United States
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Agriculture

Natural
Resources
Conservation
Service

In cooperation with Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation; Virginia Dare Soil and Water Conservation District; Virginia Polytechnic Institute and State University; Atlantic Division Naval Facilities Engineering Command; and the City of Chesapeake

Soil Survey of the City of Chesapeake, Virginia

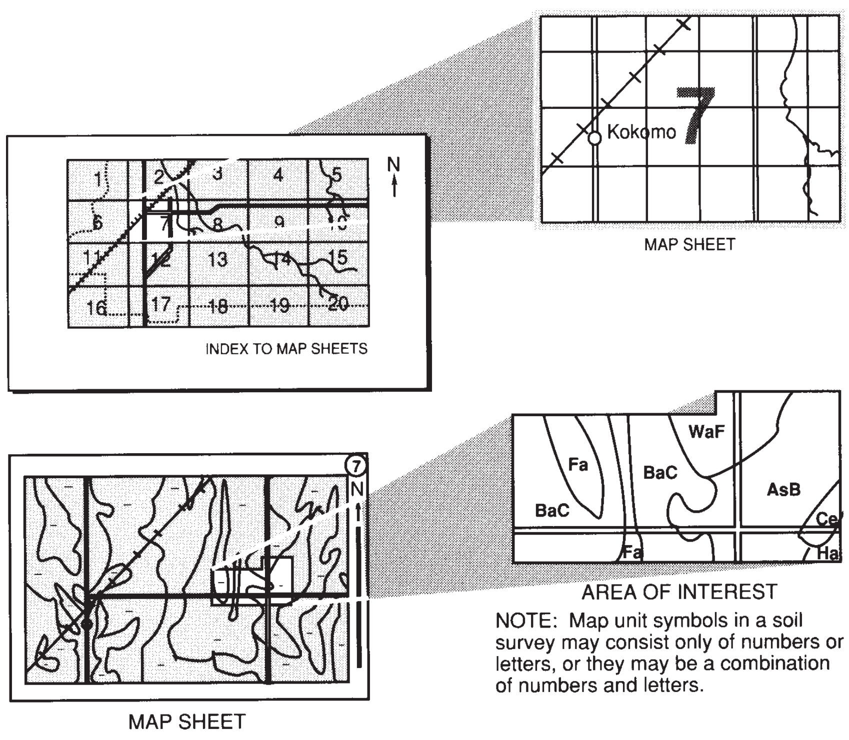
How To Use This Soil Survey

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.



This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 2003. Soil names and descriptions were approved in 2004. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2004. The most current official data are available at http://websoilsurvey.nrcs.usda.gov/app/. This survey was made cooperatively by the Natural Resources Conservation Service; the Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation; the Virginia Dare Soil and Water Conservation District; the Virginia Polytechnic Institute and State University; the Atlantic Division Naval Facilities Engineering Command; and the City of Chesapeake. The survey is part of the technical assistance furnished to the Virginia Dare Soil and Water Conservation District. The City of Chesapeake and the Atlantic Division Naval Facilities Engineering Command provided financial assistance for the survey.

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.

Cover: Baldcypress in a black water stream. An area of Dorovan-Belhaven complex, 0 to 1 percent slopes, frequently flooded, is in the background.

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 2007

Foreword

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

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

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

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are 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.

John A. Bricker
State Conservationist
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Soil Survey of the City of Chesapeake, Virginia

By Greg Hammer, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation; Virginia Dare Soil and Water Conservation District; Virginia Polytechnic Institute and State University; Atlantic Division Naval Facilities Engineering Command; and the City of Chesapeake

THE CITY OF CHESAPEAKE is located in the eastern part of Virginia (fig. 1). It makes up 230,400 acres. It is bounded on the north by Portsmouth and Norfolk, Virginia; on the east by Virginia Beach, Virginia; on the south by Currituck and Camden Counties, North Carolina; and on the west by Suffolk County, Virginia. In 2000, it had a population of 199,184 *(20)*. In 2002, according to the Census of Agriculture, the survey area had 53,188 acres of harvested cropland. The cropland was mostly used for corn for grain, soybeans, wheat for grain, and hay *(11)*. Farming is on the decline in the City of Chesapeake. However, the number of farms has increased in the period 1997 to 2002 from 249 to 268. In 2002, according to the Census of Agriculture, the average number of farms had decreased in the period 1997 to 2002 from 251 to 228 and land in farms had decreased from 62,434 acres to 61,087 acres.

The first soil survey of Norfolk County (which is now the City of Chesapeake) was published in 1959 *(17)*. This survey updates the first survey and contains more interpretive information.

General Nature of the Survey Area

This section provides general information about the City of Chesapeake. It discusses the history and climate of the survey area.

History

The information in this section was taken from "Wikipedia, The Free Encyclopedia" *(22)*. It is available at http://en.wikipedia.org/wiki/Chesapeake_Virginia.

The City of Chesapeake was created in 1963, when the former independent city of South Norfolk was consolidated with Norfolk County and reincorporated (with the approval from the Virginia General Assembly) as the new City of Chesapeake. The new name was selected through a voter referendum. Although the city is relatively young, Norfolk County has existed since 1691.

The City of Chesapeake's history goes far back into Virginia's colonial roots. The Intracoastal Waterway passes through Chesapeake. On the waterway, at Great Bridge where the locks transition from the Southern Branch of the Elizabeth River to the

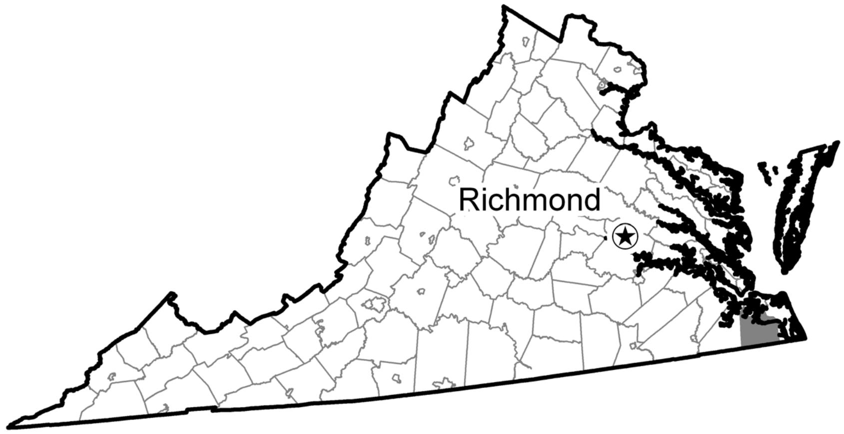

Figure 1.—Location of the City of Chesapeake in Virginia.

Chesapeake and Albemarlie Canal, is the site of the Battle of Great Bridge. On December 9, 1775, this battle of the American Revolutionary War resulted in the removal of Lord Dunmore and all other vestiges of English government in the Colony of Virginia.

The Dismal Swamp Canal runs through the survey area. The site of this canal was surveyed by George Washington, among others, and is known as "Washington's Ditch." It is the oldest continuously used manmade canal in the United States and has been in service for more than 230 years. The canal begins in the Deep Creek section of the city from the Southern Branch of the Elizabeth River. The canal runs through Chesapeake, paralleling U.S. Highway 17, into North Carolina and connects to Elizabeth City, North Carolina.

Until the late 1980's and early 1990's, much of the survey area was either suburban or rural, serving as a bedroom community for the adjacent cities of Norfolk and Virginia Beach to which residents commuted. Beginning in the late 1980's and increasing in the 1990's, however, the City of Chesapeake saw significant growth, attracting numerous and significant industries and businesses of its own. This explosive growth quickly led to strains on the municipal infrastructure, ranging from intrusion of saltwater into the city's water supply to congested roads and schools.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Suffolk Lake Kilby, 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 41.7 degrees F and the average daily minimum temperature is 32.0 degrees. The lowest temperature on record, which occurred at Suffolk Lake Kilby on January 21, 1985, was -5 degrees. In summer, the average temperature is 76.4 degrees and the average daily maximum temperature is 86.1 degrees. The highest temperature, which occurred at Suffolk Lake Kilby on June 26, 1952, was 105 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average annual total precipitation is 48.81 inches. Of this, 30.4 inches, or about 62 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 9.19 inches at Suffolk Lake Kilby on September 15, 1999. Thunderstorms occur on about 37 days each year, and most occur in June, July, or August.

The average seasonal snowfall is 6.7 inches. The greatest snow depth at any one time during the period of record, and the heaviest 1-day snowfall on record, was 17 inches, recorded on February 6, 1980. On average, 3 days per year have at least 1 inch of snow on the ground.

The average relative humidity in mid-afternoon is about 57 percent. Humidity is higher at night, and the average at dawn is about 79 percent. The sun shines 64 percent of the time possible in summer and 56 percent in winter. The prevailing wind is from the southwest, except in September and October, when it is from the northeast. Average windspeed is highest, around 12 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, Acredale silt loam, 0 to 1 percent slopes, is a phase of the Acredale 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. Acredale-Chapanoke complex, 0 to 1 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. Pungo-Belhaven soils, 0 to 1 percent slopes, frequently ponded, 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, 0 to 5 percent slopes, 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.

1—Acredale silt loam, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 16 feet

Map Unit Composition

Acredale and similar soils: Typically 90 percent; ranging from about 85 to 99 percent

Representative Profile

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

Subsoil:
7 to 15 inches—light brownish gray silt loam; yellowish brown masses of oxidized iron
15 to 35 inches—gray silty clay loam; yellowish brown masses of oxidized iron
35 to 43 inches—light greenish gray, dark gray, and yellowish brown silt loam
43 to 50 inches—gray, light greenish gray, and yellowish brown sandy loam

Substratum:
50 to 66 inches—gray, light olive gray, and yellowish brown sandy loam

Minor Components

Dissimilar components:
- Arapahoe soils, which are very poorly drained and have less silt and more sand than the Acredale soil; in similar areas
- Deloss soils, which are very poorly drained and have less silt than the Acredale soil; in similar areas
- Bertie soils, which are somewhat poorly drained and have less silt than the Acredale soil; in the slightly higher areas
- Dragston soils, which are somewhat poorly drained and have less silt and more sand than the Acredale soil; in the slightly higher areas

Figure 2.—Corn in a drained area of Acredale silt loam, 0 to 1 percent slopes.

Similar components:
- Pasquotank soils, which are poorly drained and have less silt and more sand than the Acredale soil; in similar areas
- Chapanoke soils, which are somewhat poorly drained; in the slightly higher areas

Soil Properties and Qualities

Available water capacity: Very high (about 13.2 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
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: Medium
Parent material: Loamy and/or silty marine deposits

Use and Management Considerations

Note: Areas of this map unit are used for agricultural purposes, but soil wetness is a management concern (figs. 2 and 3).

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The risk of compaction increases when the soil is wet.
- Soil crusting decreases water infiltration and interferes with the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.
- Artificial drainage has been applied in some areas in an effort to increase the yields of locally grown crops.

Figure 3.—Ditch maintenance in a poorly drained area of Acredale silt loam, 0 to 1 percent slopes.

Pasture

Suitability: Well suited
- 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
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

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.

Local roads and streets

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

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: 4w
Virginia soil management group: C
Hydric soil: Yes

2—Acredale-Chapanoke complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 16 feet

Map Unit Composition

Acredale and similar soils: Typically 85 percent; ranging from about 80 to 90 percent
Chapanoke and similar soils: Typically 13 percent; ranging from about 10 to 20 percent

Representative Profile

Acredale

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

Subsoil:
7 to 15 inches—light brownish gray silt loam; yellowish brown masses of oxidized iron
15 to 35 inches—gray silty clay loam; yellowish brown masses of oxidized iron
35 to 43 inches—light greenish gray, dark gray, and yellowish brown silt loam
43 to 50 inches—gray, light greenish gray, and yellowish brown sandy loam

Substratum:
50 to 66 inches—gray, light olive gray, and yellowish brown sandy loam

Chapanoke

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

Subsoil:
6 to 12 inches—olive yellow loam; light brownish gray iron depletions and brownish yellow masses of oxidized iron
12 to 30 inches—light gray silty clay loam; brownish yellow masses of oxidized iron
30 to 50 inches—gray silt loam; brownish yellow and pale yellow masses of oxidized iron

Substratum:
50 to 62 inches—gray loamy fine sand; brownish yellow masses of oxidized iron
62 to 79 inches—olive yellow fine sand; light brownish gray iron depletions

Minor Components

Dissimilar components:
- Bertie soils, which are somewhat poorly drained and have less silt than the Acredale soil; in the slightly higher areas

Soil Properties and Qualities

Available water capacity: Acredale—very high (about 13.2 inches); Chapanoke—high (about 9.8 inches)

Slowest saturated hydraulic conductivity: Acredale—moderately low (about 0.06 in/hr); Chapanoke—moderately high (about 0.20 in/hr)
Drainage class: Acredale—poorly drained; Chapanoke—somewhat poorly drained
Depth to seasonal water saturation: Acredale—about 0 to 12 inches; Chapanoke—about 12 to 24 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Acredale—moderate; Chapanoke—low
Runoff class: Medium
Parent material: Loamy and/or silty marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The risk of compaction increases when the soil is wet.
- Soil crusting decreases water infiltration and interferes with the emergence of seedlings.

Pasture

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

Woodland

Suitability: Well suited to loblolly pine; moderately suited to yellow-poplar
- The low soil strength interferes with the construction of haul roads and log landings and may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

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

- Shrinking and swelling restricts the use of these soils as base material for local roads and streets.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: Acredale—4w; Chapanoke—2w
Virginia soil management group: C
Hydric soils: Acredale—yes; Chapanoke—no

3—Acredale-Urban land complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Acredale soil intermingled with areas of Urban land.

Acredale and similar soils: Typically 60 percent; ranging from about 40 to 85 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent

Representative Profile

Acredale

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

Subsoil:
7 to 15 inches—light brownish gray silt loam; yellowish brown masses of oxidized iron
15 to 35 inches—gray silty clay loam; yellowish brown masses of oxidized iron
35 to 43 inches—light greenish gray, dark gray, and yellowish brown silt loam
43 to 50 inches—gray, light greenish gray, and yellowish brown sandy loam

Substratum:
50 to 66 inches—gray, light olive gray, and yellowish brown sandy 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.

Minor Components

Dissimilar components:
- Arapahoe soils, which are very poorly drained and have less silt and more sand than the Acredale soil; in similar areas
- Deloss soils, which are very poorly drained and have less silt than the Acredale soil; in similar areas
- Bertie soils, which are somewhat poorly drained and have less silt than the Acredale soil; in the slightly higher areas
- Dragston soils, which are somewhat poorly drained and have less silt and more sand than the Acredale soil; in the slightly higher areas

Similar components:
- Pasquotank soils, which are poorly drained and have less silt and more sand than the Acredale soil; in similar areas
- Chapanoke soils, which are somewhat poorly drained; in the slightly higher areas

Properties and Qualities of the Acredale Soil

Available water capacity: Very high (about 13.2 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
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: Medium
Parent material: Loamy and/or silty marine deposits

Use and Management Considerations for the Acredale Soil

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.

Local roads and streets

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

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Acredale—4w; Urban land—8s
Virginia soil management group: Acredale—C; Urban land—none assigned
Hydric soils: Acredale—yes; Urban land—not rated

4—Acredale-Urban land-Chapanoke complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Acredale and Chapanoke soils intermingled with areas of Urban land.

Acredale and similar soils: Typically 55 percent; ranging from about 40 to 75 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent
Chapanoke and similar soils: Typically 13 percent; ranging from about 10 to 20 percent

Representative Profile

Acredale

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

Subsoil:
7 to 15 inches—light brownish gray silt loam; yellowish brown masses of oxidized iron
15 to 35 inches—gray silty clay loam; yellowish brown masses of oxidized iron

35 to 43 inches—light greenish gray, dark gray, and yellowish brown silt loam
43 to 50 inches—gray, light greenish gray, and yellowish brown sandy loam

Substratum:
50 to 66 inches—gray, light olive gray, and yellowish brown sandy 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.

Chapanoke

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

Subsoil:
6 to 12 inches—olive yellow loam; light brownish gray iron depletions and brownish yellow masses of oxidized iron
12 to 30 inches—light gray silty clay loam; brownish yellow masses of oxidized iron
30 to 50 inches—gray silt loam; brownish yellow and pale yellow masses of oxidized iron

Substratum:
50 to 62 inches—gray loamy fine sand; brownish yellow masses of oxidized iron
62 to 79 inches—olive yellow fine sand; light brownish gray iron depletions

Minor Components

Dissimilar components:
- Bertie soils, which are somewhat poorly drained and have less silt than the Acredale soil; in the slightly higher areas

Properties and Qualities of the Acredale and Chapanoke Soils

Available water capacity: Acredale—very high (about 13.2 inches); Chapanoke—high (about 9.8 inches)
Slowest saturated hydraulic conductivity: Acredale—moderately low (about 0.06 in/hr); Chapanoke—moderately high (about 0.20 in/hr)
Drainage class: Acredale—poorly drained; Chapanoke—somewhat poorly drained
Depth to seasonal water saturation: Acredale—about 0 to 12 inches; Chapanoke—about 12 to 24 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Acredale—moderate; Chapanoke—low
Runoff class: Medium
Parent material: Loamy and/or silty marine deposits

Use and Management Considerations for the Acredale and Chapanoke Soils

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.

Local roads and streets

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

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Acredale—4w; Urban land—8s; Chapanoke—2w
Virginia soil management group: Acredale and Chapanoke—C; Urban land—none assigned
Hydric soils: No

5—Aquents, 0 to 2 percent slopes, frequently ponded

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Scalped areas on marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Aquents and similar soils: Typically 98 percent; ranging from about 95 to 100 percent

Representative Profile

This map unit includes poorly drained areas and areas that have been disturbed by humans. Examples include created wetlands and smoothed areas of poorly drained soils (fig. 4). The map unit also has very poorly drained soils in some areas. Some areas may not have hydric soil morphological characteristics because the soil material is too young. Because of the variability of the material, a representative profile is not given.

Minor Components

Dissimilar components:
- Udorthents, which have been disturbed by grading, excavating, or filling; in nearly level areas

Soil Properties and Qualities

Available water capacity: Unspecified
Slowest saturated hydraulic conductivity: Unspecified
Drainage class: Poorly drained
Depth to seasonal water saturation: About 0 to 4 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: Frequent
Depth of ponding: 0.0 to 0.8 foot
Shrink-swell potential: Unspecified
Runoff class: Negligible
Parent material: Variable

Use and Management Considerations

Onsite investigation is needed to determine the suitability of any area for specific uses.

Figure 4.—A created wetland in an area of Aquents, 0 to 2 percent slopes, frequently ponded.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 8w
Virginia soil management group: None assigned
Hydric soils: Yes

6—Arapahoe mucky fine sandy loam, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 7 to 26 feet

Map Unit Composition

Arapahoe and similar soils: Typically 85 percent; ranging from about 75 to 95 percent

Representative Profile

Surface layer:
0 to 11 inches—black mucky loamy fine sand
11 to 17 inches—very dark brown loamy fine sand

Subsoil:
17 to 21 inches—dark gray fine sandy loam; grayish brown iron depletions

21 to 30 inches—dark gray fine sandy loam; dark yellowish brown masses of oxidized iron and gray iron depletions
30 to 42 inches—dark gray fine sandy loam; gray iron depletions and dark yellowish brown masses of oxidized iron

Substratum:
42 to 60 inches—gray loamy fine sand
60 to 79 inches—dark greenish gray loamy fine sand

Minor Components

Dissimilar components:
- Hyde soils, which are very poorly drained and have more silt and less sand than the Arapahoe soil; in similar areas
- Tomotley soils, which are poorly drained and have more clay than the Arapahoe soil; in the slightly higher areas
- Dragston soils, which are somewhat poorly drained; in the higher areas

Similar components:
- Portsmouth soils, which are very poorly drained and have more clay than the Arapahoe soil; in similar areas

Soil Properties and Qualities

Available water capacity: Moderate (about 7.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Very 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: Low
Runoff class: Very low
Parent material: Coarse-loamy marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The excessive permeability increases the risk of ground-water contamination.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited
- 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
- Soil wetness may limit the use of log trucks.
- 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.

- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: 3w
Virginia soil management group: E
Hydric soil: Yes

7—Arapahoe-Urban land complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Arapahoe soil intermingled with areas of Urban land.

Arapahoe and similar soils: Typically 60 percent; ranging from about 50 to 70 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent

Representative Profile

Arapahoe

Surface layer:
0 to 11 inches—black mucky loamy fine sand
11 to 17 inches—very dark brown loamy fine sand

Subsoil:
17 to 21 inches—dark gray fine sandy loam; grayish brown iron depletions
21 to 30 inches—dark gray fine sandy loam; dark yellowish brown masses of oxidized iron and gray iron depletions
30 to 42 inches—dark gray fine sandy loam; gray iron depletions and dark yellowish brown masses of oxidized iron

Substratum:
42 to 60 inches—gray loamy fine sand
60 to 79 inches—dark greenish gray loamy fine sand

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.

Minor Components

Dissimilar components:
- Hyde soils, which are very poorly drained and have more silt and less sand than the Arapahoe soil; in similar areas
- Tomotley soils, which are poorly drained and have more clay than the Arapahoe soil; in the slightly higher areas
- Dragston soils, which are somewhat poorly drained; in the higher areas

Similar components:
- Portsmouth soils, which are very poorly drained and have more clay than the Arapahoe soil; in similar areas

Properties and Qualities of the Arapahoe Soil

Available water capacity: Moderate (about 7.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Very 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: Low
Runoff class: Very low
Parent material: Coarse-loamy marine deposits

Use and Management Considerations for the Arapahoe Soil

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Arapahoe—3w; Urban land—8s
Virginia soil management group: Arapahoe—E; Urban land—none assigned
Hydric soils: Arapahoe—yes; Urban land—not rated

8—Bojac loamy fine sand, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Stream terrace and marine terrace on a coastal plain
Elevation: 10 to 20 feet

Map Unit Composition

Bojac and similar soils: Typically 85 percent; ranging from about 75 to 95 percent

Representative Profile

Surface layer:
0 to 8 inches—brown fine sandy loam

Subsoil:
8 to 15 inches—strong brown fine sandy loam
15 to 32 inches—strong brown loam
32 to 38 inches—yellowish brown fine sandy loam

Substratum:
38 to 48 inches—brownish yellow loamy fine sand
48 to 62 inches—yellow and brownish yellow fine sand

Minor Components

Dissimilar components:
- Conetoe soils, which are well drained and have thick, sandy surface layers; in similar areas
- Tetotum soils, which are moderately well drained and have more clay than the Bojac soil; in the slightly lower areas

Similar components:
- Munden soils, which are moderately well drained; in the slightly lower areas

Soil Properties and Qualities

Available water capacity: Low (about 6.0 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Drainage class: Well drained
Depth to seasonal water saturation: About 48 to 72 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Coarse-loamy marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to soybeans, peanuts, and wheat; moderately suited to corn; poorly suited to alfalfa hay
- Soil crusting decreases water infiltration and interferes with the emergence of seedlings.

Pasture

- This soil is well suited to pasture.

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and sweetgum
- 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.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and may result in pollution of the water table.

Local roads and streets

- This soil is well suited to local roads and streets.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 2s
Virginia soil management group: T
Hydric soil: No

9—Bojac-Urban land complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Stream terrace and marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Bojac soil intermingled with areas of Urban land.

Bojac and similar soils: Typically 60 percent; ranging from about 50 to 70 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent

Representative Profile

Bojac

Surface layer:
0 to 8 inches—brown fine sandy loam

Subsoil:
8 to 15 inches—strong brown fine sandy loam
15 to 32 inches—strong brown loam
32 to 38 inches—yellowish brown fine sandy loam

Substratum:
38 to 48 inches—brownish yellow loamy fine sand
48 to 62 inches—yellow and brownish yellow fine sand

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.

