludults
Toccoa	Coarse-loamy, mixed, active, nonacid, thermic Typic Udifluvents
Turbeville	Fine, kaolinitic, thermic Typic Kandiudults
Udorthents	Udorthents
Virgilina	Fine, smectitic, thermic Aquertic Hapludalfs
Wehadkee	Fine-loamy, mixed, active, nonacid, thermic Fluvaquentic Endoaquepts
Wolftrap	Fine, mixed, active, mesic Oxyaquic Vertic Hapludalfs
*Yadkin	Very fine, kaolinitic, mesic Rhodic Kandiudults

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