Minor Components

Dissimilar components:
- Conetoe soils, which are well drained and have thick, sandy surface layers; in similar areas
- Tetotum soils, which are moderately well drained and have more clay than the Bojac soil; in the slightly lower areas

Similar components:
- Munden soils, which are moderately well drained; in the slightly lower areas

Properties and Qualities of the Bojac Soil

Available water capacity: Low (about 6.0 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Drainage class: Well drained
Depth to seasonal water saturation: About 48 to 72 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Coarse-loamy marine deposits

Use and Management Considerations for the Bojac Soil

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and may result in pollution of the water table.

Local roads and streets

- This map unit is well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Bojac—2s; Urban land—8s
Virginia soil management group: Bojac—T; Urban land—none assigned
Hydric soils: No

10—Bojac-Urban land-Wando complex, 0 to 3 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Bojac and Wando soils intermingled with areas of Urban land.

Bojac and similar soils: Typically 35 percent; ranging from about 20 to 70 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent
Wando and similar soils: Typically 25 percent; ranging from about 10 to 50 percent

Representative Profile

Bojac

Surface layer:
0 to 8 inches—brown fine sandy loam

Subsoil:
8 to 15 inches—strong brown fine sandy loam
15 to 32 inches—strong brown loam
32 to 38 inches—yellowish brown fine sandy loam

Substratum:
38 to 48 inches—brownish yellow loamy fine sand
48 to 62 inches—yellow and brownish yellow fine sand

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.

Wando

Surface layer:
0 to 3 inches—brown loamy fine sand

Substratum:
3 to 30 inches—light yellowish brown fine sand
30 to 79 inches—brownish yellow fine sand

Minor Components

Dissimilar components:
- Munden soils, which are moderately well drained and have less sand than the Wando soil; in the slightly lower areas
- Nimmo soils, which are poorly drained and have less sand than the Wando soil; in the lower areas
- Pactolus soils, which are moderately well drained and have more sand than the Bojac soil; in similar areas
- Tomotley soils, which are poorly drained, have more clay than the Bojac soil, and have less sand than the Wando soil; in the lower areas

Properties and Qualities of the Bojac and Wando Soils

Available water capacity: Bojac—low (about 6.0 inches); Wando—low (about 3.4 inches)
Slowest saturated hydraulic conductivity: Bojac—high (about 1.98 in/hr); Wando—high (about 5.95 in/hr)
Drainage class: Well drained
Depth to seasonal water saturation: Bojac—about 48 to 72 inches; Wando—about 48 to 79 inches
Water table (kind): Apparent
Flooding hazard: None

Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Bojac—coarse-loamy marine deposits; Wando—sandy eolian deposits

Use and Management Considerations for the Bojac and Wando Soils

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and may result in pollution of the water table.

Local roads and streets

- This map unit is well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Bojac—2s; Urban land—8s; Wando—3s
Virginia soil management group: Bojac—T; Urban land—none assigned; Wando—II
Hydric soils: No

11—Chapanoke-Yeopim complex, 0 to 3 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 10 feet

Map Unit Composition

Chapanoke and similar soils: Typically 50 percent; ranging from about 35 to 80 percent
Yeopim and similar soils: Typically 35 percent; ranging from about 20 to 50 percent

Representative Profile

Chapanoke

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

Subsoil:
6 to 12 inches—olive yellow loam; light brownish gray iron depletions and brownish yellow masses of oxidized iron
12 to 30 inches—light gray silty clay loam; brownish yellow masses of oxidized iron
30 to 50 inches—gray silt loam; brownish yellow and pale yellow masses of oxidized iron

Substratum:
50 to 62 inches—gray loamy fine sand; brownish yellow masses of oxidized iron
62 to 79 inches—olive yellow fine sand; light brownish gray iron depletions

Yeopim

Surface layer:
0 to 8 inches—grayish brown loam

Subsoil:
8 to 23 inches—yellowish brown loam
23 to 30 inches—yellowish brown clay loam; light gray iron depletions and brownish yellow masses of oxidized iron
30 to 42 inches—yellowish brown clay loam; strong brown masses of oxidized iron and light brownish gray iron depletions

Substratum:
42 to 55 inches—light gray loamy sand; yellowish brown and brown masses of oxidized iron
55 to 62 inches—yellowish brown loamy sand

Minor Components

Dissimilar components:
- Pasquotank soils, which are poorly drained and have less silt than the Chapanoke and Yeopim soils; on flats and in depressions
- Bertie soils, which are somewhat poorly drained and have less silt than the Chapanoke and Yeopim soils; in similar areas
- Dragston soils, which are somewhat poorly drained and have less silt and more sand than the Chapanoke and Yeopim soils; in similar areas
- Tetotum soils, which are moderately well drained and have less silt than the Chapanoke and Yeopim soils; in similar areas

Similar components:
- Acredale soils, which are poorly drained; on flats and in depressions

Soil Properties and Qualities

Available water capacity: Chapanoke—high (about 9.8 inches); Yeopim—high (about 11.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Drainage class: Chapanoke—somewhat poorly drained; Yeopim—moderately well drained
Depth to seasonal water saturation: Chapanoke—about 12 to 24 inches; Yeopim—about 18 to 36 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Parent material: Loamy and/or silty marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The risk of compaction increases when the soil is wet.
- Soil crusting decreases water infiltration and interferes with the emergence of seedlings.

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

Pasture

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

Woodland

Suitability: Well suited to loblolly pine
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: 2w
Virginia soil management group: Chapanoke—C; Yeopim—K
Hydric soils: No

12—Chesapeake sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Stream terrace and marine terrace on a coastal plain
Elevation: 7 to 26 feet

Map Unit Composition

Chesapeake and similar soils: Typically 95 percent; ranging from about 85 to 99 percent

Representative Profile

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

Subsoil:
7 to 28 inches—dark yellowish brown sandy clay loam
28 to 52 inches—strong brown sandy loam
52 to 58 inches—yellowish brown loamy sand

Substratum:
58 to 65 inches—brownish yellow sand

Minor Components

Similar components:
- Tetotum soils, which are moderately well drained and have more than 30 percent silt in the subsoil; in similar areas

Soil Properties and Qualities

Available water capacity: Moderate (about 6.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Well drained
Depth to seasonal water saturation: About 48 to 72 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Parent material: Loamy alluvium and/or loamy marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; moderately suited to alfalfa hay
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.

Pasture

- This soil is well suited to pasture.

Woodland

Suitability: Well suited to loblolly pine, southern red oak, and yellow-poplar
- Coarse textured layers may slough, thus reducing the efficiency of mechanical planting equipment.
- Coarse textured layers increase the maintenance of haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and may result in pollution of the water table.

Local roads and streets

- This soil is well suited to local roads and streets.

Interpretive Groups

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

13—Chesapeake-Urban land complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Stream terrace and marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Chesapeake soil intermingled with areas of Urban land.

Chesapeake and similar soils: Typically 65 percent; ranging from about 50 to 80 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent

Representative Profile

Chesapeake

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

Subsoil:
7 to 28 inches—dark yellowish brown sandy clay loam
28 to 52 inches—strong brown sandy loam
52 to 58 inches—yellowish brown loamy sand

Substratum:
58 to 65 inches—brownish yellow sand

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.

Minor Components

Similar components:
- Tetotum soils, which are moderately well drained and have more than 30 percent silt in the subsoil; in similar areas

Properties and Qualities of the Chesapeake Soil

Available water capacity: Moderate (about 6.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)

Drainage class: Well drained
Depth to seasonal water saturation: About 48 to 72 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Parent material: Loamy alluvium and/or loamy marine deposits

Use and Management Considerations for the Chesapeake Soil

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and may result in pollution of the water table.

Local roads and streets

- This map unit is well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Chesapeake—1; Urban land—8s
Virginia soil management group: Chesapeake—B; Urban land—none assigned
Hydric soils: No

14E—Conetoe-Chesapeake-Tetotum complex, 2 to 40 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Stream terrace and marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Conetoe and similar soils: Typically 35 percent; ranging from about 20 to 50 percent
Chesapeake and similar soils: Typically 30 percent; ranging from about 15 to 45 percent
Tetotum and similar soils: Typically 25 percent; ranging from about 10 to 40 percent

Representative Profile

Conetoe

Surface layer:
0 to 8 inches—grayish brown loamy sand

Subsurface layer:
8 to 25 inches—light yellowish brown loamy sand

Subsoil:
25 to 28 inches—yellowish brown sandy loam
28 to 41 inches—strong brown sandy loam
41 to 48 inches—strong brown loamy sand

Substratum:
48 to 57 inches—reddish yellow sand
57 to 90 inches—very pale brown sand

Chesapeake

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

Subsoil:
7 to 28 inches—dark yellowish brown sandy clay loam
28 to 52 inches—strong brown sandy loam
52 to 58 inches—yellowish brown loamy sand

Substratum:
58 to 65 inches—brownish yellow sand

Tetotum

Surface layer:
0 to 10 inches—brown loam

Subsoil:
10 to 15 inches—yellowish brown loam
15 to 20 inches—yellowish brown clay loam
20 to 26 inches—yellowish brown clay loam; strong brown masses of oxidized iron
26 to 36 inches—yellowish brown clay loam; light brownish gray and pale brown iron depletions and strong brown masses of oxidized iron
36 to 58 inches—yellowish brown, pale brown, and strong brown loam; light brownish gray iron depletions

Substratum:
58 to 70 inches—pale brown and reddish yellow loamy sand; light brownish gray iron depletions

Minor Components

Dissimilar components:
- Acredale soils, which are poorly drained and have more silt than the Conetoe, Chesapeake, and Tetotum soils; in the lower areas
- Nimmo soils, which are poorly drained and have more sand than the Conetoe, Chesapeake, and Tetotum soils; in the lower areas
- Pactolus soils, which are moderately well drained and are sandy throughout; in similar areas

Soil Properties and Qualities

Available water capacity: Conetoe—low (about 6.0 inches); Chesapeake—moderate (about 6.8 inches); Tetotum—moderate (about 7.1 inches)
Slowest saturated hydraulic conductivity: Conetoe—high (about 1.98 in/hr); Chesapeake and Tetotum—moderately high (about 0.57 in/hr)
Drainage class: Conetoe and Chesapeake—well drained; Tetotum—moderately well drained
Depth to seasonal water saturation: Conetoe—more than 6 feet; Chesapeake—about 48 to 72 inches; Tetotum—about 18 to 30 inches
Flooding hazard: None

Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Conetoe and Chesapeake—low; Tetotum—medium
Parent material: Conetoe—loamy and sandy alluvium or loamy and sandy marine deposits; Chesapeake and Tetotum—loamy alluvium and/or loamy marine deposits

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pasture

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

Woodland

Suitability: Moderately suited to loblolly pine and southern red oak
- 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.
- The slope restricts the use of equipment for preparing sites for planting and seeding.
- The slope may restrict the use of some mechanical planting equipment.
- Coarse textured layers may slough, thus reducing the efficiency of mechanical planting equipment.
- Coarse textured 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 influences the use of machinery and the amount of excavation required.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

Septic tank absorption fields

- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- The slope limits the proper treatment of 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 class: Conetoe—6e; Chesapeake—1; Tetotum—2e
Virginia soil management group: Conetoe—DD; Chesapeake—B; Tetotum—K
Hydric soils: No

15—Deloss mucky fine sandy loam, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)

Landform: Marine terrace on a coastal plain
Elevation: 3 to 23 feet

Map Unit Composition

Deloss and similar soils: Typically 85 percent; ranging from about 75 to 95 percent

Representative Profile

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

Subsurface layer:
10 to 17 inches—dark grayish brown fine sandy loam

Subsoil:
17 to 31 inches—gray sandy clay loam; red masses of oxidized iron
31 to 39 inches—dark gray fine sandy loam; dark red and red masses of oxidized iron
39 to 60 inches—gray fine sandy loam; dark red iron-manganese concretions and brownish yellow masses of oxidized iron

Substratum:
60 to 75 inches—greenish gray fine sandy loam; red masses of oxidized iron

Minor Components

Dissimilar components:
- Gertie soils, which are poorly drained and have more clay than the Deloss soil; in similar areas
- Nimmo soils, which are poorly drained and have less clay than the Deloss soil; in similar areas
- Bertie soils, which are somewhat poorly drained; in the higher areas

Similar components:
- Hyde soils, which are very poorly drained and have more silt than the Deloss soil; in similar areas

Soil Properties and Qualities

Available water capacity: Moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Very 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: Low
Runoff class: Negligible
Parent material: Loamy marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited
- 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
- Soil wetness may limit the use of log trucks.
- 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.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: 4w
Virginia soil management group: C
Hydric soil: Yes

16—Deloss-Tomotley-Nimmo complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 23 feet

Map Unit Composition

Deloss and similar soils: Typically 35 percent; ranging from about 20 to 50 percent
Tomotley and similar soils: Typically 30 percent; ranging from about 15 to 45 percent
Nimmo and similar soils: Typically 25 percent; ranging from about 10 to 40 percent

Representative Profile

Deloss

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

Subsurface layer:
10 to 17 inches—dark grayish brown fine sandy loam

Subsoil:
17 to 31 inches—gray sandy clay loam; red masses of oxidized iron
31 to 39 inches—dark gray fine sandy loam; dark red and red masses of oxidized iron
39 to 60 inches—gray fine sandy loam; dark red iron-manganese concretions and brownish yellow masses of oxidized iron

Substratum:
60 to 75 inches—greenish gray fine sandy loam; red masses of oxidized iron

Tomotley

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron
23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

Nimmo

Surface layer:
0 to 7 inches—dark gray loam

Subsoil:
7 to 14 inches—gray fine sandy loam; yellowish brown masses of oxidized iron
14 to 25 inches—gray loam; yellowish brown masses of oxidized iron
25 to 33 inches—gray fine sandy loam; yellowish brown masses of oxidized iron

Substratum:
33 to 60 inches—light gray fine sand; yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Gertie soils, which are poorly drained and have more clay than the Deloss, Tomotley, and Nimmo soils; in similar areas
- Nimmo soils, which are poorly drained and have less clay than the Deloss and Tomotley soils; in similar areas
- Bertie soils, which are somewhat poorly drained and have more clay than the Nimmo soil; in the higher areas
- Dragston soils, which are somewhat poorly drained and have less clay than the Deloss and Tomotley soils; in similar areas

Soil Properties and Qualities

Available water capacity: Moderate (about 7.4 to 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Deloss—very poorly drained; Tomotley and Nimmo—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: Low
Runoff class: Negligible
Parent material: Deloss and Tomotley—loamy marine deposits; Nimmo—sandy and loamy alluvium or marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited
- 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
- Soil wetness may limit the use of log trucks.
- These soils are well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: Deloss and Tomotley—4w; Nimmo—3w
Virginia soil management group: Deloss and Tomotley—C; Nimmo—E
Hydric soils: Yes

17—Deloss-Urban land complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Deloss soil intermingled with areas of Urban land.

Deloss and similar soils: Typically 60 percent; ranging from about 30 to 85 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent

Representative Profile

Deloss

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

Subsurface layer:
10 to 17 inches—dark grayish brown fine sandy loam

Subsoil:
17 to 31 inches—gray sandy clay loam; red masses of oxidized iron
31 to 39 inches—dark gray fine sandy loam; dark red and red masses of oxidized iron
39 to 60 inches—gray fine sandy loam; dark red iron-manganese concretions and brownish yellow masses of oxidized iron

Substratum:
60 to 75 inches—greenish gray fine sandy loam; red masses of oxidized iron

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.

Minor Components

Dissimilar components:
- Gertie soils, which are poorly drained and have more clay than the Deloss soil; in similar areas
- Nimmo soils, which are poorly drained and have less clay than the Deloss soil; in similar areas
- Bertie soils, which are somewhat poorly drained; in the higher areas

Similar components:
- Hyde soils, which are very poorly drained and have more silt than the Deloss soil; in similar areas

Properties and Qualities of the Deloss Soil

Available water capacity: Moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Very 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: Low
Runoff class: Negligible
Parent material: Loamy marine deposits

Use and Management Considerations for the Deloss Soil

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Deloss—4w; Urban land—8s
Virginia soil management group: Deloss—C; Urban land—none assigned
Hydric soils: Deloss—yes; Urban land—not rated

18—Dorovan-Belhaven complex, 0 to 1 percent slopes, frequently flooded

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Flood plain on a coastal plain
Elevation: 0 to 16 feet

Map Unit Composition

Dorovan and similar soils: Typically 55 percent; ranging from about 40 to 75 percent
Belhaven and similar soils: Typically 40 percent; ranging from about 25 to 60 percent

Representative Profile

Dorovan

Organic layer:
0 to 4 inches—dark brown mucky peat
4 to 28 inches—dark brown muck
28 to 78 inches—very dark grayish brown muck

Belhaven

Organic layer:
0 to 9 inches—black muck
9 to 13 inches—dark reddish brown muck
13 to 26 inches—very dusky red muck

Substratum:
26 to 32 inches—very dark gray sandy loam
32 to 45 inches—dark gray clay loam
45 to 65 inches—gray clay loam
65 to 72 inches—greenish gray loamy sand

Minor Components

Dissimilar components:
- Arapahoe and Portsmouth soils, which are very poorly drained and not organic; on flats and in depressions
- Nawney soils, which are poorly drained and not organic; on flood plains

Soil Properties and Qualities

Available water capacity: Dorovan—very high (about 20.9 inches); Belhaven—very high (about 14.2 inches)
Slowest saturated hydraulic conductivity: Dorovan—unspecified; Belhaven—moderately high (about 0.20 in/hr)
Drainage class: Very poorly drained
Depth to seasonal water saturation: About 0 to 6 inches
Water table (kind): Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Dorovan—unspecified; Belhaven—low
Runoff class: Negligible
Parent material: Herbaceous organic material and/or woody organic material

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pasture

- These soils are unsuited to pastureland.

Woodland

- Flooding may result in damage to 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 and may create unsafe conditions for log trucks.

Building sites

- Because of the flooding and subsidence, these soils are unsuited are building site development.

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.
- Subsidence of the organic material reduces the bearing capacity of these soils.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7w
Virginia soil management group: PP
Hydric soils: Yes

19—Dragston fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 7 to 26 feet

Map Unit Composition

Dragston and similar soils: Typically 92 percent; ranging from about 85 to 97 percent

Representative Profile

Surface layer:
0 to 9 inches—dark grayish brown fine sandy loam

Subsoil:
9 to 17 inches—light olive brown fine sandy loam; grayish brown iron depletions and yellowish brown masses of oxidized iron
17 to 37 inches—grayish brown fine sandy loam; yellowish brown masses of oxidized iron

Substratum:
37 to 66 inches—brownish yellow fine sand; light brownish gray iron depletions

Minor Components

Dissimilar components:
- Tomotley soils, which are poorly drained and have more clay than the Dragston soil; in the slightly lower areas

Soil Properties and Qualities

Available water capacity: Moderate (about 7.0 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Drainage class: Somewhat poorly drained
Depth to seasonal water saturation: About 12 to 30 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Coarse-loamy marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The excessive permeability increases the risk of ground-water contamination.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited
- 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 and southern red oak; moderately suited to yellow-poplar and sweetgum

- Soil wetness may limit the use of log trucks.
- 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.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 4w
Virginia soil management group: E
Hydric soil: No

20—Dragston-Tomotley complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 7 to 26 feet

Map Unit Composition

Dragston and similar soils: Typically 70 percent; ranging from about 50 to 85 percent
Tomotley and similar soils: Typically 25 percent; ranging from about 15 to 50 percent

Representative Profile

Dragston

Surface layer:
0 to 9 inches—dark grayish brown fine sandy loam

Subsoil:
9 to 17 inches—light olive brown fine sandy loam; grayish brown iron depletions and yellowish brown masses of oxidized iron
17 to 37 inches—grayish brown fine sandy loam; yellowish brown masses of oxidized iron

Substratum:
37 to 66 inches—brownish yellow fine sand; light brownish gray iron depletions

Tomotley

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron
23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

Minor Components

Dissimilar components:
- Nimmo soils, which are poorly drained and have less clay than the Tomotley soil; in the slightly lower areas

Soil Properties and Qualities

Available water capacity: Dragston—moderate (about 7.0 inches); Tomotley—moderate (about 7.4 inches)
Slowest saturated hydraulic conductivity: Dragston—high (about 1.98 in/hr); Tomotley—moderately high (about 0.57 in/hr)
Drainage class: Dragston—somewhat poorly drained; Tomotley—poorly drained
Depth to seasonal water saturation: Dragston—about 12 to 30 inches; Tomotley—about 0 to 12 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Dragston—coarse-loamy marine deposits; Tomotley—loamy marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The excessive permeability increases the risk of ground-water contamination.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited
- 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 and southern red oak; moderately suited to yellow-poplar and sweetgum

- Soil wetness may limit the use of log trucks.
- These soils are well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

Prime farmland: All areas are prime farmland
Land capability class: 4w
Virginia soil management group: Dragston—E; Tomotley—C
Hydric soils: No

21—Dragston-Urban land complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Dragston soil intermingled with areas of Urban land.

Dragston and similar soils: Typically 65 percent; ranging from about 40 to 85 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent

Representative Profile

Dragston

Surface layer:
0 to 9 inches—dark grayish brown fine sandy loam

Subsoil:
9 to 17 inches—light olive brown fine sandy loam; grayish brown iron depletions and yellowish brown masses of oxidized iron
17 to 37 inches—grayish brown fine sandy loam; yellowish brown masses of oxidized iron

Substratum:
37 to 66 inches—brownish yellow fine sand; light brownish gray iron depletions

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.

Minor Components

Dissimilar components:
- Nimmo soils, which are poorly drained and have less clay than the Dragston soil; in the slightly lower areas

Properties and Qualities of the Dragston Soil

Available water capacity: Moderate (about 7.0 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)
Drainage class: Somewhat poorly drained
Depth to seasonal water saturation: About 12 to 30 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Coarse-loamy marine deposits

Use and Management Considerations for the Dragston Soil

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Dragston—4w; Urban land—8s
Virginia soil management group: Dragston—E; Urban land—none assigned
Hydric soils: No

22—Dragston-Urban land-Tomotley complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Deloss and Tomotley soils intermingled with areas of Urban land.

Dragston and similar soils: Typically 45 percent; ranging from about 20 to 70 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent
Tomotley and similar soils: Typically 20 percent; ranging from about 10 to 40 percent

Representative Profile

Dragston

Surface layer:
0 to 9 inches—dark grayish brown fine sandy loam

Subsoil:
9 to 17 inches—light olive brown fine sandy loam; grayish brown iron depletions and yellowish brown masses of oxidized iron
17 to 37 inches—grayish brown fine sandy loam; yellowish brown masses of oxidized iron

Substratum:
37 to 66 inches—brownish yellow fine sand; light brownish gray iron depletions

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.

Tomotley

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron
23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

Minor Components

Dissimilar components:
- Nimmo soils, which are poorly drained and have less clay than the Tomotley soil; in the slightly lower areas

Properties and Qualities of the Dragston and Tomotley Soils

Available water capacity: Dragston—moderate (about 7.0 inches); Tomotley—moderate (about 7.4 inches)
Slowest saturated hydraulic conductivity: Dragston—high (about 1.98 in/hr); Tomotley—moderately high (about 0.57 in/hr)
Drainage class: Dragston—somewhat poorly drained; Tomotley—poorly drained

Depth to seasonal water saturation: Dragston—about 12 to 30 inches; Tomotley—about 0 to 12 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Dragston—coarse-loamy marine deposits; Tomotley—loamy marine deposits

Use and Management Considerations for the Dragston and Tomotley Soils

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Dragston and Tomotley—4w; Urban land—8s
Virginia soil management group: Dragston—E; Urban land—none assigned; Tomotley—C
Hydric soils: Dragston—no; Urban land—not rated; Tomotley—yes

23—Gertie silt loam, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 20 feet

Map Unit Composition

Gertie and similar soils: Typically 80 percent; ranging from about 70 to 90 percent

Representative Profile

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

Subsurface layer:
4 to 9 inches—light olive brown silt loam

Subsoil:
9 to 16 inches—grayish brown silty clay loam; strong brown masses of oxidized iron

16 to 27 inches—dark gray silty clay; strong brown masses of oxidized iron
27 to 41 inches—gray silty clay loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
41 to 64 inches—light yellowish brown loamy sand; strong brown masses of oxidized iron and light brownish gray iron depletions
64 to 72 inches—light brownish gray loamy sand; yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Arapahoe and Deloss soils, which are very poorly drained and have less clay than the Gertie soil; in the lower areas

Similar components:
- Tomotley soils, which are poorly drained and have less clay than the Gertie soil; in similar areas

Soil Properties and Qualities

Available water capacity: Moderate (about 6.9 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
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: Medium
Parent material: Clayey marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn and soybeans; moderately suited to wheat; poorly suited to alfalfa hay
- 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 decreases water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Poorly suited
- 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
- The low soil strength interferes with the construction of haul roads and log landings and may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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

- Shrinking and swelling restricts the use of this soil as base material for local roads and streets.
- The low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4w
Virginia soil management group: H
Hydric soil: Yes

24—Hyde mucky silt loam, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 7 to 26 feet

Map Unit Composition

Hyde and similar soils: Typically 85 percent; ranging from about 80 to 95 percent

Representative Profile

Surface layer:
0 to 8 inches—black loam
8 to 15 inches—black loam

Subsoil:
15 to 35 inches—light brownish gray loam; brownish yellow and light olive brown masses of oxidized iron
35 to 40 inches—grayish brown loam; light olive brown masses of oxidized iron
40 to 51 inches—grayish brown loam

Substratum:
51 to 62 inches—light brownish gray loam; light olive brown masses of oxidized iron

Minor Components

Dissimilar components:
- Deloss soils, which are very poorly drained and have less silt than the Hyde soil; in similar areas
- Portsmouth soils, which are very poorly drained, have less silt than the Hyde soil, and have sandy substrata; in similar areas

Similar components:
- Weeksville soils, which are very poorly drained and have less clay than the Hyde soil; in similar areas

Soil Properties and Qualities

Available water capacity: High (about 9.2 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Drainage class: Very 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: Low
Runoff class: Low
Parent material: Loamy marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The risk of compaction increases when the soil is wet.

Pasture

Suitability: Well suited
- 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
- The low soil strength interferes with the construction of haul roads and log landings and may create unsafe conditions for log trucks.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the low soil strength, this soil is unfavorable for supporting heavy loads.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 low soil strength is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: 3w
Virginia soil management group: C
Hydric soil: Yes

25—Munden fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 16 feet

Map Unit Composition

Munden and similar soils: Typically 90 percent; ranging from about 80 to 95 percent

Representative Profile

Surface layer:
0 to 8 inches—dark grayish brown fine sandy loam

Subsoil:
8 to 15 inches—yellowish brown sandy loam
15 to 25 inches—yellowish brown loam; light brown masses of oxidized iron
25 to 32 inches—brown and yellowish brown sandy loam; light brownish gray iron depletions

Substratum:
32 to 62 inches—light brownish gray, yellowish brown, and yellowish red sand

Minor Components

Dissimilar components:
- Nimmo soils, which are poorly drained; in the lower areas
- Tomotley soils, which are poorly drained and have more clay than the Munden soil; in the lower areas

Similar components:
- Bojac soils, which are well drained; in the slightly higher areas
- Chesapeake soils, which are moderately well drained and have more clay than the Munden soil; in similar areas

Soil Properties and Qualities

Available water capacity: Low (about 6.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Sandy and loamy alluvium or marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; moderately suited to alfalfa hay
- The excessive permeability increases the risk of ground-water contamination.
- Soil crusting decreases water infiltration and interferes with the emergence of seedlings.

Pasture

- This soil is well suited to pasture.

Woodland

Suitability: Well suited to loblolly pine; moderately suited to sweetgum
- 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.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

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

26C—Munden loamy fine sand, 2 to 8 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace and stream terrace on a coastal plain
Elevation: 3 to 16 feet

Map Unit Composition

Munden and similar soils: Typically 75 percent; ranging from about 50 to 85 percent

Representative Profile

Surface layer:
0 to 8 inches—dark grayish brown fine sandy loam

Subsoil:
8 to 15 inches—yellowish brown sandy loam
15 to 25 inches—yellowish brown loam; light brown masses of oxidized iron
25 to 32 inches—brown and yellowish brown sandy loam; light brownish gray iron depletions

Substratum:
32 to 62 inches—light brownish gray, yellowish brown, and yellowish red sand

Minor Components

Dissimilar components:
- Nimmo soils, which are poorly drained; in the lower areas
- Pactolus soils, which are moderately well drained and are sandy throughout; in similar areas
- Conetoe soils, which are well drained and have thick, sandy surface layers; in the higher areas

Similar components:
- Bojac soils, which are well drained; in the slightly higher areas
- Chesapeake soils, which are moderately well drained and have more clay than the Munden soil; in similar areas

Soil Properties and Qualities

Available water capacity: Low (about 6.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Sandy and loamy alluvium or sandy marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; moderately suited to alfalfa hay
- The rate of surface runoff, erosion hazard, and amount of nutrient loss are increased because of the slope.
- The excessive permeability increases the risk of ground-water contamination.
- Soil crusting decreases water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Well suited
- The erosion hazard, 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 sweetgum
- Soil wetness may limit the use of log trucks.
- 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.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

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

27—Munden-Urban land complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Munden soil intermingled with areas of Urban land.

Munden and similar soils: Typically 65 percent; ranging from about 40 to 85 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent

Representative Profile

Munden

Surface layer:
0 to 8 inches—dark grayish brown fine sandy loam

Subsoil:
8 to 15 inches—yellowish brown sandy loam
15 to 25 inches—yellowish brown loam; light brown masses of oxidized iron

Subsoil:
25 to 32 inches—brown and yellowish brown sandy loam; light brownish gray iron depletions

Substratum:
32 to 62 inches—light brownish gray, yellowish brown, and yellowish red sand

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.

Minor Components

Dissimilar components:
- Nimmo soils, which are poorly drained; in the lower areas
- Pactolus soils, which are moderately well drained and are sandy throughout; in similar areas
- Conetoe soils, which are well drained and have thick, sandy surface layers; in the higher areas

Similar components:
- Bojac soils, which are well drained; in the slightly higher areas
- Chesapeake soils, which are moderately well drained and have more clay than the Munden soil; in similar areas

Properties and Qualities of the Munden Soil

Available water capacity: Low (about 6.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Sandy and loamy alluvium or marine deposits

Use and Management Considerations for the Munden Soil

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Munden—2w; Urban land—8s
Virginia soil management group: Munden—F; Urban land—none assigned
Hydric soils: Munden—no; Urban land—not rated

28C—Munden-Urban land complex, 2 to 8 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace or stream terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Munden soil intermingled with areas of Urban land.

Munden and similar soils: Typically 50 percent; ranging from about 30 to 70 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent

Representative Profile

Munden

Surface layer:
0 to 8 inches—dark grayish brown fine sandy loam

Subsoil:
8 to 15 inches—yellowish brown sandy loam
15 to 25 inches—yellowish brown loam; light brown masses of oxidized iron
25 to 32 inches—brown and yellowish brown sandy loam; light brownish gray iron depletions

Substratum:
32 to 62 inches—light brownish gray, yellowish brown, and yellowish red sand

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.

Minor Components

Dissimilar components:
- Nimmo soils, which are poorly drained; in the lower areas
- Pactolus soils, which are moderately well drained and are sandy throughout; in similar areas
- Conetoe soils, which are well drained and have thick, sandy surface layers; in the higher areas

Similar components:
- Bojac soils, which are well drained; in the slightly higher areas
- Chesapeake soils, which are moderately well drained and have more clay than the Munden soil; in similar areas

Properties and Qualities of the Munden Soil

Available water capacity: Low (about 6.0 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Sandy and loamy alluvium or marine deposits

Use and Management Considerations for the Munden Soil

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Munden—2e; Urban land—8s
Virginia soil management group: Munden—F; Urban land—none assigned
Hydric soils: Munden—no; Urban land—not rated

29—Munden-Urban land-Pactolus complex, 0 to 3 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Munden and Pactolus soils intermingled with areas of Urban land.

Munden and similar soils: Typically 40 percent; ranging from about 20 to 60 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent
Pactolus and similar soils: Typically 20 percent; ranging from about 10 to 50 percent

Representative Profile

Munden

Surface layer:
0 to 8 inches—dark grayish brown fine sandy loam

Subsoil:
8 to 15 inches—yellowish brown sandy loam
15 to 25 inches—yellowish brown loam; light brown masses of oxidized iron
25 to 32 inches—brown and yellowish brown sandy loam; light brownish gray iron depletions

Substratum:
32 to 62 inches—light brownish gray, yellowish brown, and yellowish red sand

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.

Pactolus

Surface layer:
0 to 2 inches—gray loamy fine sand

Substratum:
2 to 13 inches—light yellowish brown loamy sand; very pale brown iron depletions
13 to 25 inches—very pale brown loamy sand; very pale brown iron depletions
25 to 38 inches—very pale brown loamy sand; light gray iron depletions
38 to 79 inches—light gray loamy sand; very pale brown iron depletions

Minor Components

Dissimilar components:
- Nimmo soils, which are poorly drained; in the lower areas
- Tomotley soils, which are poorly drained and have more clay than the Munden soil; in the lower areas
- Wando soils, which are well drained and are sandy throughout; in the higher areas

Similar components:
- Bojac soils, which are well drained; in the slightly higher areas

Properties and Qualities of the Munden and Pactolus Soils

Available water capacity: Munden—low (about 6.0 inches); Pactolus—low (about 4.8 inches)
Slowest saturated hydraulic conductivity: Munden—moderately high (about 0.57 in/hr); Pactolus—high (about 5.95 in/hr)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Munden—very low; Pactolus—negligible
Parent material: Munden—sandy and loamy alluvium or marine deposits; Pactolus—sandy eolian deposits

Use and Management Considerations for the Munden and Pactolus Soils

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and may result in pollution of the water table.

Local roads and streets

- These soils are well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Munden—2w; Urban land—8s; Pactolus—3s
Virginia soil management group: Munden—F; Urban land—none assigned; Pactolus—EE
Hydric soils: No

30—Nawney silt loam, 0 to 1 percent slopes, frequently flooded

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Flood plain on a coastal plain
Elevation: 3 to 23 feet

Map Unit Composition

Nawney and similar soils: Typically 85 percent; ranging from about 75 to 95 percent

Representative Profile

Organic layer:
0 to 4 inches—very dark grayish brown slightly decomposed plant material

Surface layer:
4 to 9 inches—dark gray silt loam; yellowish brown masses of oxidized iron

Substratum:
9 to 47 inches—gray loam
47 to 64 inches—gray stratified sand to loamy sand to sandy loam

Minor Components

Dissimilar components:
- Belhaven and Dorovan soils, which are very poorly drained and organic; in similar areas

Soil Properties and Qualities

Available water capacity: High (about 10.5 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Drainage class: Very poorly drained
Depth to seasonal water saturation: About 0 to 6 inches
Water table (kind): Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Negligible
Parent material: Alluvium

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pasture

- This soil is unsuited to pastureland.

Woodland

Suitability: Moderately suited to sweetgum
- Flooding may result in damage to haul roads.
- Flooding restricts the safe use of log trucks.
- Soil wetness may limit the use of log trucks.
- The low soil strength may create unsafe conditions for 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.
- 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: Not prime farmland
Land capability class: 7w
Virginia soil management group: PP
Hydric soil: Yes

31—Pactolus loamy fine sand, 0 to 3 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Coastal plain or dune
Elevation: 3 to 23 feet

Map Unit Composition

Pactolus and similar soils: Typically 85 percent; ranging from about 70 to 95 percent

Representative Profile

Surface layer:
0 to 2 inches—gray loamy fine sand

Substratum:
2 to 13 inches—light yellowish brown loamy sand; very pale brown iron depletions
13 to 25 inches—very pale brown loamy sand; very pale brown iron depletions
25 to 38 inches—very pale brown loamy sand; light gray iron depletions
38 to 79 inches—light gray loamy sand; very pale brown iron depletions

Minor Components

Dissimilar components:
- Nimmo and Tomotley soils, which are poorly drained and have more clay than the Pactolus soil; in the lower areas
- Bojac soils, which are well drained and have more clay than the Pactolus soil; in the higher areas

Similar components:
- Munden soils, which are moderately well drained; in similar areas
- Wando soils, which are well drained; in the higher areas

Soil Properties and Qualities

Available water capacity: Low (about 4.8 inches)

Slowest saturated hydraulic conductivity: High (about 5.95 in/hr)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Negligible
Parent material: Sandy eolian deposits

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn and wheat; poorly suited to soybeans; not suited to alfalfa hay
- The excessive permeability increases the risk of ground-water contamination.
- Sandy or coarse textured layers accelerate the rate at which plant nutrients are leached.

Pasture

- This soil is well suited to pasture.

Woodland

Suitability: Well suited to loblolly pine
- 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.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3s
Virginia soil management group: EE
Hydric soil: No

32—Pasquotank silt loam, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)

Landform: Marine terrace on a coastal plain
Elevation: 10 to 13 feet

Map Unit Composition

Pasquotank and similar soils: Typically 90 percent; ranging from about 80 to 95 percent

Representative Profile

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

Subsoil:
6 to 18 inches—light brownish gray loam; light yellowish brown masses of oxidized iron
18 to 34 inches—gray loam; olive yellow and yellowish brown masses of oxidized iron
34 to 39 inches—gray loam; yellowish brown and olive yellow masses of oxidized iron
39 to 44 inches—gray loam; yellowish brown and light yellowish brown masses of oxidized iron

Substratum:
44 to 53 inches—gray loam; yellowish brown and light yellowish brown masses of oxidized iron
53 to 60 inches—light olive brown silt loam; yellowish brown masses of oxidized iron and light gray iron depletions

Minor Components

Dissimilar components:
- Arapahoe soils, which are very poorly drained and have less silt than the Pasquotank soil; in similar areas
- Nimmo soils, which are poorly drained and have less silt and more sand than the Pasquotank soil; in similar areas
- Dragston soils, which are somewhat poorly drained and have less silt and more sand than the Pasquotank soil; in the slightly higher areas

Similar components:
- Acredale soils, which are poorly drained and have more clay than the Pasquotank soil; in similar areas
- Weeksville soils, which are very poorly drained; in similar areas

Soil Properties and Qualities

Available water capacity: Very high (about 12.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Poorly drained
Depth to seasonal water saturation: About 0 to 6 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Negligible
Parent material: Silty marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The risk of compaction increases when the soil is wet.

- Soil crusting decreases water infiltration and interferes with the emergence of seedlings.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited
- 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 sweetgum
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and may create unsafe conditions for log trucks.

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.

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 class: 4w
Virginia soil management group: C
Hydric soil: Yes

33—Pocaty mucky peat, 0 to 1 percent slopes, very frequently flooded

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Tidal marsh on a coastal plain
Elevation: 0 to 3 feet

Map Unit Composition

Pocaty and similar soils: Typically 95 percent; ranging from about 85 to 100 percent

Representative Profile

Organic layer:
0 to 12 inches—very dark brown peat
12 to 20 inches—very dark brown mucky peat
20 to 48 inches—black muck
48 to 60 inches—dark gray muck

Substratum:
60 to 80 inches—dark gray silt loam

Minor Components

Similar components:
- Rappahannock soils, which are very poorly drained and have thinner organic layers than the Pocaty soil; in similar areas

Soil Properties and Qualities

Available water capacity: Very high (about 14.0 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Drainage class: Very poorly drained
Depth to seasonal water saturation: About 0 to 12 inches
Water table (kind): Apparent
Flooding hazard: Very frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Negligible
Parent material: Herbacious organic material

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Pasture

- This soil is unsuited to pastureland.

Woodland

- Flooding may result in damage to 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 and may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- Because of subsidence, this soil is unsuited to building site development.

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.
- Subsidence of the organic material reduces the bearing capacity of this soil.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 8w

Virginia soil management group: PP
Hydric soil: Yes

34—Portsmouth mucky fine sandy loam, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 23 feet

Map Unit Composition

Portsmouth and similar soils: Typically 85 percent; ranging from about 75 to 95 percent

Representative Profile

Surface layer:
0 to 12 inches—black mucky fine sandy loam

Subsurface layer:
12 to 19 inches—gray fine sandy loam

Subsoil:
19 to 23 inches—gray and dark gray fine sandy loam; yellow and brownish yellow masses of oxidized iron
23 to 35 inches—gray and dark gray sandy clay loam; yellowish brown, brownish yellow, and yellowish red masses of oxidized iron
35 to 38 inches—gray sandy loam; reddish yellow and brownish yellow masses of oxidized iron

Substratum:
38 to 48 inches—gray sand
48 to 72 inches—light gray and gray coarse sand

Minor Components

Dissimilar components:
- Arapahoe soils, which are very poorly drained and have less clay than the Portsmouth soil; in similar areas
- Nimmo soils, which are poorly drained and have less clay than the Portsmouth soil; in similar areas
- Bertie soils, which are somewhat poorly drained; in the slightly higher areas

Similar components:
- Arapahoe soils, which are very poorly drained and have less clay than the Portsmouth soil; in similar areas

Soil Properties and Qualities

Available water capacity: Moderate (about 7.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Very 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: Low

Runoff class: Low
Parent material: Loamy marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited
- 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
- The shallow depth to a high water table is a management concern affecting woodland (fig. 5).
- Soil wetness may limit the use of log trucks.
- 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.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: 3w
Virginia soil management group: C
Hydric soil: Yes

35C—Psamments, 0 to 10 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Sandy spoil pile on a coastal plain and marine terrace on a coastal plain
Elevation: 3 to 16 feet

Figure 5.—Tree roots spread out and grow at shallow depths on soils that have a high water table, such as this Portsmouth mucky fine sandy loam, 0 to 1 percent slopes. This may result in windthrown trees.

Map Unit Composition

Psamments and similar soils: Typically 95 percent; ranging from about 90 to 100 percent

Representative Profile

Psamments consist of piles of sand that have a water table at various depths. Most areas consist of dredge material placed along the intracoastal waterway. Because of the variability of the soil material, a representative profile is not given.

Minor Components

Dissimilar components:
- Udorthents, which have been disturbed by grading, excavating, or filling; in nearly level areas
- Aquents, which are somewhat poorly drained or poorly drained; in the higher areas

Soil Properties and Qualities

Available water capacity: Low (about 3.7 inches)
Slowest saturated hydraulic conductivity: High (about 5.95 in/hr)
Drainage class: Well drained
Depth to seasonal water saturation: Generally about 30 to 60 inches; can be variable
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Sandy marine deposits

Use and Management Considerations

Cropland

- 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.
- Sandy or coarse textured layers accelerate the rate at which plant nutrients are leached.

Pasture

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

Woodland

- The slope may restrict the use of some mechanical planting equipment.
- Coarse textured layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The coarseness of the soil may reduce the traction of wheeled harvest equipment and log trucks.
- Coarse textured 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 influences the use of machinery and the amount of excavation required.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and may result in pollution of the water table.
- The slope limits the proper treatment of 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 class: 4s
Virginia soil management group: None assigned
Hydric soils: No

36—Pungo-Belhaven soils, 0 to 1 percent slopes, frequently ponded

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Swamp on a coastal plain
Elevation: 13 to 26 feet

Map Unit Composition

Pungo and similar soils: Typically 60 percent; ranging from about 40 to 80 percent
Belhaven and similar soils: Typically 38 percent; ranging from about 20 to 60 percent

Representative Profile

Pungo

Organic layer:
0 to 2 inches—peat
2 to 44 inches—dark reddish brown muck
44 to 58 inches—very dark brown and black muck
58 to 72 inches—black muck

Belhaven

Organic layer:
0 to 9 inches—black muck
9 to 13 inches—dark reddish brown muck
13 to 26 inches—very dusky red muck

Substratum:
26 to 32 inches—very dark gray sandy loam
32 to 45 inches—dark gray clay loam
45 to 65 inches—gray clay loam
65 to 72 inches—greenish gray loamy sand

Minor Components

Dissimilar components:
- Arapahoe and Portsmouth soils, which are very poorly drained and not organic; in similar areas

Soil Properties and Qualities

Available water capacity: Pungo—very high (about 20.9 inches); Belhaven—very high (about 14.2 inches)

Slowest saturated hydraulic conductivity: Pungo—uspecified; Belhaven—moderately high (about 0.20 in/hr)
Drainage class: Very poorly drained
Depth to seasonal water saturation: About 0 to 6 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: Frequent
Depth of ponding: 0.0 to 3.0 feet
Shrink-swell potential: Pungo—unspecified; Belhaven—low
Runoff class: Negligible
Parent material: Herbaceous organic material and/or woody organic material

Use and Management Considerations

Cropland

- These soils are unsuited to cropland.

Pasture

- These soils are unsuited to pastureland.

Woodland

- Ponding 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 and may create unsafe conditions for log trucks.

Building sites

- Because of ponding, these soils are limited for building site development.
- Because of subsidence, these soils are unsuited to building site development.

Septic tank absorption fields

- Because of ponding, these soils are limited for 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

- Ponding affects the ease of excavation and grading and limits the bearing capacity of these soils.
- Subsidence of the organic material reduces the bearing capacity of these soils.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7w
Virginia soil management group: PP
Hydric soils: Yes

37—Rappahannock muck, 0 to 1 percent slopes, very frequently flooded

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Tidal marsh on a coastal plain (fig. 6)
Elevation: 0 to 3 feet

Figure 6.—An area of tidally influenced Rappahannock muck, 0 to 1 percent slopes, very frequently flooded, which acts as a filter by trapping sediment, nutrients, and pollutants.

Map Unit Composition

Rappahannock and similar soils: Typically 95 percent; ranging from about 85 to 100 percent

Representative Profile

Organic layer:
0 to 16 inches—very dark grayish brown muck
16 to 30 inches—very dark gray muck
30 to 41 inches—very dark brown muck

Substratum:
41 to 63 inches—very dark gray mucky silty clay loam

Organic layer:
63 to 75 inches—black muck

Substratum:
75 to 80 inches—very dark grayish brown sandy loam

Minor Components

Similar components:
- Pocaty soils, which are very poorly drained and have organic layers that are thicker than those of the Rappahannock soil; in similar areas

Soil Properties and Qualities

Available water capacity: Very high (about 13.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.20 in/hr)
Drainage class: Very poorly drained
Depth to seasonal water saturation: About 0 to 12 inches
Water table (kind): Apparent
Flooding hazard: Very frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Negligible
Parent material: Herbaceous organic material over sandy marine deposits

Use and Management Considerations

Cropland

- This soil is unsuited to cropland.

Woodland

- Flooding may result in damage to 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 and may create unsafe conditions for log trucks.

Building sites

- Flooding is a limitation affecting building site development.
- Because of subsidence, this soil is unsuited to building site development.

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.
- Subsidence of the organic material reduces the bearing capacity of this soil.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 8w
Virginia soil management group: PP
Hydric soil: Yes

38—Tetotum fine sandy loam, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace and stream terrace on a coastal plain
Elevation: 3 to 23 feet

Map Unit Composition

Tetotum and similar soils: Typically 90 percent; ranging from about 75 to 95 percent

Representative Profile

Surface layer:
0 to 10 inches—brown loam

Subsoil:
10 to 15 inches—yellowish brown loam
15 to 20 inches—yellowish brown clay loam
20 to 26 inches—yellowish brown clay loam; strong brown masses of oxidized iron
26 to 36 inches—yellowish brown clay loam; light brownish gray and pale brown iron depletions and strong brown masses of oxidized iron
36 to 58 inches—yellowish brown, pale brown, and strong brown loam; light brownish gray iron depletions

Substratum:
58 to 70 inches—pale brown and reddish yellow loamy sand; light brownish gray iron depletions

Minor Components

Dissimilar components:
- Munden soils, which are moderately well drained and have less clay and silt than the Tetotum soil; in similar areas

Similar components:
- Chesapeake soils, which are moderately well drained and have less than 30 percent silt in the subsoil; in similar areas

Soil Properties and Qualities

Available water capacity: Moderate (about 7.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Loamy alluvium and/or loamy marine deposits

Use and Management Considerations

Cropland

- This soil is well suited to the production of corn, soybeans, and wheat and moderately suited to the production of alfalfa hay.

Pasture

- This soil is well suited to pasture.

Woodland

Suitability: Well suited to loblolly pine; poorly suited to southern red oak and sweetgum
- Soil wetness may limit the use of log trucks.
- 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.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

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

39—Tetotum-Urban land complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain and stream terrace on coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Tetotum soil intermingled with areas of Urban land.

Tetotum and similar soils: Typically 65 percent; ranging from about 50 to 85 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent

Representative Profile

Tetotum

Surface layer:
0 to 10 inches—brown loam

Subsoil:
10 to 15 inches—yellowish brown loam
15 to 20 inches—yellowish brown clay loam
20 to 26 inches—yellowish brown clay loam; strong brown masses of oxidized iron
26 to 36 inches—yellowish brown clay loam; light brownish gray and pale brown iron depletions and strong brown masses of oxidized iron
36 to 58 inches—yellowish brown, pale brown, and strong brown loam; light brownish gray iron depletions

Substratum:
58 to 70 inches—pale brown and reddish yellow loamy sand; light brownish gray iron depletions

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.

Minor Components

Dissimilar components:
- Munden soils, which are moderately well drained and have less clay and silt than the Tetotum soil; in similar areas

Similar components:
- Chesapeake soils, which are moderately well drained and have less than 30 percent silt in the subsoil; in similar areas

Properties and Qualities of the Tetotum Soil

Available water capacity: Moderate (about 7.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 18 to 30 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Loamy alluvium and/or loamy marine deposits

Use and Management Considerations for the Tetotum Soil

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Tetotum—2w; Urban land—8s
Virginia soil management group: Tetotum—K; Urban land—none assigned
Hydric soils: Tetotum—no; Urban land—not rated

40—Tetotum-Urban land-Chesapeake complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace and stream terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Tetotum and Chesapeake soils intermingled with areas of Urban land.

Tetotum and similar soils: Typically 40 percent; ranging from about 20 to 60 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent
Chesapeake and similar soils: Typically 25 percent; ranging from about 15 to 40 percent

Representative Profile

Tetotum

Surface layer:
0 to 10 inches—brown loam

Subsoil:
10 to 15 inches—yellowish brown loam
15 to 20 inches—yellowish brown clay loam
20 to 26 inches—yellowish brown clay loam; strong brown masses of oxidized iron
26 to 36 inches—yellowish brown clay loam; light brownish gray and pale brown iron depletions and strong brown masses of oxidized iron
36 to 58 inches—yellowish brown, pale brown, and strong brown loam; light brownish gray iron depletions

Substratum:
58 to 70 inches—pale brown and reddish yellow loamy sand; light brownish gray iron depletions

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.

Chesapeake

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

Subsoil:
7 to 28 inches—dark yellowish brown sandy clay loam
28 to 52 inches—strong brown sandy loam
52 to 58 inches—yellowish brown loamy sand

Substratum:
58 to 65 inches—brownish yellow sand

Minor Components

Dissimilar components:
- Munden soils, which are moderately well drained and have less clay and silt than the Tetotum soil; in similar areas

Similar components:
- Yeopim soils, which are moderately well drained and have more silt than the Tetotum soil; in similar areas

Properties and Qualities of the Tetotum and Chesapeake Soils

Available water capacity: Tetotum—moderate (about 7.1 inches); Chesapeake—moderate (about 6.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Tetotum—moderately well drained; Chesapeake—well drained
Depth to seasonal water saturation: Tetotum—about 18 to 30 inches; Chesapeake—about 48 to 72 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Tetotum—very low; Chesapeake—low
Parent material: Loamy alluvium and/or loamy marine deposits

Use and Management Considerations for the Tetotum and Chesapeake Soils

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and may result in pollution of the water table.

Local roads and streets

- This map unit is well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Tetotum—2w; Urban land—8s; Chesapeake—1
Virginia soil management group: Tetotum—K; Urban land—none assigned; Chesapeake—B
Hydric soils: Tetotum and Chesapeake—no; Urban land—not rated

41—Tomotley fine sandy loam, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Tomotley and similar soils: Typically 90 percent; ranging from about 85 to 95 percent

Representative Profile

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron
23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

Minor Components

Dissimilar components:
- Pasquotank soils, which are poorly drained and have more silt and less clay than the Tomotley soil; in similar areas

Similar components:
- Deloss soils, which are very poorly drained; in similar areas
- Nimmo soils, which are poorly drained and have less clay than the Tomotley soil; in similar areas

Soil Properties and Qualities

Available water capacity: Moderate (about 7.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
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: Low
Runoff class: Negligible
Parent material: Loamy marine deposits

Use and Management Considerations

Note: Areas of this map unit are used for agricultural purposes, but soil wetness is a management concern (fig. 7).

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.
- Artificial drainage has been applied in some areas in an effort to increase the yields of locally grown crops.

Pasture

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

Figure 7.—Hoe ditches that drain surface water from an area of the poorly drained Tomotley fine sandy loam, 0 to 1 percent slopes.

Woodland

Suitability: Well suited to loblolly pine
- Soil wetness may limit the use of log trucks.
- 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.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: 4w
Virginia soil management group: C
Hydric soil: Yes

42—Tomotley-Bertie complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Tomotley and similar soils: Typically 60 percent; ranging from about 40 to 85 percent
Bertie and similar soils: Typically 35 percent; ranging from about 15 to 50 percent

Representative Profile

Tomotley

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron
23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

Bertie

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

Subsoil:
5 to 8 inches—light olive brown loam; dark grayish brown iron depletions
8 to 15 inches—light olive brown loam; light olive brown masses of oxidized iron
15 to 23 inches—light olive brown loam; yellowish brown masses of oxidized iron and gray iron depletions
23 to 31 inches—gray sandy loam; light olive brown and strong brown masses of oxidized iron

Substratum:
31 to 43 inches—gray loamy sand; light olive brown and yellowish brown masses of oxidized iron
43 to 60 inches—light yellowish brown sand; gray iron depletions

Minor Components

Dissimilar components:
- Chapanoke soils, which are somewhat poorly drained and have more silt than the Tomotley and Bertie soils; in the slightly higher areas

Similar components:
- Nimmo soils, which are poorly drained and have less clay than the Tomotley and Bertie soils; in similar areas

Soil Properties and Qualities

Available water capacity: Tomotley—moderate (about 7.4 inches); Bertie—moderate (about 6.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Tomotley—poorly drained; Bertie—somewhat poorly drained
Depth to seasonal water saturation: Tomotley—about 0 to 12 inches; Bertie—about 12 to 24 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Tomotley—very low; Bertie—low
Parent material: Loamy marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited
- 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
- Soil wetness may limit the use of log trucks.
- These soils are well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and 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.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: Tomotley—4w; Bertie—3w
Virginia soil management group: Tomotley—C; Bertie—J
Hydric soils: No

43—Tomotley-Deloss complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Tomotley and similar soils: Typically 55 percent; ranging from about 40 to 70 percent
Deloss and similar soils: Typically 40 percent; ranging from about 25 to 55 percent

Representative Profile

Tomotley

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron
23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

Deloss

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

Subsurface layer:
10 to 17 inches—dark grayish brown fine sandy loam

Subsoil:
17 to 31 inches—gray sandy clay loam; red masses of oxidized iron
31 to 39 inches—dark gray fine sandy loam; dark red and red masses of oxidized iron
39 to 60 inches—gray fine sandy loam; dark red iron-manganese concretions and brownish yellow masses of oxidized iron

Substratum:
60 to 75 inches—greenish gray fine sandy loam; red masses of oxidized iron

Minor Components

Similar components:
- Nimmo soils, which are poorly drained and have less clay than the Tomotley and Deloss soils; in similar areas

Soil Properties and Qualities

Available water capacity: Tomotley—moderate (about 7.4 inches); Deloss—moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)

Figure 8.—Soybeans in an area of the poorly drained Tomotley-Deloss complex, 0 to 1 percent slopes.

Drainage class: Tomotley—poorly drained; Deloss—very 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: Low
Runoff class: Negligible
Parent material: Loamy marine deposits

Use and Management Considerations

Note: Areas of this map unit are used for agricultural purposes, but natural drainage is a management concern (fig. 8).

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Soil crusting decreases water infiltration and interferes with the emergence of seedlings.
- Artificial drainage has been applied in some areas in an effort to increase the yields of locally grown crops.

Pasture

Suitability: Well suited
- 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
- These soils are 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.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and may result in pollution of the water table.

Local roads and streets

- These soils are well suited to local roads and streets.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: 4w
Virginia soil management group: C
Hydric soils: Yes

44—Tomotley-Deloss-Urban land complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Tomotley and Deloss soils intermingled with areas of Urban land.

Tomotley and similar soils: Typically 40 percent; ranging from about 30 to 60 percent
Deloss and similar soils: Typically 35 percent; ranging from about 20 to 60 percent
Urban land: Typically 23 percent; ranging from about 15 to 60 percent

Representative Profile

Tomotley

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron

23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

Deloss

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

Subsurface layer:
10 to 17 inches—dark grayish brown fine sandy loam

Subsoil:
17 to 31 inches—gray sandy clay loam; red masses of oxidized iron
31 to 39 inches—dark gray fine sandy loam; dark red and red masses of oxidized iron
39 to 60 inches—gray fine sandy loam; dark red iron-manganese concretions and brownish yellow masses of oxidized iron

Substratum:
60 to 75 inches—greenish gray fine sandy loam; red masses of oxidized iron

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.

Minor Components

Similar components:
- Nimmo soils, which are poorly drained and have less clay than the Tomotley and Deloss soils; in similar areas

Properties and Qualities of the Tomotley and Deloss Soils

Available water capacity: Tomotley—moderate (about 7.4 inches); Deloss—moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Tomotley—poorly drained; Deloss—very 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: Low
Runoff class: Negligible
Parent material: Loamy marine deposits

Use and Management Considerations for the Tomotley and Deloss Soils

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Tomotley and Deloss—4w; Urban land—8s
Virginia soil management group: Tomotley and Deloss—C; Urban land—none assigned
Hydric soils: Tomotley and Deloss—yes; Urban land—not rated

45—Tomotley-Nimmo complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Tomotley and similar soils: Typically 78 percent; ranging from about 60 to 90 percent
Nimmo and similar soils: Typically 20 percent; ranging from about 10 to 40 percent

Representative Profile

Tomotley

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron
23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

Nimmo

Surface layer:
0 to 7 inches—dark gray loam

Subsoil:
7 to 14 inches—gray fine sandy loam; yellowish brown masses of oxidized iron
14 to 25 inches—gray loam; yellowish brown masses of oxidized iron
25 to 33 inches—gray fine sandy loam; yellowish brown masses of oxidized iron

Substratum:
33 to 60 inches—light gray fine sand; yellowish brown masses of oxidized iron

Minor Components

Similar components:
- Bertie soils, which are somewhat poorly drained and have more clay than the Nimmo soil; in the slightly higher areas

Soil Properties and Qualities

Available water capacity: Tomotley—moderate (about 7.4 inches); Nimmo—moderate (about 7.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
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: Low
Runoff class: Negligible
Parent material: Tomotley—loamy marine deposits; Nimmo—sandy and loamy alluvium or sandy and loamy marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited
- 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
- Soil wetness may limit the use of log trucks.
- These soils are well suited to haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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.

Figure 9.—An area of Tomotley-Urban land complex, 0 to 1 percent slopes. In densely developed urban areas, such as this, storm water causes management concerns.

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: Tomotley—4w; Nimmo—3w
Virginia soil management group: Tomotley—C; Nimmo—E
Hydric soils: Yes

46—Tomotley-Urban land complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Tomotley soil intermingled with areas of Urban land (fig. 9).

Tomotley and similar soils: Typically 65 percent; ranging from about 50 to 80 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent

Representative Profile

Tomotley

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron
23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

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.

Minor Components

Dissimilar components:
- Pasquotank soils, which are poorly drained and have less clay and more silt than the Tomotley soil; in similar areas

Similar components:
- Deloss soils, which are very poorly drained; in similar areas
- Nimmo soils, which are poorly drained and have less clay than the Tomotley soil; in similar areas

Properties and Qualities of the Tomotley Soil

Available water capacity: Moderate (about 7.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
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: Low
Runoff class: Negligible
Parent material: Loamy marine deposits

Use and Management Considerations for the Tomotley Soil

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Tomotley—4w; Urban land—8s
Virginia soil management group: Tomotley—C; Urban land—none assigned
Hydric soils: Tomotley—yes; Urban land—not rated

47—Tomotley-Urban land-Bertie complex, 0 to 2 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Tomotley and Bertie soils intermingled with areas of Urban land.

Tomotley and similar soils: Typically 40 percent; ranging from about 25 to 70 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent
Bertie and similar soils: Typically 25 percent; ranging from about 15 to 50 percent

Representative Profile

Tomotley

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron
23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

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.

Bertie

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

Subsoil:
5 to 8 inches—light olive brown loam; dark grayish brown iron depletions
8 to 15 inches—light olive brown loam; light olive brown masses of oxidized iron

15 to 23 inches—light olive brown loam; yellowish brown masses of oxidized iron and gray iron depletions
23 to 31 inches—gray sandy loam; light olive brown and strong brown masses of oxidized iron

Substratum:
31 to 43 inches—gray loamy sand; light olive brown and yellowish brown masses of oxidized iron
43 to 60 inches—light yellowish brown sand; gray iron depletions

Minor Components

Dissimilar components:
- Chapanoke soils, which are somewhat poorly drained and have more silt than the Tomotley and Bertie soils; in the slightly higher areas

Similar components:
- Nimmo soils, which are poorly drained and have less clay than the Tomotley and Bertie soils; in similar areas

Properties and Qualities of the Tomotley and Bertie Soils

Available water capacity: Tomotley—moderate (about 7.4 inches); Bertie—moderate (about 6.7 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Tomotley—poorly drained; Bertie—somewhat poorly drained
Depth to seasonal water saturation: Tomotley—about 0 to 12 inches; Bertie—about 12 to 24 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Tomotley—very low; Bertie—low
Parent material: Loamy marine deposits

Use and Management Considerations for the Tomotley and Bertie Soils

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Tomotley—4w; Urban land—8s; Bertie—3w
Virginia soil management group: Tomotley—C; Urban land—none assigned; Bertie—J
Hydric soils: Tomotley—yes; Urban land—not rated; Bertie—no

48—Tomotley-Urban land-Nimmo complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Tomotley and Nimmo soils intermingled with areas of Urban land.

Tomotley and similar soils: Typically 55 percent; ranging from about 40 to 75 percent
Urban land: Typically 30 percent; ranging from about 15 to 60 percent
Nimmo and similar soils: Typically 13 percent; ranging from about 10 to 20 percent

Representative Profile

Tomotley

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron
23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

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.

Nimmo

Surface layer:
0 to 7 inches—dark gray loam

Subsoil:
7 to 14 inches—gray fine sandy loam; yellowish brown masses of oxidized iron
14 to 25 inches—gray loam; yellowish brown masses of oxidized iron
25 to 33 inches—gray fine sandy loam; yellowish brown masses of oxidized iron

Substratum:
33 to 60 inches—light gray fine sand; yellowish brown masses of oxidized iron

Minor Components

Similar components:
- Bertie soils, which are somewhat poorly drained and have more clay than the Nimmo soil; in the slightly higher areas

Properties and Qualities of the Tomotley and Nimmo Soils

Available water capacity: Tomotley—moderate (about 7.4 inches); Nimmo—moderate (about 7.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
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: Low
Runoff class: Negligible
Parent material: Tomotley—loamy marine deposits; Nimmo—sandy and loamy alluvium or sandy and loamy marine deposits

Use and Management Considerations for the Tomotley and Nimmo Soils

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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 and may result in pollution of the water table.

Local roads and streets

- This map unit well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Tomotley—4w; Urban land—8s; Nimmo—3w
Virginia soil management group: Tomotley—C; Urban land—none assigned; Nimmo—E
Hydric soils: Tomotley and Nimmo—yes; Urban land—not rated

49—Udorthents-Urban land complex, 0 to 45 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Fill areas and urban land on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Udorthents: Typically 70 percent; ranging from about 50 to 90 percent
Urban land: Typically 25 percent; ranging from about 10 to 50 percent

Representative Profile

Udorthents

Udorthents consist of areas of soil material that has been disturbed by excavation and other earthmoving activities. Because of the variability of the soil material, a representative profile is not given.

Urban land

Urban land consists of areas covered by asphalt roadways or parking lots, concrete structures, buildings, and other impervious surfaces. A representative profile is not given due to the variability of materials.

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 class: None assigned
Virginia soil management group: None assigned
Hydric soils: No

50—Urban land, 0 to 5 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Urban land on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Urban land: Typically 90 percent; ranging from about 60 to 100 percent

Representative Profile

Urban land includes buildings and areas of pavement. It is covered by asphalt roadways or parking lots, concrete structures, buildings, and other impervious surfaces. A representative profile is not given due to the variability of materials.

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 class: None assigned
Virginia soil management group: None assigned
Hydric soils: No

51E—Urban land-Conetoe-Chesapeake-Tetotum complex, 2 to 40 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)

Landform: Urban land and marine terrace on a coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Conetoe, Chesapeake, and Tetotum soils intermingled with areas of Urban land.

Urban land: Typically 31 percent; ranging from about 15 to 60 percent
Conetoe and similar soils: Typically 29 percent; ranging from about 14 to 45 percent
Chesapeake and similar soils: Typically 20 percent; ranging from about 10 to 30 percent
Tetotum and similar soils: Typically 15 percent; ranging from about 10 to 25 percent

Representative Profile

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. A representative profile is not given due to the variability of the materials.

Conetoe

Surface layer:
0 to 8 inches—grayish brown loamy sand

Subsurface layer:
8 to 25 inches—light yellowish brown loamy sand

Subsoil:
25 to 28 inches—yellowish brown sandy loam
28 to 41 inches—strong brown sandy loam
41 to 48 inches—strong brown loamy sand

Substratum:
48 to 57 inches—reddish yellow sand
57 to 90 inches—very pale brown sand

Chesapeake

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

Subsoil:
7 to 28 inches—dark yellowish brown sandy clay loam
28 to 52 inches—strong brown sandy loam
52 to 58 inches—yellowish brown loamy sand

Substratum:
58 to 65 inches—brownish yellow sand

Tetotum

Surface layer:
0 to 10 inches—brown loam

Subsoil:
10 to 15 inches—yellowish brown loam
15 to 20 inches—yellowish brown clay loam
20 to 26 inches—yellowish brown clay loam; strong brown masses of oxidized iron
26 to 36 inches—yellowish brown clay loam; light brownish gray and pale brown iron depletions and strong brown masses of oxidized iron

36 to 58 inches—yellowish brown, pale brown, and strong brown loam; light brownish gray iron depletions

Substratum:
58 to 70 inches—pale brown and reddish yellow loamy sand; light brownish gray iron depletions

Minor Components

Dissimilar components:
- Acredale soils, which are poorly drained and have more silt than the Conetoe, Chesapeake, and Tetotum soils; in the lower areas
- Nimmo soils, which are poorly drained and have more sand than the Conetoe, Chesapeake, and Tetotum soils; in the lower areas
- Pactolus soils, which are moderately well drained and are sandy throughout; in similar areas

Properties and Qualities of the Conetoe, Chesapeake, and Tetotum Soils

Available water capacity: Conetoe—low (about 6.0 inches); Chesapeake—moderate (about 6.8 inches); Tetotum—moderate (about 7.1 inches)
Slowest saturated hydraulic conductivity: Conetoe—high (about 1.98 in/hr); Chesapeake and Tetotum—moderately high (about 0.57 in/hr)
Drainage class: Conetoe and Chesapeake—well drained; Tetotum—moderately well drained
Depth to seasonal water saturation: Conetoe—more than 6 feet; Chesapeake—about 48 to 72 inches; Tetotum—about 18 to 30 inches
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Conetoe and Chesapeake—low; Tetotum—medium
Parent material: Conetoe—loamy and sandy alluvium or marine deposits; Chesapeake and Tetotum—loamy alluvium and marine deposits

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 class: Urban land—8s; Conetoe—6e; Chesapeake—1; Tetotum—2e
Virginia soil management group: Urban land—none assigned; Conetoe—DD; Chesapeake—B; Tetotum—K
Hydric soils: Urban land—not rated; Conetoe, Chesapeake, and Tetotum—no

52—Urban land-Deloss-Tomotley-Nimmo complex, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Urban land on coastal plain
Elevation: 3 to 26 feet

Map Unit Composition

Note: This map unit consists of areas of the native, undisturbed Deloss, Tomotley, and Nimmo soils intermingled with areas of Urban land.

Urban land: Typically 31 percent; ranging from about 15 to 60 percent
Deloss and similar soils: Typically 29 percent; ranging from about 10 to 50 percent
Tomotley and similar soils: Typically 20 percent; ranging from about 10 to 35 percent
Nimmo and similar soils: Typically 15 percent; ranging from about 10 to 30 percent

Representative Profile

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.

Deloss

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

Subsurface layer:
10 to 17 inches—dark grayish brown fine sandy loam

Subsoil:
17 to 31 inches—gray sandy clay loam; red masses of oxidized iron
31 to 39 inches—dark gray fine sandy loam; dark red and red masses of oxidized iron
39 to 60 inches—gray fine sandy loam; dark red iron-manganese concretions and brownish yellow masses of oxidized iron

Substratum:
60 to 75 inches—greenish gray fine sandy loam; red masses of oxidized iron

Tomotley

Surface layer:
0 to 8 inches—very dark grayish brown fine sandy loam

Subsurface layer:
8 to 10 inches—light brownish gray fine sandy loam; common dark gray mottles

Subsoil:
10 to 23 inches—gray sandy clay loam; strong brown and yellowish brown masses of oxidized iron
23 to 40 inches—gray sandy clay loam; strong brown, yellowish brown, and red masses of oxidized iron
40 to 50 inches—light gray fine sandy loam; strong brown and yellowish brown masses of oxidized iron

Substratum:
50 to 60 inches—light gray loamy fine sand; light yellowish brown and strong brown masses of oxidized iron

Nimmo

Surface layer:
0 to 7 inches—dark gray loam

Subsoil:
7 to 14 inches—gray fine sandy loam; yellowish brown masses of oxidized iron
14 to 25 inches—gray loam; yellowish brown masses of oxidized iron
25 to 33 inches—gray fine sandy loam; yellowish brown masses of oxidized iron

Substratum:
33 to 60 inches—light gray fine sand; yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Gertie soils, which are poorly drained and have more clay than the Deloss and Tomotley soils; in similar areas
- Bertie soils, which are somewhat poorly drained and have more clay than the Nimmo soil; in the higher areas
- Dragston soils, which are somewhat poorly drained and have less clay than the Deloss and Tomotley soils; in similar areas

Properties and Qualities of the Deloss, Tomotley, and Nimmo Soils

Available water capacity: Deloss—moderate (about 7.9 inches); Tomotley—moderate (about 7.4 inches); Nimmo—moderate (about 7.8 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Deloss—very poorly drained; Tomotley and Nimmo—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: Low
Runoff class: Negligible
Parent material: Deloss and Tomotley—loamy marine deposits; Nimmo—sandy and loamy alluvium or sandy and loamy marine deposits

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 class: Urban land—8s; Deloss and Tomotley—4w; Nimmo—3w
Virginia soil management group: Urban land—none assigned; Deloss and Tomotley—C; Nimmo—E
Hydric soils: Urban land—not rated; Deloss, Tomotley, and Nimmo—yes

53—Wando loamy fine sand, 0 to 3 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Dune on a coastal plain
Elevation: 3 to 23 feet

Map Unit Composition

Wando and similar soils: Typically 85 percent; ranging from about 70 to 95 percent

Representative Profile

Surface layer:
0 to 3 inches—brown loamy fine sand

Substratum:
3 to 30 inches—light yellowish brown fine sand
30 to 79 inches—brownish yellow fine sand

Minor Components

Dissimilar components:
- Nimmo and Tomotley soils, which are poorly drained and have more clay throughout than the Wando soil; in the lower areas
- Munden soils, which are moderately well drained and have more clay throughout than the Wando soil; in the slightly lower areas

Similar components:
- Pactolus soils, which are moderately well drained; in the slightly lower areas
- Bojac soils, which are well drained and have more clay throughout than the Wando soil; in similar areas

Soil Properties and Qualities

Available water capacity: Low (about 3.4 inches)
Slowest saturated hydraulic conductivity: High (about 5.95 in/hr)
Drainage class: Well drained
Depth to seasonal water saturation: About 48 to 79 inches
Water table (kind): Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very low
Parent material: Sandy eolian deposits

Use and Management Considerations

Cropland

Suitability: Poorly suited to corn, soybeans, and wheat; not suited to alfalfa hay
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Because of the limited available water capacity, plants may suffer from moisture stress.
- Sandy or coarse textured layers accelerate the rate at which plant nutrients are leached.
- Soil crusting decreases water infiltration and interferes with the emergence of seedlings.

Pasture

Suitability: Moderately suited
- Because of the limited available water capacity, plants may suffer from moisture stress during the drier summer months.

Woodland

Suitability: Poorly suited to loblolly pine
- Coarse textured layers may slough, thus reducing the efficiency of mechanical planting equipment.
- Coarse textured layers increase the maintenance of haul roads and log landings.
- This soil is well suited to equipment operations.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

Septic tank absorption fields

- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may result in pollution of the water table.

Local roads and streets

- This soil is well suited to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3s
Virginia soil management group: II
Hydric soil: No

54—Weeksville mucky silt loam, 0 to 1 percent slopes

Setting

Major land resource area: Tidewater Area (MLRA 153B)
Landform: Marine terrace on a coastal plain
Elevation: 10 to 13 feet

Map Unit Composition

Weeksville and similar soils: Typically 85 percent; ranging from about 80 to 95 percent

Representative Profile

Surface layer:
0 to 6 inches—very dark grayish brown silt loam
6 to 18 inches—very dark gray silt loam
18 to 22 inches—dark gray silt loam

Subsoil:
22 to 42 inches—gray loam; light gray iron depletions and strong brown masses of oxidized iron

Substratum:
42 to 50 inches—gray fine sandy loam; yellowish brown and pale brown masses of oxidized iron
50 to 56 inches—light gray sandy loam; strong brown, yellowish red, and yellowish brown masses of oxidized iron
56 to 72 inches—light gray sand; pale brown masses of oxidized iron

Minor Components

Dissimilar components:
- Deloss soils, which are very poorly drained and have more clay than the Weeksville soil; in similar areas

Similar components:
- Hyde soils, which are very poorly drained and have more clay than the Weeksville soil; in similar areas
- Pasquotank soils, which are poorly drained; on flats and in depressions

Soil Properties and Qualities

Available water capacity: High (about 10.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Drainage class: Very 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: Low
Runoff class: Negligible
Parent material: Silty marine deposits

Use and Management Considerations

Cropland

Suitability: Well suited to corn, soybeans, and wheat; poorly suited to alfalfa hay
- The risk of compaction increases when the soil is wet.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

Pasture

Suitability: Well suited
- 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
- Soil wetness may limit the use of log trucks.
- The low soil strength interferes with the construction of haul roads and log landings and may create unsafe conditions for log trucks.

Building sites

- The seasonal high water table may restrict the period when excavations can be made.
- Because of the high content of sand or gravel, sloughing is increased and cutbanks are more susceptible to caving.

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

Interpretive Groups

Prime farmland: Prime farmland if drained
Land capability class: 4w
Virginia soil management group: C
Hydric soil: Yes

W—Water

This map unit is in the Tidewater Area Major Land Resource Area (153B). Areas of this map unit include ponds, lakes, streams, waterways, reservoirs, bays, and estuaries.

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; and for agricultural waste management. 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.

Effective pasture management practices include maintaining a mixture of grasses and legumes, rotating pasture, deferring grazing, controlling undesirable vegetation, and using proper stocking rates.

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, parts I and II. 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 VALUES—the Virginia Agronomic Land Use Evaluation System *(21)*. 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 and inorganic forms should be done according to 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 table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

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 capability class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by 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 used to rank soils for management and productivity *(21)*. 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 the City of Chesapeake.

Group B. The soils in this group formed in alluvial parent materials and are on nearly level or gently sloping flood plains or stream terraces on the coastal plain. These soils are very deep and have loamy textures throughout. They have a high available water capacity and are well drained or moderately well drained.

Group C. The soils in this group formed in alluvium or coastal plain sediments on terraces and broad coastal plain landscapes. They have loamy to silty textures throughout and have a high available water capacity. They are poorly drained, unless artificial drainage is provided. Artificial drainage significantly increases the productive capacity of these soils.

Group E. The soils in this group formed in sandy coastal plain sediments on low terraces, in depressions, or on flats where surface drainage is restricted. These soils are very deep, have coarse-loamy textures throughout, and typically have a high water table during some part of the growing season. They have a high available water capacity and are poorly drained.

Group F. The soils in this group formed in coarse textured coastal plain sediments and are in low-lying landscape positions underlain by stratified loamy sediments. These soils are very deep and have coarse-loamy textures throughout. They have a moderate or high available water capacity and are somewhat poorly drained.

Group H. The soils in this group formed in fine textured marine sediments on the coastal plain. They have a moderately high available water capacity. They are somewhat poorly drained or poorly drained, unless artificial drainage is provided. Artificial drainage significantly increases the productive capacity of these soils.

Group J. The soils in this group formed in coastal plain sediments and are in low-lying landscape positions underlain by stratified loamy sediments. These soils are very deep and have loamy subsurface layers. They have a moderately high available water capacity and are moderately well drained or somewhat poorly drained.

Group K. The soils in this group formed from mixed marine and fluvial sediments on the coastal plain. They are on landscapes that range from stream terraces to broad, nearly level interfluves on uplands. These soils are very deep and have loamy surface layers and clay loam to clayey subsurface layers. They have a moderate available water capacity and are somewhat poorly drained.

Group T. The soils in this group formed from loamy coastal plain sediments on uplands and streams terraces. These soils have fine-loamy subsurface textures that are commonly underlain by coarser sediments. They have a moderate available water capacity and are well drained.

Group DD. The soils in this group formed from loamy coastal plain sediments and local alluvium and are on gently sloping uplands and stream terraces. These soils are very deep and have coarse-loamy subsurface layers. Some of the soils in this group have arenic or very thick sandy surface layers. The soils have a moderately low available water capacity and are excessively drained.

Group EE. The soils in this group formed from loamy coastal plain sediments and are in low-lying landscape positions. These soils are very deep and have sandy to coarse-loamy subsurface layers. They typically have a high water table during some part of the year. These soils have a low or moderately low available water capacity and are poorly drained or very poorly drained.

Group II. The soils in this group formed in sandy coastal plain sediments. They are very deep, have sandy layers throughout, and have a very low or low available water capacity. These soils are moderately well drained to excessively drained.

Group PP. The soils in this group formed in alluvium in marshes and tidal wetlands. They are very deep and have a combination of organic, clayey, or sulfidic material layers. They have water tables at or near the soil surface and are saturated most of the time. These soils are poorly drained or very 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 123,212 acres in the survey area, or nearly 53 percent of the total acreage, meets the requirement for prime farmland.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

For some soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

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.

Map units in table 7 contain at least one component that meets 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)*.

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 units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

10	Bojac-Urban land-Wando complex, 0 to 3 percent slopes
11	Chapanoke-Yeopim complex, 0 to 3 percent slopes
14E	Conetoe-Chesapeake-Tetotum complex, 2 to 40 percent slopes
19	Dragston fine sandy loam, 0 to 2 percent slopes
20	Dragston-Tomotley complex, 0 to 2 percent slopes
21	Dragston-Urban land complex, 0 to 2 percent slopes
25	Munden fine sandy loam, 0 to 2 percent slopes
26C	Munden loamy fine sand, 2 to 8 percent slopes
27	Munden-Urban land complex, 0 to 2 percent slopes
28C	Munden-Urban land complex, 2 to 8 percent slopes
29	Munden-Urban land-Pactolus complex, 0 to 3 percent slopes
31	Pactolus loamy fine sand, 0 to 3 percent slopes

35C	Psamments, 0 to 10 percent slopes
42	Tomotley-Bertie complex, 0 to 2 percent slopes
49	Udorthents-Urban land complex, 0 to 45 percent slopes
50	Urban land, 0 to 5 percent slopes
51E	Urban land-Conetoe-Chesapeake-Tetotum complex, 2 to 40 percent slopes
53	Wando loamy fine sand, 0 to 3 percent slopes

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 8, 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.

Forestland Productivity

In table 9, 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 10, 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.

Proper planning for timber harvesting is essential to minimize the potential impact to soil and water quality. A harvest plan should include logging roads, log decks, streamside management zones, stream crossings, skid trails, schedule of activities, and Best Management Practices (BMP's) for each activity. Forests should be managed to increase economic and environmental benefits. A forest stewardship plan should be developed to guide management and utilization of the woodlands.

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

In table 11, 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 12, 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 13, 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 14, 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 14, 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 14, 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 15 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 16 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.

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 17 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

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

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

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

Saturated hydraulic conductivity 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 18 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.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

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

Water Features

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

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

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

Water table refers to a saturated zone in the soil. The table indicates, by month, depth to the top *(upper limit)* and base *(lower limit)* of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely 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 20 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

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 21 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, thermic Typic Hapludults.

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

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, or representative, of the series in the survey area is described. Soil properties of representative profiles are within the range of characteristics of the series. 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.

Acredale Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Fine-silty marine deposits
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately low
Slope range: 0 to 1 percent

Associated Soils

- Bertie soils, which are somewhat poorly drained
- Chapanoke soils, which are somewhat poorly drained
- Deloss soils, which are very poorly drained
- Pasquotank soils, which are coarse-silty
- Tomotley soils, which are fine-loamy

Taxonomic Classification

Fine-silty, mixed, active, thermic Typic Endoaqualfs

Representative Pedon

Acredale silt loam; in the City of Virginia Beach, Virginia; approximately 4.5 miles northwest of Princess Anne Road, 1,700 feet south-southwest of the intersection of Lynhaven Parkway and Princess Anne Road:

Ap—0 to 7 inches; grayish brown (10YR 5/2) silt loam; weak fine granular structure; very friable, slightly sticky, slightly plastic; common fine and common very fine roots; common fine and common medium pores; strongly acid; clear smooth boundary.

Btg1—7 to 15 inches; light brownish gray (10YR 6/2) silt loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and common very fine roots; common fine tubular and common very fine vesicular pores; many clay bridges between sand grains; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; abrupt smooth boundary.

Btg2—15 to 35 inches; gray (5Y 5/1) silty clay loam; weak coarse prismatic structure parting to moderate medium and coarse subangular blocky; friable, moderately sticky, moderately plastic; common very fine roots; few fine tubular and few very fine vesicular pores; patchy silt coats and many continuous clay films on all faces of peds; many clay bridges between sand grains; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; clear smooth boundary.

Btg3—35 to 43 inches; light greenish gray (5GY 7/1), dark gray (N 4/0), and yellowish brown (10YR 5/8) silt loam; moderate fine and medium angular blocky and moderate fine and medium subangular blocky structure; friable, moderately sticky, moderately plastic; few very fine roots; few very fine vesicular pores; few discontinuous clay films on all faces of peds; few continuous clay bridges between sand grains; very strongly acid; clear smooth boundary.

2BCg—43 to 50 inches; light greenish gray (5GY 7/1), gray (10YR 6/1), and yellowish brown (10YR 5/8) sandy loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine roots; few very fine vesicular pores; few clay bridges between sand grains; many sand coats; strongly acid; clear wavy boundary.

2Cg—50 to 66 inches; yellowish brown (10YR 5/8), light olive gray (5Y 6/2), and gray (5Y 6/1) sandy loam; massive; very friable; few very fine vesicular pores; many fine mica flakes; moderately acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Reaction: Extremely acid to neutral

Ap horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 or 2
Texture—very fine sandy loam, loam, or silt loam

Btg horizon:
Hue—10YR, 2.5Y 5Y, 5GY, 5G, or neutral; horizon has some high-chroma colors when it is multicolored
Value—3 to 7
Chroma—0 to 2
Texture—loam, silt loam, or silty clay loam

2BCg horizon:
Hue—10YR to 5GY
Value—3 to 7
Chroma—1 or 2
Texture—fine sandy loam, sandy loam, sandy clay loam, loam, or silt loam

2Cg horizon:
Hue—2.5Y or 5Y
Value—5 or 6
Chroma—1 or 2
Texture—fine sand, loamy fine sand, fine sandy loam, sandy loam, silt loam, silty clay loam, silty clay, or clay

Arapahoe Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Coarse-loamy marine deposits
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 1 percent

Associated Soils

- Deloss soils, which are fine-loamy
- Nimmo soils, which are poorly drained
- Portsmouth soils, which are fine-loamy over sandy
- Tomotley soils, which are poorly drained

Taxonomic Classification

Coarse-loamy, mixed, semiactive, nonacid, thermic Typic Humaquepts

Representative Pedon

Arapahoe mucky loamy fine sand; in Pamlico County, North Carolina; 3.2 miles north of Alliance, 1.3 miles north of the intersection of State Road 1200 and State Road 1202, about 0.5 mile north of a farmstead, 50 feet east of the farm road:

Ap—0 to 11 inches; black (10YR 2/1) mucky loamy fine sand; weak medium granular structure; very friable; many fine roots; moderately acid; clear wavy boundary.

A—11 to 17 inches; very dark brown (10YR 2/2) loamy fine sand; weak medium granular structure; very friable; few fine roots; strongly acid; gradual wavy boundary.

Bg1—17 to 21 inches; dark gray (10YR 4/1) fine sandy loam; weak fine subangular blocky structure; very friable; few fine roots; common fine pores; common medium faint grayish brown (10YR 5/2) iron depletions; strongly acid; gradual wavy boundary.

Bg2—21 to 30 inches; dark gray (10YR 4/1) fine sandy loam; weak fine subangular blocky structure; very friable; common fine pores; few medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron and common medium faint gray (10YR 6/1) iron depletions; strongly acid; gradual wavy boundary.

BCg—30 to 42 inches; dark gray (10YR 4/1) fine sandy loam; massive; very friable; common medium faint gray (10YR 6/1) iron depletions and common medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron; slightly acid; gradual wavy boundary.

Cg1—42 to 60 inches; gray (10YR 5/1) loamy fine sand; massive; very friable; neutral; clear smooth boundary.

Cg2—60 to 79 inches; dark greenish gray (5GY 4/1) loamy fine sand; massive; very friable; neutral.

Range in Characteristics

Solum thickness: 25 to 50 inches
Reaction: Extremely acid to slightly alkaline

Ap horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loamy fine sand, very fine sandy loam, or fine sandy loam or their mucky analogues

A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loamy fine sand, very fine sandy loam, or fine sandy loam or their mucky analogues

Bg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—loamy fine sand or fine sandy loam

BCg horizon:
Hue—10YR or 2.5Y

Value—4 to 6
Chroma—1 or 2
Texture—loamy fine sand or fine sandy loam

Cg horizon:
Hue—10YR to 5GY
Value—4 to 7
Chroma—1 or 2
Texture—fine sand or loamy fine sand

Belhaven Series

Physiographic province: Lower Coastal Plain
Landform: Swamps and flood plains on a coastal plain
Parent material: Organic material
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 1 percent

Associated Soils

- Arapahoe soils, which are coarse-loamy
- Dorovan soils, which are very deep to mineral layers
- Portsmouth soils, which are fine-loamy over sandy
- Pungo soils, which are very deep to mineral layers

Taxonomic Classification

Loamy, mixed, dysic, thermic Terric Haplosaprists

Representative Pedon

Belhaven muck; in Washington County, North Carolina; approximately 8 miles south of Roper and 3 miles southeast of Whitehurst's grain elevator on a north slope, 50 feet west of Canal "C", 0.15 mile south of Canal #1:

Oap—0 to 9 inches; black (5YR 2.5/1) muck; 5 percent unrubbed fiber, 1 percent rubbed; moderate fine and medium granular structure; very friable; few fine roots; common sand coats; strongly acid; abrupt smooth boundary.
Oa1—9 to 13 inches; dark reddish brown (5YR 2.5/2) muck; 15 percent unrubbed fiber, 1 percent rubbed; moderate medium subangular blocky structure; friable; few fine and few medium roots; extremely acid; clear smooth boundary.
Oa2—13 to 26 inches; very dusky red (2.5YR 2.5/2) muck; 25 percent unrubbed fiber, 1 percent rubbed; massive parting to moderate medium subangular blocky structure; friable, slightly sticky; few fine and few medium roots; common sand coats; extremely acid; clear smooth boundary.
AC—26 to 32 inches; very dark gray (5YR 3/1) sandy loam; 15 percent unrubbed fiber, 2 percent rubbed; moderate medium granular structure; friable, slightly sticky; common fine and common medium roots; common sand coats; extremely acid; abrupt smooth boundary.
Cg1—32 to 45 inches; dark gray (10YR 4/1) clay loam; 5 percent unrubbed fiber, 1 percent rubbed; massive; firm, moderately sticky, moderately plastic; few medium roots; extremely acid; abrupt smooth boundary.
Cg2—45 to 65 inches; gray (N 5/0) clay loam; massive; firm, slightly sticky, moderately plastic; few medium roots; extremely acid; clear smooth boundary.
Cg3—65 to 72 inches; greenish gray (5GY 6/1) loamy sand; massive; very friable; few fine mica flakes; extremely acid.

Range in Characteristics

Thickness of organic matter: 16 to 51 inches
Reaction: Extremely acid to slightly acid

Oap horizon:
Hue—5YR to 5Y or neutral
Value—2 or 3
Chroma—0 to 2
Texture—sapric material (muck)

Oa horizon:
Hue—5YR to 5Y or neutral
Value—2 or 3
Chroma—0 to 2
Texture—sapric material (muck)

AC horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—1 or 2
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or 5GY or neutral
Value—2 to 6
Chroma—0 to 2
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Bertie Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Fine-loamy marine deposits
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 2 percent

Associated Soils

- Chapanoke soils, which are fine-silty
- Dragston soils, which are coarse-loamy
- Pasquotank soils, which are poorly drained
- Tetotum soils, which are moderately well drained
- Tomotley soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Aeric Endoaquults

Representative Pedon

Bertie sandy loam; in Pasquotank County, North Carolina; approximately 2.5 miles northwest of Morgans Corner, 1.4 miles northwest of the intersection of State Road 1417 and U.S. Highway 158, about 0.95 mile south on Secondary Road 1359, about 800 feet south on a farm path, 100 feet west, in a cultivated field:

Ap—0 to 5 inches; dark grayish brown (2.5Y 4/2) sandy loam; weak medium granular structure; very friable; common fine roots; slightly acid; clear smooth boundary.

Bt1—5 to 8 inches; light olive brown (2.5Y 5/6) loam; weak fine subangular blocky structure; very friable; few fine roots; many medium prominent dark grayish brown (2.5Y 4/2) iron depletions; slightly acid; clear wavy boundary.

Bt2—8 to 15 inches; light olive brown (2.5Y 5/3) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; many medium distinct light olive brown (2.5Y 5/6) masses of oxidized iron; moderately acid; clear wavy boundary.

Bt3—15 to 23 inches; light olive brown (2.5Y 5/3) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron and many medium distinct gray (2.5Y 6/1) iron depletions; moderately acid; clear smooth boundary.

BCg—23 to 31 inches; gray (2.5Y 6/1) sandy loam; weak medium subangular blocky structure; very friable; common medium prominent light olive brown (2.5Y 5/4) and many medium prominent strong brown (7.5YR 5/6) masses of oxidized iron; strongly acid; clear smooth boundary.

Cg1—31 to 43 inches; gray (2.5Y 6/1) loamy sand; weak coarse granular structure; very friable; common medium prominent light olive brown (2.5Y 5/6) and yellowish brown (10YR 5/6) masses of oxidized iron; strongly acid; abrupt smooth boundary.

Cg2—43 to 60 inches; light yellowish brown (2.5Y 6/4) sand; massive; very friable; common medium distinct gray (2.5Y 6/1) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Reaction: Very strongly acid to moderately acid (except in limed areas)

Ap horizon:
Hue—10YR or 2.5Y
Value—3 or 4
Chroma—1 or 2
Texture—loamy fine sand, fine sandy loam, loam, or sandy loam

Bt horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 to 6
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Btg horizon (if it occurs):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

BCg horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

Cg or C horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 to 4
Texture—sand, fine sand, loamy fine sand, fine sandy loam, or loamy sand

Bojac Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Coarse-loamy marine deposits
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Slope range: 0 to 3 percent

Associated Soils

- Chesapeake soils, which are fine-loamy
- Munden soils, which are moderately well drained
- Tetotum soils, which are have a higher content of silt than the Bojac soils
- Wando soils, which are sandier than the Bojac soils

Taxonomic Classification

Coarse-loamy, mixed, semiactive, thermic Typic Hapludults

Representative Pedon

Bojac fine sandy loam; in the City of Virginia Beach, Virginia; about 3,100 feet north-northwest of the junction of Princess Anne Road and Pungo Ferry Road, 900 feet west of Princess Anne Road and 3,000 feet north of Pungo Ferry Road:

Ap—0 to 8 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable, slightly sticky; common fine and common very fine roots; moderately acid; abrupt smooth boundary.

Bt1—8 to 15 inches; strong brown (7.5YR 5/8) fine sandy loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; many clay bridges between sand grains; strongly acid; clear smooth boundary.

Bt2—15 to 32 inches; strong brown (7.5YR 5/6) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and common very fine roots; few discontinuous clay films on all faces of peds; many clay bridges between sand grains; very strongly acid; clear smooth boundary.

Bt3—32 to 38 inches; yellowish brown (10YR 5/8) fine sandy loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine roots; common clay bridges between sand grains; very strongly acid; clear smooth boundary.

C1—38 to 48 inches; brownish yellow (10YR 6/6) loamy fine sand; single grain; loose; few fine roots; many clay bridges between sand grains; strongly acid; clear smooth boundary.

C2—48 to 62 inches; brownish yellow (10YR 6/8) and yellow (10YR 7/8) fine sand; single grain; loose; few very fine roots; moderately acid.

Range in Characteristics

Solum thickness: 30 to 65 inches
Reaction: Extremely acid to slightly acid

Ap horizon:
Hue—10YR or 2.5Y
Value—2 to 4
Chroma—1 to 4
Texture—loamy fine sand, loamy sand, fine sandy loam, or sandy loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6

Chroma—4 to 8
Texture—loam, fine sandy loam, or sandy loam

C horizon:
Hue—7.5YR to 2.5Y
Value—5 to 7
Chroma—4 to 8
Texture—fine sand, sand, loamy sand, loamy fine sand, fine sandy loam, or sandy loam

Chapanoke Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Fine-silty marine deposits
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 3 percent

Associated Soils

- Acredale soils, which are poorly drained
- Bertie soils, which are fine-loamy
- Tomotley soils, which are poorly drained
- Yeopim soils, which are moderately well drained

Taxonomic Classification

Fine-silty, mixed, semiactive, thermic Aeric Endoaquults

Representative Pedon

Chapanoke silt loam; in Perquimans County, North Carolina; approximately 0.4 mile east of the intersection of State Road 1226 and U.S. Highway 17, about 100 feet north of U.S. Highway 17, in a cultivated field:

Ap—0 to 6 inches; grayish brown (2.5Y 5/2) silt loam; weak medium granular structure; friable; few fine and medium roots; moderately acid; clear smooth boundary.
Bt—6 to 12 inches; olive yellow (2.5Y 6/6) loam; weak medium subangular blocky structure; friable, slightly sticky; few fine roots; few faint clay films on all faces of peds; common medium prominent light brownish gray (2.5Y 6/2) iron depletions and common medium prominent brownish yellow (10YR 6/8) masses of oxidized iron; few fine mica flakes; strongly acid; clear smooth boundary.
Btg1—12 to 30 inches; light gray (2.5Y 7/2) silty clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; common medium prominent brownish yellow (10YR 6/8) masses of oxidized iron; common fine mica flakes; strongly acid; clear smooth boundary.
Btg2—30 to 50 inches; gray (2.5Y 6/1) silt loam; weak fine subangular blocky structure; friable; common medium prominent brownish yellow (10YR 6/6) and pale yellow (2.5Y 7/4) masses of oxidized iron; common fine mica flakes; strongly acid; gradual smooth boundary.
Cg—50 to 62 inches; gray (2.5Y 6/1) loamy fine sand; single grain; loose; common medium prominent brownish yellow (10YR 6/6) masses of oxidized iron; common fine mica flakes; strongly acid; gradual smooth boundary.
C—62 to 79 inches; olive yellow (2.5Y 6/6) fine sand; single grain; loose; common medium prominent light brownish gray (10YR 6/2) iron depletions; common fine mica flakes; strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Reaction: Extremely acid to slightly acid

Ap horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 to 3
Texture—loam or silt loam

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—3 to 6
Texture—loam, silt loam, or silty clay loam

Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—loam, silt loam, or silty clay loam

Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—loamy fine sand, fine sandy loam, or loam

C horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture—loamy fine sand, fine sandy loam, loam, or fine sand

Chesapeake Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Fine-loamy marine deposits
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 40 percent

Associated Soils

- Bojac soils, which are coarse-loamy
- Munden soils, which are coarse-loamy
- Tetotum soils, which are have a higher content of silt than the Chesapeake soils

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Hapludults

Representative Pedon

Chesapeake sandy loam; in the City of Chesapeake, Virginia; approximately 300 feet east of the intersection of Mt. Pleasant Road and Lockheed Avenue; NAD83; lat. 36 degrees 42 minutes 46.00 seconds N. and long. 76 degrees 8 minutes 20.00 seconds W.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable; common fine and common medium roots; moderately acid; abrupt smooth boundary.
Bt1—7 to 28 inches; dark yellowish brown (10YR 4/4) sandy clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; many clay bridges between sand grains; strongly acid; clear smooth boundary.
Bt2—28 to 52 inches; strong brown (7.5YR 4/6) sandy loam; weak fine subangular blocky structure; very friable, slightly sticky; few fine roots; few discontinuous clay films on all faces of peds; many clay bridges between sand grains; strongly acid; clear smooth boundary.
BC—52 to 58 inches; yellowish brown (10YR 5/6) loamy sand; weak fine subangular blocky structure; very friable; common clay bridges between sand grains; strongly acid; clear smooth boundary.
C—58 to 65 inches; brownish yellow (10YR 6/8) sand; single grain; loose; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 65 inches
Reaction: Extremely acid to slightly acid

Ap horizon:
Hue—10YR or 2.5Y
Value—2 to 4
Chroma—1 to 4
Texture—loamy fine sand, loamy sand, fine sandy loam, or sandy loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—4 to 8
Texture—loam, fine sandy loam, sandy clay loam, or clay loam

BC horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—4 to 8
Texture—loam, fine sandy loam, sandy clay loam, clay loam, or loamy sand

C horizon:
Hue—7.5YR to 2.5Y
Value—5 to 7
Chroma—4 to 8
Texture—fine sand, sand, loamy sand, loamy fine sand, fine sandy loam, or sandy loam

Conetoe Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Loamy marine deposits
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Slope range: 0 to 40 percent

Associated Soils

- Bojac soils, which are coarse-loamy
- Chesapeake soils, which are fine-loamy
- Munden soils, which are moderately well drained
- Tetotum soils, which are have a higher content of silt than the Conetoe soils

Taxonomic Classification

Loamy, mixed, semiactive, thermic Arenic Hapludults

Representative Pedon

Conetoe loamy sand in an area of Conetoe-Chesapeake-Tetotum complex, 2 to 40 percent slopes (fig. 10); in Edgecombe County, North Carolina; 1.1 miles northwest of Conetoe on U.S. Highway 64, about 1/4 mile north on State Road 1524 to a path, 450 feet west on the path and 200 feet south, in a cultivated field:

Ap—0 to 8 inches; grayish brown (10YR 5/2) loamy sand; weak medium granular structure; very friable; many fine and medium roots; moderately acid; abrupt smooth boundary.

E—8 to 25 inches; light yellowish brown (10YR 6/4) loamy sand; weak medium granular structure; very friable; common fine roots; moderately acid; clear wavy boundary.

Bt1—25 to 28 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; very friable; few fine roots; clay bridges between sand grains; very strongly acid; clear wavy boundary.

Bt2—28 to 41 inches; strong brown (7.5YR 5/6) sandy loam; weak medium subangular blocky structure; very friable; few fine roots; clay bridges between sand grains; very strongly acid; gradual wavy boundary.

BC—41 to 48 inches; strong brown (7.5YR 5/6) loamy sand; weak medium granular structure; very friable; clay bridges between sand grains; very strongly acid; gradual wavy boundary.

C1—48 to 57 inches; reddish yellow (7.5YR 6/8) sand; single grain; loose; very strongly acid; gradual wavy boundary.

C2—57 to 90 inches; very pale brown (10YR 7/4) sand; single grain; loose; moderately acid.

Range in Characteristics

Solum thickness: 40 to more than 60 inches
Reaction: Very strongly acid to moderately acid

Ap horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 or 2
Texture—fine sand, loamy fine sand, or loamy sand

E horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—3 or 4
Texture—fine sand, loamy fine sand, or loamy sand

Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—6 to 8
Texture—sandy loam, fine sandy loam, or sandy clay loam

Figure 10.—A profile of the Conetoe soils along a riverbank in the northern part of the City of Chesapeake. Birds have created nests in the light-colored and sandy part of the soil.

BC horizon:

Hue—7.5YR or 10YR
Value—5 or 6
Chroma—6 to 8
Texture—sandy loam, fine sandy loam, sandy clay loam, or loamy sand

C horizon:
Hue—7.5YR to 2.5Y
Value—5 to 8
Chroma—1 to 8
Texture—fine sand, sand, loamy fine sand, fine sandy loam, or sandy clay loam

Deloss Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Fine-loamy marine deposits
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 1 percent

Associated Soils

- Arapahoe soils, which are coarse-loamy
- Hyde soils, which are fine-silty
- Nimmo soils, which are poorly drained
- Portsmouth soils, which are fine-loamy over sandy
- Tomotley soils, which are poorly drained

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Umbraquults

Representative Pedon

Deloss mucky loam (fig. 11); in the City of Suffolk, Virginia; approximately 1 mile west of the intersection of U.S. Highway 58 and the Chesapeake City line, 140 feet north of U.S. Highway 58:

Ap—0 to 10 inches; very dark gray (10YR 3/1) mucky loam; strong and moderate coarse granular structure; very friable; common fine and common medium roots; strongly acid; abrupt wavy boundary.

Eg—10 to 17 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and common medium roots; strongly acid; gradual wavy boundary.

Btg—17 to 31 inches; gray (10YR 5/1) sandy clay loam; moderate coarse subangular blocky structure; firm, moderately sticky, slightly plastic; common fine roots; common medium prominent red (2.5YR 4/6) masses of oxidized iron; very strongly acid; gradual irregular boundary.

BCg1—31 to 39 inches; dark gray (10YR 4/1) fine sandy loam; weak very coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few medium prominent dark red (2.5YR 3/6) and red (2.5YR 4/8) masses of oxidized iron; strongly acid; abrupt irregular boundary.

BCg2—39 to 60 inches; gray (10YR 6/1) fine sandy loam; moderate very coarse subangular blocky structure; friable, slightly sticky; few fine roots; few fine prominent dark red (2.5YR 3/6) iron-manganese concretions and many coarse distinct brownish yellow (10YR 6/8) masses of oxidized iron; strongly acid; abrupt smooth boundary.

Cg—60 to 75 inches; greenish gray (5GY 6/1) fine sandy loam; massive; friable, slightly sticky; few medium prominent red (2.5YR 4/8) masses of oxidized iron; common fine mica flakes; neutral.

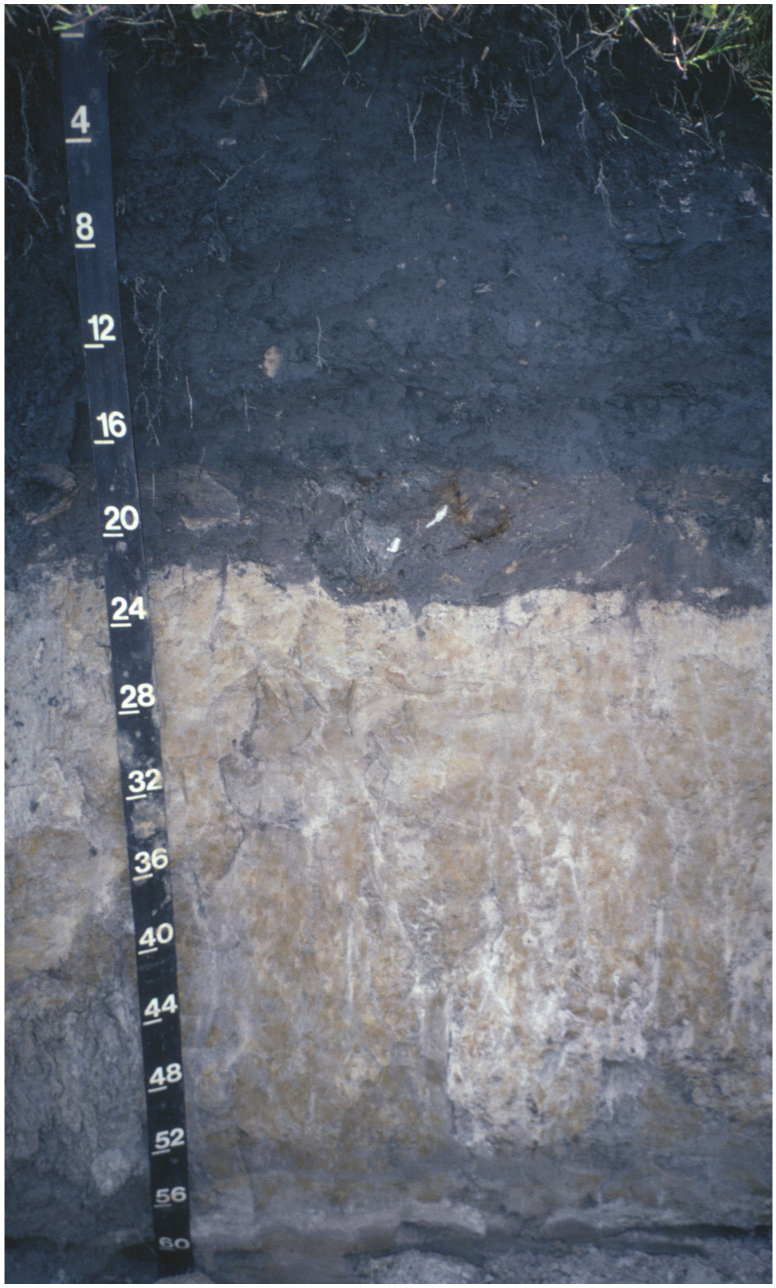

Figure 11.—A profile of the Deloss soil. This soil is very poorly drained.

Range in Characteristics

Solum thickness: 40 to 60 inches
Reaction: Very strongly acid to slightly acid in the A and B horizons and very strongly acid to neutral in the C horizon

Ap horizon:
Hue— 10YR or 2.5Y or neutral
Value—2 to 5
Chroma—0 to 2

Texture—fine sandy loam, sandy loam, or loam or their mucky analogues

Eg horizon:
Hue— 10YR or 2.5Y or neutral
Value—2 to 5
Chroma—0 to 2
Texture—fine sandy loam, sandy loam, or loam

Btg horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—1 or 2
Texture—fine sandy loam, sandy clay loam, or clay loam

BCg horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—1 or 2
Texture—fine sandy loam, sandy loam, loam, sandy clay loam, or clay loam

Cg horizon:
Hue—2.5Y to neutral
Value—5 to 7
Chroma—0 to 2
Texture—fine sand, loamy fine sand, fine sandy loam, sandy loam, or loam

Dorovan Series

Physiographic province: Lower Coastal Plain
Landform: Flood plain on a coastal plain
Parent material: Organic material
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Unspecified
Slope range: 0 to 1 percent

Associated Soils

- Arapahoe soils, which are coarse-loamy
- Belhaven soils, have a mineral layer within a depth of 51 inches
- Portsmouth soils, which are fine-loamy over sandy
- Pungo soils, which are not on flood plains

Taxonomic Classification

Dysic, thermic Typic Haplosaprists

Representative Pedon

Dorovan mucky peat; in the City of Virginia Beach, Virginia; about 1,400 feet west of the west end of Pungo Ferry Bridge, 100 feet north of Pungo Ferry Road:

Oe—0 to 4 inches; dark brown (7.5YR 3/2) mucky peat; 50 percent rubbed fiber; massive; slightly sticky; many very fine and fine and common medium roots; extremely acid; gradual wavy boundary.
Oa1—4 to 28 inches; dark brown (7.5YR 3/2) muck; 10 percent rubbed fiber; massive; common fine roots; moderately acid; clear smooth boundary.
Oa2—28 to 41 inches; very dark grayish brown (10YR 3/2) muck; 5 percent rubbed fiber; massive; common fine roots; moderately acid; clear smooth boundary.

Oa3—41 to 78 inches; very dark grayish brown (10YR 3/2) muck; 5 percent rubbed fiber; massive; common fine roots; slightly acid.

Range in Characteristics

Thickness of organic matter: 51 to more than 80 inches
Reaction: Extremely acid to slightly acid

Oe horizon:
Hue—7.5YR or 10YR
Value—2 to 4
Chroma—1 to 3
Texture—hemic material (mucky peat)

Oa horizon:
Hue—7.5YR to 2.5Y
Value—2 or 3
Chroma—1 or 2
Texture—sapric material (muck)

Dragston Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Coarse-loamy marine deposits
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: High
Slope range: 0 to 2 percent

Associated Soils

- Bertie soils, which are fine-loamy
- Munden soils, which are moderately well drained
- Nimmo soils, which are poorly drained
- Tomotley soils, which are poorly drained

Taxonomic Classification

Coarse-loamy, mixed, semiactive, thermic Aeric Endoaquults

Representative Pedon

Dragston fine sandy loam; in the City of Suffolk, Virginia; 1.07 miles north of the intersection of Virginia Highway 624 and Virginia Highway 658, about 270 feet east of Virginia Highway 624:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium granular structure; very friable; many fine roots; many fine pores; strongly acid; abrupt smooth boundary.

Bt—9 to 17 inches; light olive brown (2.5Y 5/4) fine sandy loam; weak medium subangular blocky structure; friable, slightly sticky; few fine pores; few clay films on all faces of peds; few clay bridges between sand grains; few medium distinct grayish brown (2.5Y 5/2) iron depletions and common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; strongly acid; clear wavy boundary.

Btg—17 to 28 inches; grayish brown (2.5Y 5/2) fine sandy loam; weak medium subangular blocky structure; friable, slightly sticky; few clay bridges between sand grains; few clay films on all faces of peds; common medium prominent yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid; gradual wavy boundary.

BCg—28 to 37 inches; grayish brown (10YR 5/2) fine sandy loam; weak very coarse subangular blocky structure; very friable; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron; very strongly acid; gradual wavy boundary.

C—37 to 66 inches; brownish yellow (10YR 6/8) fine sand; single grain; loose; few coarse prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: 25 to 50 inches
Reaction: Very strongly acid to slightly acid

Ap horizon:
Hue—10YR to 5Y
Value—4 to 7
Chroma—1 to 4
Texture—loamy fine sand or fine sandy loam

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—loamy fine sand, sandy loam, fine sandy loam, or loam

Btg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 6
Chroma—0 to 2
Texture—loamy fine sand, sandy loam, fine sandy loam, or loam

BCg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 6
Chroma—0 to 2
Texture—loamy fine sand, sandy loam, fine sandy loam, or loam

C horizon:
Hue—10YR to 5Y
Value—4 to 7
Chroma—3 to 8
Texture—fine sand, loamy fine sand, or fine sandy loam

Cg horizon (if it occurs):
Hue—10YR to 5Y or neutral
Value—4 to 7
Chroma—0 to 2
Texture—fine sand, loamy fine sand, or fine sandy loam

Gertie Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Clayey marine deposits
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Low
Slope range: 0 to 1 percent

Associated Soils

- Acredale soils, which are fine-silty
- Deloss soils, which are very poorly drained
- Hyde soils, which are very poorly drained
- Tomotley soils, which are fine-loamy

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Endoaquults

Representative Pedon

Gertie silt loam; in the City of Chesapeake, Virginia; approximately 1.3 miles north of the intersection of West Road and Cornland Road on West Road, approximately 1,050 feet west, 100 feet north; NAD83; lat. 36 degrees 39 minutes 30.00 seconds N. and long. 76 degrees 20 minutes 8.00 seconds W.

Ap—0 to 4 inches; very dark brown (10YR 2/2) silt loam; moderate medium granular structure; friable, slightly sticky, slightly plastic; strongly acid; abrupt smooth boundary.

E—4 to 9 inches; light olive brown (2.5Y 5/3) silt loam; moderate fine granular structure; friable, slightly sticky; strongly acid; abrupt smooth boundary.

Btg1—9 to 16 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; firm, slightly sticky, very plastic; few distinct clay films on all faces of peds; common fine prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; clear smooth boundary.

Btg2—16 to 27 inches; dark gray (2.5Y 4/1) silty clay; strong coarse subangular blocky structure; firm, slightly sticky, very plastic; few distinct clay films on all faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; very strongly acid; clear smooth boundary.

Btg3—27 to 41 inches; gray (2.5Y 5/1) silty clay loam; moderate medium subangular blocky structure; firm, slightly sticky, very plastic; few distinct clay films on all faces of peds; common medium prominent strong brown (7.5YR 5/8) and many coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron; very strongly acid; clear smooth boundary.

2C—41 to 64 inches; light yellowish brown (2.5Y 6/4) loamy sand; single grain; loose; few fine prominent strong brown (7.5YR 5/8) masses of oxidized iron and common medium prominent light brownish gray (2.5Y 6/2) iron depletions; very strongly acid; clear wavy boundary.

2Cg—64 to 72 inches; light brownish gray (2.5Y 6/2) loamy sand; single grain; loose; many coarse prominent yellowish brown (10YR 5/6) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Reaction: Extremely acid to strongly acid

Ap horizon:
Hue—10YR or 2.5Y
Value—2 to 4
Chroma—1 or 2
Texture—fine sandy loam, loam, or silt loam

E or Eg horizon:
Hue—10YR or 2.5Y
Value—4 to 6

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

Btg horizon:
Hue—10YR to 2.5Y or neutral
Value—4 to 6
Chroma—1 or 2
Texture—clay loam, silty clay loam, clay, or silty clay

BCg horizon (if it occurs):
Hue—10YR to 2.5Y or neutral
Value—4 to 6
Chroma—1 or 2
Texture—clay loam, silty clay loam, sandy clay loam, sandy clay, or clay

C or 2C horizon:
Hue—10YR to 5Y
Value—4 to 6
Chroma—3 to 6
Texture—fine sand, loamy fine sand, loamy sand, fine sandy loam, sandy loam, silt loam, silty clay loam, silty clay, or clay

Cg or 2Cg horizon:
Hue—2.5Y or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—fine sand, loamy fine sand, loamy sand, fine sandy loam, sandy loam, silt loam, silty clay loam, silty clay, or clay

Hyde Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Fine-silty marine deposits
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 1 percent

Associated Soils

- Acredale soils, which are poorly drained
- Arapahoe soils, which are coarse-loamy
- Deloss soils, which are fine-loamy
- Portsmouth soils, which are fine-loamy over sandy
- Tomotley soils, which are poorly drained

Taxonomic Classification

Fine-silty, mixed, active, thermic Typic Umbraquults

Representative Pedon

Hyde loam; in Tyrrell County, North Carolina; about 7 miles south of Columbia, 1.1 miles west of the intersection of North Carolina Highway 94 and Secondary Road 1307 on Northern Road, 0.1 mile south on a farm path, 100 feet east, in a cultivated field:

Ap—0 to 8 inches; black (10YR 2/1) loam; weak fine granular structure; friable; few fine and few medium roots; strongly acid; clear smooth boundary.

A—8 to 15 inches; black (10YR 2/1) loam; weak fine granular structure; friable; few medium roots; extremely acid; clear smooth boundary.
Btg1—15 to 35 inches; light brownish gray (2.5Y 6/2) loam; weak fine subangular blocky structure; friable, slightly sticky; few distinct grayish brown (2.5Y 5/2) clay films on all faces of peds; common fine prominent brownish yellow (10YR 6/8) and common fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron; extremely acid; gradual wavy boundary.
Btg2—35 to 40 inches; grayish brown (10YR 5/2) loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; few faint dark grayish brown (2.5Y 4/2) clay films on all faces of peds; common fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron; common fine mica flakes; extremely acid; clear smooth boundary.
Btg3—40 to 51 inches; grayish brown (2.5Y 5/2) loam; weak fine subangular blocky structure; friable, slightly sticky; few faint dark grayish brown (2.5Y 4/2) clay films on all faces of peds; common fine mica flakes; strongly acid; clear smooth boundary.
Cg—51 to 62 inches; light brownish gray (2.5Y 6/2) loam; massive; friable; common fine distinct light olive brown (2.5Y 5/4) masses of oxidized iron; common fine mica flakes; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Reaction: Extremely acid to slightly acid

Ap horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loam or silt loam or their mucky analogues

A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loam or silt loam or their mucky analogues

Btg horizon:
Hue—10YR to 5Y
Value—3 to 6
Chroma—1 or 2
Texture—loam, silt loam, clay loam, or silty clay loam

Cg horizon:
Hue—2.5Y or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—fine sand, loamy fine sand, fine sandy loam, loam, silt loam, or silty clay loam

Munden Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Coarse-loamy marine deposits
Drainage class: Moderately well drained

Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 8 percent

Associated Soils

- Bojac soils, which are well drained
- Chesapeake soils, which are well drained
- Dragston soils, which are somewhat poorly drained
- Pactolus soils, which are sandy
- Tetotum soils, which are have a higher content of silt than the Munden soils

Taxonomic Classification

Coarse-loamy, mixed, semiactive, thermic Aquic Hapludults

Representative Pedon

Munden fine sandy loam; in the City of Virginia Beach, Virginia; approximately 1.25 miles southwest of Princess Anne Road, 4.25 miles southeast of Stumpy Lake, 136 feet due south of North Landing Road, 100 feet southeast of a small cemetery:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; common fine roots; slightly acid; abrupt smooth boundary.
Bt1—8 to 15 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; many clay bridges between sand grains; strongly acid; clear smooth boundary.
Bt2—15 to 25 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common distinct clay films on all faces of peds; many clay bridges between sand grains; common medium faint light brown (7.5YR 6/4) masses of oxidized iron; very strongly acid; clear smooth boundary.
Bt3—25 to 32 inches; yellowish brown (10YR 5/8) and brown (10YR 5/3) sandy loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few faint clay films on all faces of peds; many clay bridges between sand grains; common fine distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear smooth boundary.
C—32 to 62 inches; yellowish red (5YR 5/6), light brownish gray (10YR 6/2), and yellowish brown (10YR 5/8) sand; single grain; loose; strongly acid.

Range in Characteristics

Solum thickness: 30 to 55 inches
Reaction: Extremely acid to moderately acid

Ap horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 to 3
Texture—loamy fine sand or fine sandy loam

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—loamy fine sand, sandy loam, fine sandy loam, or loam

C horizon:
Hue—horizon has hue of 10YR or 2.5Y, or it is multicolored with these or other hues and does not have a dominant matrix color

Value—5 to 7
Chroma—3 to 8
Texture—fine sand, sand, or loamy fine sand

Cg horizon (if it occurs):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—fine sand, sand, or loamy fine sand

Nawney Series

Physiographic province: Lower Coastal Plain
Landform: Flood plain on a coastal plain
Parent material: Fine-loamy alluvium
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately low
Slope range: 0 to 1 percent

Associated Soils

- Belhaven soils, which are organic over mineral material
- Dorovan soils, which are organic
- Mineral soils, which are over organic material

Taxonomic Classification

Fine-loamy, mixed, active, acid, thermic Typic Fluvaquents

Representative Pedon

Nawney silt loam, 0 to 1 percent slopes, frequently flooded; in the City of Virginia Beach, Virginia; about 3,200 feet south of the junction of Princess Anne Road and Holland Road or about 4,500 feet southwest of the junction of Princess Anne Road and Seaboard Road:

Oi—0 to 4 inches; very dark grayish brown (10YR 3/2) highly decomposed organic material and slightly decomposed plant material; many medium and many very fine roots; very strongly acid; abrupt wavy boundary.
Ag—4 to 9 inches; dark gray (10YR 4/1) silt loam; weak fine granular structure; very friable, slightly sticky, slightly plastic; many fine and many medium roots; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron; strongly acid; clear wavy boundary.
Cg1—9 to 47 inches; gray (10YR 6/1) loam; massive; friable, slightly sticky, slightly plastic; common fine and common medium roots; strongly acid; gradual wavy boundary.
Cg2—47 to 64 inches; gray (10YR 6/1) stratified sand to loamy sand to sandy loam; massive; slightly sticky, slightly plastic; strongly acid.

Range in Characteristics

Reaction: Extremely acid to slightly acid

Oi horizon:
Hue—7.5YR or 10YR
Value—2 to 5
Chroma—1 to 4
Texture—fibric material (peat)

Ag horizon:
Hue—10YR or 2.5Y
Value—2 to 5
Chroma—1 or 2
Texture—fine sandy loam, loam, or silt loam or their mucky analogues

Bg horizon (if it occurs):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—fine sandy loam, sandy clay loam, loam, silt loam, or silty clay loam

Cg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 6
Chroma—0 to 2
Texture—fine sand, sand, loamy fine sand, loamy sand, fine sandy loam, sandy clay loam, loam, silt loam, or silty clay loam

Nimmo Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Coarse-loamy marine deposits
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 1 percent

Associated Soils

- Arapahoe soils, which are very poorly drained
- Deloss soils, which are very poorly drained
- Dragston soils, which are somewhat poorly drained
- Portsmouth soils, which are very poorly drained
- Tomotley soils, which are fine-loamy

Taxonomic Classification

Coarse-loamy, mixed, semiactive, thermic Typic Endoaquults

Representative Pedon

Nimmo loam; in the City of Virginia Beach, Virginia; 4.5 miles south of Pungo, approximately 0.85 mile southeast of the junction of Vaughan Road and Princess Anne Road, 0.8 mile northeast of the junction of Mill Landing Road and Princess Anne Road:

Ap—0 to 7 inches; dark gray (10YR 4/1) loam; weak fine granular structure; friable, slightly plastic; many fine roots; common skeletans; strongly acid; abrupt smooth boundary.
Btg1—7 to 14 inches; gray (10YR 6/1) fine sandy loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and few medium roots; many clay bridges between sand grains; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron; strongly acid; clear smooth boundary.
Btg2—14 to 25 inches; gray (10YR 5/1) loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine, medium, and coarse roots; few clay films on all faces of peds; many clay bridges between sand grains;

many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron; very strongly acid; clear smooth boundary.

Btg3—25 to 33 inches; gray (10YR 5/1) fine sandy loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; few clay films on all faces of peds; many clay bridges between sand grains; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron; very strongly acid; clear smooth boundary.

2Cg—33 to 60 inches; light gray (10YR 7/1) fine sand; single grain; loose; few medium yellowish brown (10YR 5/4) masses of oxidized iron; strongly acid.

Range in Characteristics

Reaction: Extremely acid to slightly acid

Ap horizon:
Hue—10YR or 2.5Y
Value—2 to 5
Chroma—1 or 2
Texture—loamy fine sand, fine sandy loam, or loam

Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—loamy fine sand, fine sandy loam, or loam

2Cg or Cg horizon:
Hue—10YR to 5Y or neutral
Value—4 to 7
Chroma—0 to 2
Texture—fine sand, sand, loamy fine sand, loamy sand, or fine sandy loam

Pactolus Series

Physiographic province: Lower Coastal Plain
Landform: Dune on a coastal plain
Parent material: Eolian sands
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: High
Slope range: 0 to 3 percent

Associated Soils

- Bojac soils, which are well drained
- Munden soils, which are coarse-loamy
- Wando soils, which are well drained

Taxonomic Classification

Thermic, coated Aquic Quartzipsamments

Representative Pedon

Pactolus loamy fine sand; in the City of Suffolk, Virginia; 0.5 mile southeast of Virginia Highway 660 on Union Camp Road, 300 feet south of Union Camp Road:

Ap—0 to 2 inches; gray (10YR 5/1) loamy fine sand; weak fine granular structure; very friable; few fine and few medium roots; very strongly acid; clear smooth boundary.

C1—2 to 13 inches; light yellowish brown (10YR 6/4) loamy sand; single grain; loose;

few fine and few medium roots; few medium faint very pale brown (10YR 7/4) iron depletions; strongly acid; clear smooth boundary.

C2—13 to 25 inches; very pale brown (10YR 7/4) loamy sand; single grain; loose; few fine roots; few medium faint very pale brown (10YR 7/3) iron depletions; strongly acid; clear smooth boundary.

C3—25 to 38 inches; very pale brown (10YR 7/3) loamy sand; single grain; loose; few fine roots; few medium faint light gray (10YR 7/2) iron depletions; strongly acid; clear smooth boundary.

Cg—38 to 79 inches; light gray (10YR 7/2) loamy sand; single grain; loose; few fine roots; common medium faint very pale brown (10YR 8/2) iron depletions; strongly acid.

Range in Characteristics

Reaction: Extremely acid to strongly acid

Ap horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—1 to 4
Texture—sand, fine sand, loamy sand, or loamy fine sand

C horizon:
Hue—10YR to 2.5Y
Value—5 to 7
Chroma—3 to 8
Texture—sand, fine sand, loamy sand, or loamy fine sand

Cg horizon:
Hue—10YR to 2.5Y
Value—5 to 7
Chroma—1 or 2
Texture—sand, fine sand, loamy sand, or loamy fine sand

Pasquotank Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Coarse-silty marine deposits
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 1 percent

Associated Soils

- Acredale soils, which are fine-silty
- Chapanoke soils, which are somewhat poorly drained
- Deloss soils, which are very poorly drained
- Hyde soils, which are very poorly drained
- Tomotley soils, which are fine-loamy
- Weeksville soils, which are very poorly drained

Taxonomic Classification

Coarse-silty, mixed, semiactive, thermic Typic Endoaquults

Representative Pedon

Pasquotank silt loam; in Pasquotank County, North Carolina; from Weeksville, 2.3

miles south on North Carolina Highway 34 to Salem, 1.2 miles west of North Carolina Highway 34 on a farm path, 100 feet west of the farm path, in a field:

Ap—0 to 6 inches; dark grayish brown (2.5Y 4/2) silt loam; weak fine granular structure; very friable; few fine and common very fine roots; common fine mica flakes; strongly acid; abrupt smooth boundary.

Btg1—6 to 18 inches; light brownish gray (2.5Y 6/2) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few very fine and fine roots; common medium distinct light yellowish brown (10YR 6/4) masses of oxidized iron throughout; common fine mica flakes; very strongly acid; gradual smooth boundary.

Btg2—18 to 34 inches; gray (2.5Y 6/1) loam; weak medium subangular blocky structure; very friable, slightly sticky; few medium prominent olive yellow (2.5Y 6/6) and yellowish brown (10YR 5/6) masses of oxidized iron throughout; common fine mica flakes; very strongly acid; abrupt smooth boundary.

Btg3—34 to 39 inches; gray (2.5Y 6/1) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common medium prominent yellowish brown (10YR 5/6) and common coarse prominent olive yellow (2.5Y 6/6) masses of oxidized iron throughout; common fine mica flakes; very strongly acid; gradual smooth boundary.

BCg—39 to 44 inches; gray (2.5Y 6/1) loam; weak coarse subangular blocky structure; very friable; common medium prominent yellowish brown (10YR 5/6) and light yellowish brown (2.5Y 6/4) masses of oxidized iron throughout; common fine mica flakes; very strongly acid; gradual smooth boundary.

Cg—44 to 53 inches; gray (2.5Y 6/1) loam; massive; very friable; common medium prominent yellowish brown (10YR 5/6) and light yellowish brown (2.5Y 6/4) masses of oxidized iron throughout; common fine mica flakes; very strongly acid; clear smooth boundary.

C—53 to 60 inches; light olive brown (2.5Y 5/3) silt loam; massive; moderately sticky, moderately plastic; common medium prominent yellowish brown (10YR 5/6) masses of oxidized iron throughout and common medium faint light gray (2.5Y 7/2) iron depletions throughout; common fine mica flakes; strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Reaction: Very strongly acid to moderately acid

Ap horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—1 or 2
Texture—very fine sandy loam, loam, or silt loam

Btg horizon:
Hue—10YR to 2.5Y
Value—5 to 7
Chroma—1 or 2
Texture—very fine sandy loam, loam, or silt loam

BCg horizon:
Hue—2.5Y or 5Y
Value—5 to 7
Chroma—1 or 2
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam, loam, or silt loam

Cg horizon:
Hue—2.5Y or 5Y
Value—5 to 7
Chroma—1 or 2
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam, loam, or silt loam

C horizon:
Hue—2.5Y or 5Y
Value—5 to 7
Chroma—3 to 6
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam, loam, or silt loam

Pocaty Series

Physiographic province: Lower Coastal Plain
Landform: Tidal marsh on a coastal plain
Parent material: Organic material
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately low
Slope range: 0 to 1 percent

Associated Soils

- Rappahanock soils, which are organic over mineral material

Taxonomic Classification

Euic, thermic Typic Sulfisaprists

Representative Pedon

Pocaty peat; in the City of Virginia Beach, Virginia; approximately 4,800 feet east of the intersection of Indian Creek Road and Blackwater Road, 900 feet north of Milldam Creek:

Oi—0 to 12 inches; very dark brown (10YR 2/2) peat; 75 percent rubbed fiber; many fine and medium roots; sulfurous odor; strongly acid; gradual smooth boundary.
Oe—12 to 20 inches; very dark brown (10YR 2/2) mucky peat; 35 percent rubbed fiber; many fine and medium roots; sulfurous odor; moderately acid; clear smooth boundary.
Oa1—20 to 41 inches; black (10YR 2/1) muck; 15 percent rubbed fiber; moderately fluid; common fine and medium roots; sulfurous odor; slightly acid; clear smooth boundary.
Oa2—41 to 48 inches; black (10YR 2/1) muck; 3 percent rubbed fiber; moderately fluid; few fine and medium roots; sulfurous odor; slightly acid; clear smooth boundary.
Oa3—48 to 60 inches; dark gray (10YR 4/1) muck; 3 percent rubbed fiber; moderately fluid; sulfurous odor; slightly acid; clear smooth boundary.
2Cg—60 to 80 inches; dark gray (10YR 4/1) silt loam; massive; slightly sticky; moderately fluid; slightly acid.

Range in Characteristics

Thickness of organic matter: 51 to more than 80 inches
Reaction: Very strongly acid to neutral

Oi horizon:
Hue—7.5YR to 2.5Y
Value—2 to 4
Chroma—1 to 3
Texture—fibric material (peat)

Oe horizon:
Hue—7.5YR to 2.5Y
Value—2 to 4
Chroma—1 to 3
Texture—hemic material (mucky peat)

Oa horizon:
Hue—7.5YR to 2.5Y
Value—2 to 4
Chroma—1 or 2
Texture—sapric material (muck)

2Cg horizon:
Hue—7.5YR to 5Y or neutral
Value—2 to 4
Chroma—0 to 2
Texture—commonly loamy; ranging from sandy to clayey

Portsmouth Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Fine-loamy marine deposits
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 1 percent

Associated Soils

- Arapahoe soils, which are coarse-loamy
- Belhaven soils, which are organic over mineral material
- Deloss soils, which are very poorly drained
- Pungo soils, which are organic
- Tomotley soils, which are fine-loamy

Taxonomic Classification

Fine-loamy over sandy or sandy-skeletal, mixed, semiactive, thermic Typic Umbraquults

Representative Pedon

Portsmouth mucky fine sandy loam; in Washington County, North Carolina; at the Tidewater Research Station, 0.7 mile south of U.S. Highway 64 on State Road 1119, about 75 feet east of State Road 1119, at utility pole E16:

Ap—0 to 12 inches; black (10YR 2/1) mucky fine sandy loam; weak medium granular structure; very friable; many fine roots; moderately acid; gradual wavy boundary.
Eg—12 to 19 inches; gray (10YR 5/1) fine sandy loam; weak medium granular structure; very friable; many fine roots; moderately acid; gradual wavy boundary.
BEg—19 to 23 inches; dark gray (10YR 4/1) and gray (10YR 5/1) fine sandy loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic;

common fine pores; common medium prominent yellow (10YR 7/8 and 6/8) masses of oxidized iron; common medium mica flakes; strongly acid; gradual wavy boundary.

Btg—23 to 35 inches; dark gray (10YR 4/1) and gray (10YR 5/1) sandy clay loam; weak medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine pores; common medium prominent yellowish brown (10YR 5/8), brownish yellow (10YR 6/8), and yellowish red (5YR 5/8) masses of oxidized iron; common medium mica flakes; very strongly acid; clear wavy boundary.

BCg—35 to 38 inches; gray (10YR 5/1) sandy loam; weak medium subangular blocky structure; very friable; many medium reddish yellow (5YR 6/8) and brownish yellow (10YR 6/8) masses of oxidized iron; common medium mica flakes; very strongly acid; clear smooth boundary.

2Cg1—38 to 48 inches; gray (10YR 6/1) sand; single grain; loose; common medium mica flakes; very strongly acid; abrupt smooth boundary.

2Cg2—48 to 72 inches; light gray (10YR 7/1) and gray (10YR 6/1) coarse sand; single grain; loose; common medium mica flakes; strongly acid.

Range in Characteristics

Solum thickness: 20 to 40 inches
Reaction: Extremely acid to strongly acid

Ap horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam or their mucky analogues

Eg horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 or 2
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

BEg horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, or loam

Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

BCg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

2Cg horizon:
Hue—10YR to 5Y
Value—4 to 7
Chroma—1 or 2
Texture—sand, fine sand, loamy sand, or loamy fine sand

Pungo Series

Physiographic province: Lower Coastal Plain
Landform: Swamp on a coastal plain
Parent material: Organic material
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Unspecified
Slope range: 0 to 1 percent

Associated Soils

- Arapahoe soils, which are coarse-loamy
- Belhaven soils, which are organic over mineral material
- Deloss soils, which are fine-loamy
- Portsmouth soils, which are fine-loamy over sandy

Taxonomic Classification

Dysic, thermic Typic Haplosaprists

Representative Pedon

Pungo muck; in Washington County, North Carolina; approximately 2 miles northwest of Pungo Lake, 0.4 mile north of Property Line Canal, 200 feet east of the canal:

Oi—0 to 2 inches; peat; very friable; extremely acid; abrupt smooth boundary.
Oa1—2 to 6 inches; dark reddish brown (5YR 2.5/2) muck; 2 percent unrubbed fiber, 1 percent rubbed; weak medium granular structure; friable; few medium roots; extremely acid; clear smooth boundary.
Oa2—6 to 10 inches; dark reddish brown (5YR 3/2) muck; 2 percent unrubbed fiber, 1 percent rubbed; weak medium subangular blocky structure; friable; few medium roots; extremely acid; gradual smooth boundary.
Oa3—10 to 28 inches; dark reddish brown (5YR 3/2) muck; 25 percent unrubbed fiber, 2 percent rubbed; massive; friable, moderately sticky; common medium roots; extremely acid; gradual smooth boundary.
Oa4—28 to 44 inches; dark reddish brown (5YR 3/2) muck; 45 percent unrubbed fiber, 10 percent rubbed; massive; friable, moderately sticky; extremely acid; gradual smooth boundary.
Oa5—44 to 58 inches; black (10YR 2/1) and very dark brown (10YR 2/2) muck; 40 percent unrubbed fiber, 8 percent rubbed; massive; friable, moderately sticky; extremely acid; gradual smooth boundary.
Oa6—58 to 72 inches; black (10YR 2/1) muck; 20 percent unrubbed fiber, 2 percent rubbed; massive; moderately sticky, slightly plastic; extremely acid.

Range in Characteristics

Thickness of organic matter: 51 to more than 80 inches
Reaction: Ultra acid or extremely acid

Oi horizon:
Hue—5YR to 10YR
Value—2 or 3
Chroma—1 or 2
Texture—fibric material (peat)

Oe horizon (if it occurs):
Hue—5YR to 10YR
Value—2 or 3
Chroma—1 or 2
Texture—hemic material (mucky peat)

Oa horizon:
Hue—5YR to 10YR
Value—2 or 3
Chroma—1 or 2
Texture—sapric material (muck)

Rappahannock Series

Physiographic province: Lower Coastal Plain
Landform: Tidal marsh on a coastal plain
Parent material: Organic material
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 1 percent

Associated Soils

- Pocaty soils, which are very deep organic material

Taxonomic Classification

Loamy, mixed, euic, thermic Terric Sulfisaprists

Representative Pedon

Rappahannock muck, 0 to 1 percent slopes, very frequently flooded; in Richmond County, Virginia; approximately 1 mile northeast of Tappahannock, 0.75 mile south of Downing Bridge on U.S. Highway 360, about 200 feet northeast of the Rappahannock River shoreline:

Oa1—0 to 16 inches; very dark grayish brown (10YR 3/2) muck; 14 percent rubbed fiber; massive; moderately fluid; many fine and medium roots; sulfurous odor; slightly alkaline; clear smooth boundary.
Oa2—16 to 30 inches; very dark gray (10YR 3/1) muck; 5 percent rubbed fiber; massive; moderately fluid; many fine roots; sulfurous odor; moderately alkaline; gradual wavy boundary.
Oa3—30 to 41 inches; very dark brown (10YR 2/2) muck; 8 percent rubbed fiber; massive; slightly sticky; moderately fluid; common fine roots; sulfurous odor; moderately alkaline; gradual wavy boundary.
Cg—41 to 63 inches; very dark gray (10YR 3/1) mucky silty clay loam; massive; moderately sticky, slightly plastic; moderately fluid; few fine roots; sulfurous odor; moderately alkaline; gradual wavy boundary.
O´a—63 to 75 inches; black (10YR 2/1) muck; 5 percent rubbed fiber; massive; moderately fluid; sulfurous odor; moderately alkaline; abrupt smooth boundary.
C´g—75 to 80 inches; very dark grayish brown (10YR 3/2) sandy loam; massive; moderately fluid; sulfurous odor; slightly alkaline.

Range in Characteristics

Thickness of organic matter: 16 to 51 inches
Reaction: Strongly acid to moderately alkaline

Oa horizon:
Hue—10YR to 5Y
Value—2 or 3
Chroma—1 or 2
Texture—sapric material (muck)

Oe horizon (if it occurs):
Hue—5YR to 10YR
Value—2 or 3
Chroma—1 or 2
Texture—hemic material (mucky peat)

Cg horizon:
Hue—10YR to 5Y
Value—2 to 5
Chroma—1 or 2
Texture—sand, loamy sand, sandy loam, loam, sandy clay loam, clay loam, silt loam, silty clay loam, or clay

Tetotum Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Fine-loamy marine deposits
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 40 percent

Associated Soils

- Bertie soils, which are somewhat poorly drained
- Chapanoke soils, which are somewhat poorly drained
- Chesapeake soils, which are well drained

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Aquic Hapludults

Representative Pedon

Tetotum loam; in Virginia Beach, Virginia; about 3,100 feet north-northwest of the junction of Indian River Road and West Neck Road, 6,700 feet south-southeast of the intersection of West Neck Road and North Landing Road:

Ap—0 to 10 inches; brown (10YR 4/3) loam; weak fine and medium granular structure; friable, slightly sticky, slightly plastic; common fine roots; few fine tubular pores; few wormcasts throughout; strongly acid; clear smooth boundary.
Bt1—10 to 15 inches; yellowish brown (10YR 5/6) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine tubular pores; few discontinuous clay films on all faces of peds; strongly acid; clear smooth boundary.
Bt2—15 to 20 inches; yellowish brown (10YR 5/6) clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine tubular pores; few discontinuous clay films on all faces of peds; strongly acid; clear smooth boundary.
Bt3—20 to 26 inches; yellowish brown (10YR 5/6) clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine tubular pores; common discontinuous clay films on all faces of peds; common medium distinct strong brown (7.5YR 5/8) masses of oxidized iron; strongly acid; clear smooth boundary.
Bt4—26 to 36 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine tubular pores; common discontinuous clay films on all faces of peds; few fine distinct light brownish gray (10YR 6/2) and many medium distinct pale brown

(10YR 6/3) iron depletions; common medium distinct strong brown (7.5YR 5/8) masses of oxidized iron; strongly acid; clear smooth boundary.

Bt5—36 to 58 inches; strong brown (7.5YR 5/8), pale brown (10YR 6/3), and yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few fine tubular pores; common discontinuous clay films on all faces of peds; many light brownish gray (10YR 6/2) iron depletions; strongly acid; gradual smooth boundary.

2C—58 to 70 inches; pale brown (10YR 6/3) and reddish yellow (7.5YR 6/8) loamy sand; massive; very friable; many light brownish gray (10YR 6/2) iron depletions; strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Reaction: Extremely acid to strongly acid

Ap horizon:
Hue—10YR or 2.5Y
Value—2 to 4
Chroma—1 to 3
Texture—loamy sand, loamy fine sand, sandy loam, or fine sandy loam

Bt horizon:
Hue—7.5YR or 2.5Y
Value—4 to 6
Chroma—3 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

C or 2C horizon:
Hue—7.5YR or 2.5Y
Value—6 or 7
Chroma—3 to 8
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, or fine sandy loam

Cg horizon (if it occurs):
Hue—10YR or 2.5Y
Value—6 or 7
Chroma—1 or 2
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, or fine sandy loam

Tomotley Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Fine-loamy marine deposits
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 2 percent

Associated Soils

- Acredale soils, which are fine-silty
- Bertie soils, which are somewhat poorly drained
- Deloss soils, which are very poorly drained
- Dragston soils, which are somewhat poorly drained

- Nimmo soils, which are coarse-loamy
- Portsmouth soils, which are fine-loamy over sandy

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Endoaquults

Representative Pedon

Tomotley fine sandy loam; in Currituck County, North Carolina; 1.5 miles west of Moyock and 300 feet north of State Road 1227:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; few fine roots; very strongly acid; clear smooth boundary.

Eg—8 to 10 inches; light brownish gray (2.5Y 6/2) fine sandy loam; common medium distinct dark gray (10YR 4/1) mottles; weak medium subangular blocky structure; very friable; common fine roots; very strongly acid; clear smooth boundary.

Btg1—10 to 23 inches; gray (10YR 6/1) sandy clay loam; weak medium subangular blocky structure; friable; common fine roots; very few patchy clay films on all faces of peds and very few patchy clay films on surfaces along root channels; common fine prominent strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) masses of oxidized iron; very strongly acid; gradual wavy boundary.

Btg2—23 to 40 inches; gray (10YR 6/1) sandy clay loam; moderate medium subangular blocky structure; friable; few patchy clay films on all faces of peds; common fine prominent strong brown (7.5YR 5/6) and common medium prominent yellowish brown (10YR 5/6) and red (10R 4/8) masses of oxidized iron; very strongly acid; gradual wavy boundary.

BCg—40 to 50 inches; light gray (5Y 7/1) fine sandy loam; weak medium subangular blocky structure; friable; very few patchy clay films on all faces of peds; common medium prominent strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) masses of oxidized iron; few fine mica flakes; very strongly acid; gradual wavy boundary.

Cg—50 to 60 inches; light gray (2.5Y 7/2) loamy fine sand; massive; friable; common medium distinct light yellowish brown (2.5Y 6/4) and common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; few fine mica flakes; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Reaction: Extremely acid to strongly acid

Ap horizon:
Hue—10YR or 2.5Y
Value—2 to 4
Chroma—1 or 2
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

Eg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—loamy sand, loamy fine sand, sandy loam, fine sandy loam, or loam

Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6

Chroma—1 or 2
Texture—sandy loam, fine sandy loam, sandy clay loam, loam, or clay loam

BCg horizon:
Hue—10YR to 5Y
Value—4 to 7
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, sandy clay loam, loam, or clay loam

Cg horizon:
Hue—2.5Y or 5Y
Value—5 to 7
Chroma—1 or 2
Texture—fine sand, loamy fine sand, fine sandy loam, sandy loam, silt loam, silty clay loam, silty clay, or clay

Wando Series

Physiographic province: Lower Coastal Plain
Landform: Dune on a coastal plain
Parent material: Eolian sands
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Slope range: 0 to 3 percent

Associated Soils

- Bojac soils, which are fine-loamy
- Munden soils, which are coarse-loamy
- Pactolus soils, which are somewhat poorly drained

Taxonomic Classification

Thermic, coated Typic Quartzipsamments

Representative Pedon

Wando loamy fine sand; in Currituck County, North Carolina; 0.3 mile west of the intersection of State Road 1122 and U.S. Highway 158, about 300 feet south of State Road 1122:

A—0 to 3 inches; brown (10YR 4/3) loamy fine sand; weak fine granular structure; very friable; many fine roots; slightly acid; clear smooth boundary.
C1—3 to 30 inches; light yellowish brown (10YR 6/4) fine sand; weak fine granular structure; loose; few fine roots; slightly acid; gradual wavy boundary.
C2—30 to 42 inches; brownish yellow (10YR 6/8) fine sand; weak fine granular structure; loose; slightly acid; gradual wavy boundary.
C3—42 to 79 inches; brownish yellow (10YR 6/6) fine sand; single grain; loose; slightly acid.

Range in Characteristics

Reaction: Very strongly acid to neutral

A or Ap horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 to 4
Texture—sand, fine sand, loamy sand, or loamy fine sand

C horizon:
Hue—7.5YR to 2.5Y
Value—4 to 8
Chroma—3 to 8
Texture—sand, fine sand, loamy sand, or loamy fine sand

Weeksville Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Coarse-silty marine deposits
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 1 percent

Associated Soils

- Acredale soils, which are poorly drained
- Chapanoke soils, which are somewhat poorly drained
- Deloss soils, which are fine-loamy
- Pasquotank soils, which are poorly drained
- Tomotley soils, which are poorly drained

Taxonomic Classification

Coarse-silty, mixed, semiactive, acid, thermic Typic Humaquepts

Representative Pedon

Weeksville silt loam; in Pasquotank County, North Carolina; 2.7 miles south of Elizabeth City on State Road 1101, about 1/4 mile south of the junction of State Road 1183, about 75 feet east of State Road 1101, in a cultivated field:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam; moderate medium granular structure; very friable; common fine roots; very strongly acid; clear wavy boundary.

A1—6 to 18 inches; very dark gray (10YR 3/1) silt loam; moderate medium granular structure; friable; common fine and medium roots; very strongly acid; clear wavy boundary.

A2—18 to 22 inches; dark gray (10YR 4/1) silt loam; moderate medium granular structure; friable; common fine and medium roots; very strongly acid; gradual wavy boundary.

Bg—22 to 42 inches; gray (10YR 5/1) loam; massive parting to moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common medium distinct light gray (10YR 7/2) iron depletions and common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron; few fine mica flakes; very strongly acid; gradual wavy boundary.

2CBg—42 to 50 inches; gray (10YR 5/1) fine sandy loam; massive; friable; common medium prominent yellowish brown (10YR 5/8) and common medium distinct pale brown (10YR 6/3) masses of oxidized iron; few fine mica flakes; strongly acid; gradual wavy boundary.

2Cg1—50 to 56 inches; light gray (10YR 7/1) sandy loam; massive; friable; common medium prominent strong brown (7.5YR 5/8), yellowish red (5YR 5/8), and yellowish brown (10YR 5/8) masses of oxidized iron; few fine mica flakes; strongly acid; gradual wavy boundary.

2Cg2—56 to 72 inches; light gray (10YR 7/1) sand; single grain; loose; common medium distinct pale brown (10YR 6/3) masses of oxidized iron; common fine mica flakes; strongly acid.

Range in Characteristics

Solum thickness: 30 to 50 inches
Reaction: Very strongly acid or strongly acid

Ap horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—very fine sandy loam, loam, or silt loam or their mucky analogues

A horizon:
Hue—10YR
Value—2 to 4
Chroma—1 or 2
Texture—very fine sandy loam, loam, or silt loam or their mucky analogues

Bg horizon:
Hue—10YR to 5Y
Value—5 to 7
Chroma—1 or 2
Texture—very fine sandy loam, loam, or silt loam

CBg or BCg horizon (if it occurs):
Hue—10YR to 5Y
Value—4 to 7
Chroma—1 or 2
Texture—fine sandy loam, very fine sandy loam, loam, or silt loam

2CBg or 2BCg horizon:
Hue—10YR to 5Y
Value—5 to 7
Chroma—1 or 2
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam, loam, or silt loam

Cg or 2Cg horizon:
Hue—10YR or 5Y
Value—5 to 7
Chroma—1 or 2
Texture—sand, fine sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam, loam, or silt loam

Yeopim Series

Physiographic province: Lower Coastal Plain
Landform: Marine terrace on a coastal plain
Parent material: Fine-silty marine deposits
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Slope range: 0 to 3 percent

Associated Soils

- Acredale soils, which are poorly drained

- Bertie soils, which are somewhat poorly drained
- Chapanoke soils, which are somewhat poorly drained
- Pasquotank soils, which are poorly drained
- Tomotley soils, which are poorly drained

Taxonomic Classification

Fine-silty, mixed, semiactive, thermic Aquic Hapludults

Representative Pedon

Yeopim loam; in Chowan County, North Carolina; approximately 0.1 mile east of the intersection of State Road 1114 and State Road 1113, about 50 feet north of State Road 1114, in a cultivated field:

Ap—0 to 8 inches; grayish brown (10YR 5/2) loam; weak medium granular structure; friable; few fine and medium roots; slightly acid; abrupt smooth boundary.

Bt1—8 to 23 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few medium roots; common faint clay films on all faces of peds; very strongly acid; clear smooth boundary.

Bt2—23 to 30 inches; yellowish brown (10YR 5/4) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common faint clay films on all faces of peds; few fine prominent light gray (10YR 7/1) iron depletions and few fine distinct brownish yellow (10YR 6/6) masses of oxidized iron; very strongly acid; clear smooth boundary.

Bt3—30 to 42 inches; yellowish brown (10YR 5/4) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common faint clay films on all faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of oxidized iron and common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear smooth boundary.

2Cg—42 to 55 inches; light gray (10YR 7/2) loamy sand; single grain; loose; common coarse prominent yellowish brown (10YR 5/6) and common coarse faint brown (10YR 5/3) masses of oxidized iron; very strongly acid; clear smooth boundary.

2C—55 to 62 inches; yellowish brown (10YR 5/6) loamy sand; single grain; loose; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Reaction: Extremely acid to slightly acid

Ap horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 to 4
Texture—loam or silt loam

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—3 to 6
Texture—loam, silt loam, silty clay loam, or clay loam

2Cg or Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 or 2
Texture—loamy fine sand, fine sandy loam, loam, or loamy sand

2C or C horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—3 to 6
Texture—loamy fine sand, fine sandy loam, loam, or loamy sand

Formation of the Soils

This section describes the factors of soil formation that have affected the soils in the in City of Chesapeake. It also discusses the morphology of the soils and the processes of horizon differentiation.

Factors of Soil Formation

The characteristics of the soil at any given point depend upon the interaction of five soil-forming factors—parent material, climate, plants and animals, relief, and time *(7)*.

Climate, plants, and animals are the active forces of soil formation. They act on the parent material that has accumulated through the deposition of sediments and slowly change it into soil. Although all the soil-forming factors affect the formation of every soil, the relative importance of each factor differs from place to place. In extreme cases one factor may dominate in the formation of a soil and fix most of its properties. In general, however, the combined action of the five factors affects the character of each soil.

Parent Material

The unconsolidated mass from which a soil formed is parent material. It is largely responsible for the chemical and mineralogical composition of the soil and the rate at which soil-forming processes take place.

The parent materials in this survey area are alluvial and have been transported and deposited by marine and fluvial action. Episodes of deposition have occurred at different geologic times, and sediments have combined from different sources.

Climate

Climate affects the physical, chemical, and biological relationships in soils, principally through the influence of precipitation and temperature. Water dissolves minerals, supports biological activity, and transports mineral and organic residue through the solum. Temperature determines the type and rate of physical, chemical, and biological activities.

Precipitation causes the downward leaching of lime, free carbonates, and other soluble minerals from soils. Water percolating through the soil also moves clay from the surface layer into the subsoil. Soils in the survey area typically have more clay in the subsoil than in the surface layer. Exceptions are soils that formed in recent alluvium, in sand, or on steep slopes. Alluvial areas are recharged with sediments from the surrounding higher areas.

Climate also influences the formation of blocky structure in the subsoil of well developed soils. The development of peds (aggregates) in the subsoil is caused partly by changes in the volume of the soil mass that are primarily the result of alternating periods of wetting and drying.

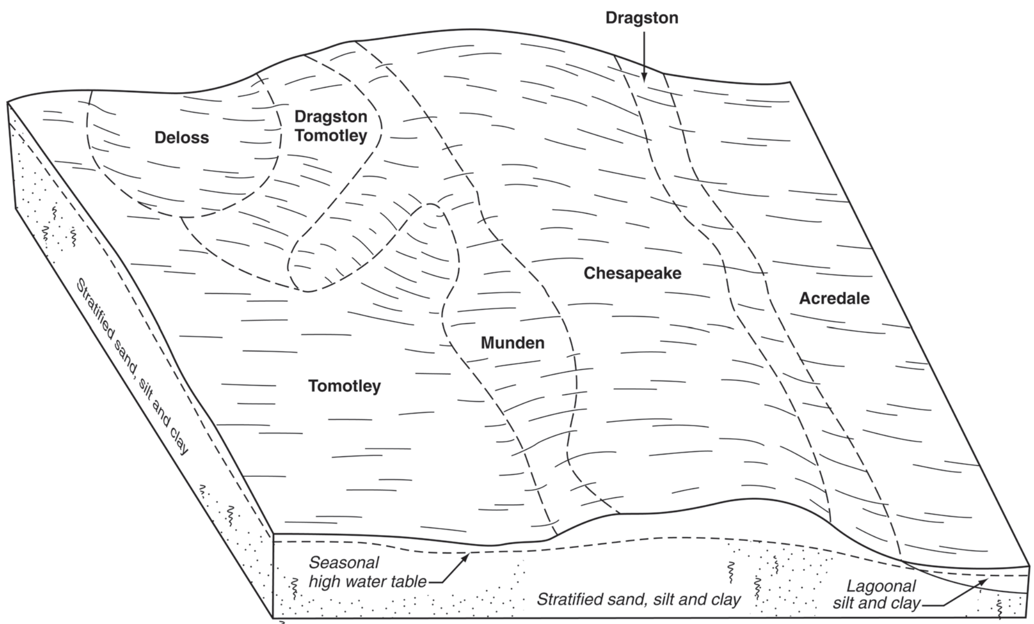

Figure 12.—The relationship between relief and soils on Hickory Ridge.

Plants and Animals

Micro-organisms, vegetation, animals, and humans are major factors in the formation of soils. Vegetation is generally responsible for the amount of organic matter and nutrients in the surface layer and the color of the surface layer. Earthworms, cicada, and burrowing animals help to keep the soil open and porous. Micro-organisms decompose the vegetation and dead animal matter, thus releasing nutrients for plant food.

Before human settlement, native vegetation, including oaks, hickories, and pines, was the major living organism affecting soil development. Most hardwoods use a large amount of the available calcium and other bases and constantly recycle them through leaf fall and decay. This has prevented the soils in the survey area from becoming as leached as they would have been under a coniferous forest cover. Also, because the soils formed under forest vegetation, rapid decay of organic matter and constant recycling of nutrients have prevented the accumulation of organic matter in large quantities. In addition, the climate favors the rapid decay of plant materials, oxidation of organic matter, and leaching of nutrients.

Humans have influenced soil development by clearing forests, cultivating crops, introducing new plants, and changing natural drainage. The most important changes caused by humans are the mixing of the upper layers of the soils to form a plow layer, the accelerated erosion caused by cultivating steep slopes, and the change in soil fertility through applications of lime and fertilizer.

Relief

The underlying geologic sediments, the geologic history of the general region, and the effects of dissection by rivers and streams largely determine the relief of an area. Relief, or topography, affects the formation of soils by influencing the quantity of infiltrating water, the rate of surface water runoff, the rate of drainage in the soil, the soil temperature, and the rate of geologic erosion. Relief can alter the effects of climate on the parent material to the extent that several different kinds of soils may form from

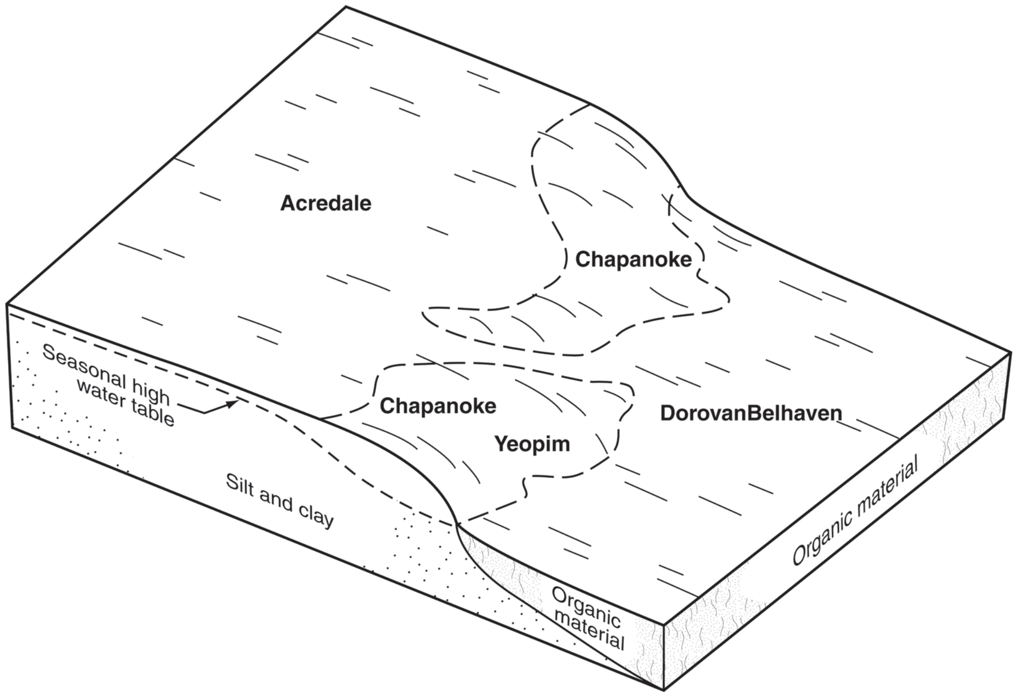

Figure 13—The dry edge effect on the water table of soils located in Northwest Park.

the same kind of parent material (fig. 12). Relief also affects the amount of radiant energy absorbed by the soils, which in turn affects the type of native vegetation on the soils.

Relief in the survey area ranges from nearly level to steep. The nearly level soils are common on upland flats, on the flood plains of streams, on terraces, and in marshes. Most of the nearly level soils are commonly wet because of frequent flooding or a seasonal high water table, and the rate of surface water runoff is typically slow. These soils typically have a subsoil or substratum that is gray or mottled gray, and they are somewhat poorly drained or poorly drained. Depth to seasonal high water table varies across the landscape. It is generally near or above the surface in low-lying areas, near or at the surface in the higher areas that are nearly level, and generally deeper in moderately sloping to steep areas (figs. 13 and 14).

The gently sloping to steep soils generally are well drained or moderately well drained. On the gently sloping and sloping soils, geologic erosion is slight, the rate of surface water runoff is medium or rapid, and water infiltration is optimum. Translocation of bases and clay has typically occurred downward through the soil. The soils in such areas are mature and have well defined horizons. In the steeper areas, surface runoff is very rapid, water infiltration and the translocation of clay and bases through the soil are reduced, and the erosion hazard is increased. Soils that formed in these areas have weakly expressed horizons.

Time

As a factor of soil formation, time generally is related to the degree of development or degree of horizon differentiation within the soil. A soil that has little or no horizon development is considered a young soil, and one that has strongly developed horizons is considered an old or mature soil.

Soils on well drained uplands at the higher elevations have a stronger degree of horizon differentiation. Conversely, soils that formed in recent alluvium show little or no

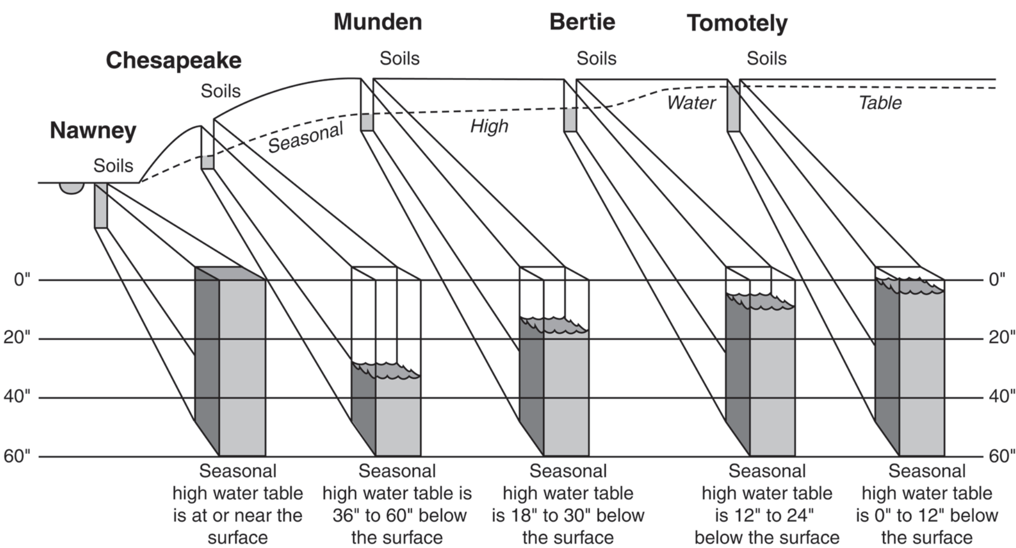

Figure 14.—The depth to a seasonal high water table in selected soils in the City of Chesapeake.

horizon development. These soils are commonly stratified and have an irregular distribution of organic matter in the profile.

Morphology of the Soils

The results of the soil-forming factors are shown by the different layers, or soil horizons, in a soil profile. The soil profile extends from the surface down to materials that are little altered by the soil-forming processes.

Most soils have four major horizons—the A, E, B, and C horizons. These major horizons may be further subdivided by the use of numbers and letters to indicate changes within a horizon. For example, a Bt horizon is a B horizon that has an accumulation of clay.

The A horizon is the surface layer and has the largest accumulation of organic matter. The A horizon is also the layer of maximum leaching and elevation of clay and iron. If considerable leaching has taken place and organic matter has not darkened the material, this horizon is called an E 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, and 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, is generally firmer and lighter in color than the A and E horizons, and is darker than the C horizon.

The C horizon is below the B horizon or, in some cases, below the A horizon. It consists of materials that are little altered by the soil-forming processes, but it can be modified by weathering.

Processes of Soil Horizon Differentiation

In the City of Chesapeake, 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, 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 take place with the decomposition of plant residue. These additions darken the surface layer and help to form the A horizon. In many places, much of the surface layer has been eroded away or has been mixed with the materials from underlying layers through cultivation. Organic matter, once lost, normally takes a long time to replace. In the City of Chesapeake, the organic matter content of the surface layer ranges from low in sandy soils, such as Wando soils, to high in marsh soils, such as Rappahannock soils. A low or moderate amount of organic matter is typical for most of the soils in the survey area.

For soils to have distinct subsoil horizons, some of the lime and soluble salts must be leached before the translocation of clay minerals. 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 red subsoil. These colors are caused mainly by thin coatings of iron oxides on sand and silt grains, although 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, called gleying, takes place mainly in the wetter, more poorly drained soils. Moderately well drained soils, such as Tetotum soils, have strong brown redoximorphic features, which indicate the segregation of iron. In poorly drained soils, such as Tomotley soils, the subsoil and underlying materials are grayish, which indicates the 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.

Alkali (sodic) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

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.

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.

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.

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.

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

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

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

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

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

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

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

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.

Cryoturbate. A mass of soil or other unconsolidated earthy material moved or disturbed by frost action. It is typically coarser than the underlying material.

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.

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.

Diatomaceous earth. A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

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.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune. A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill. See Mine spoil.

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.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion 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 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.
Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.
Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.
Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.
Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.
Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.
Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).
Forb. Any herbaceous plant not a grass or a sedge.
Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.
Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.
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 to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

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.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

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.

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:

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.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

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.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

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

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.

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.

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.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse-grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features. 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.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments 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.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (K_{sat}). 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.

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.

Shrub-coppice dune. A small, streamlined dune that forms around brush and clump vegetation.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05

millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 8 percent
Moderately sloping to steep	8 to 45 percent

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.

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

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.

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.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam,* *silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

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 Suffolk Lake Kilby, Virginia)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temp. higher than--	Minimum temp. lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snow-fall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January--	48.8	30.2	39.5	73	7	23	4.07	2.51	5.48	7	2.0
February-	52.3	32.1	42.2	77	13	38	3.57	2.21	4.79	6	3.0
March----	60.4	38.8	49.6	84	21	108	4.41	2.74	5.91	7	1.1
April----	69.5	46.7	58.1	89	30	262	3.32	1.73	4.71	6	0.0
May------	76.9	56.0	66.5	92	40	506	3.86	2.45	5.13	7	0.0
June-----	84.2	64.1	74.1	96	49	722	4.02	1.85	5.88	6	0.0
July-----	88.0	68.9	78.5	98	56	884	4.99	2.81	6.93	7	0.0
August---	86.1	67.3	76.7	97	54	828	5.60	2.72	8.08	6	0.0
September	80.5	61.9	71.2	94	46	636	4.96	2.27	7.27	5	0.0
October--	70.7	50.1	60.4	87	32	328	3.64	1.49	5.46	5	0.0
November-	61.8	41.0	51.4	81	24	135	3.11	1.78	4.29	5	0.1
December-	52.9	33.7	43.3	76	14	45	3.27	1.81	4.56	6	0.5
Yearly:											
Average	69.3	49.2	59.3	---	---	---	---	---	---	---	---
Extreme	100	-5	---	98	5	---	---	---	---	---	---
Total--	---	---	---	---	---	4,515	48.81	40.51	56.37	73	6.7

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Suffolk Lake Kilby, 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--	Mar. 18	Mar. 31	Apr. 15
2 years in 10 later than--	Mar. 10	Mar. 25	Apr. 10
5 years in 10 later than--	Feb. 23	Mar. 14	Mar. 30
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 21	Nov. 9	Oct. 18
2 years in 10 earlier than--	Nov. 28	Nov. 16	Oct. 25
5 years in 10 earlier than-	Dec. 12	Nov. 29	Nov. 7

Table 3.—Growing Season

(Recorded in the period 1971-2000 at Suffolk Lake Kilby, 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	258	234	194
8 years in 10	270	243	203
5 years in 10	291	259	220
2 years in 10	313	275	238
1 year in 10	324	283	247

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1	Acredale silt loam, 0 to 1 percent slopes	26,268	11.4
2	Acredale-Chapanoke complex, 0 to 1 percent slopes	2,059	0.9
3	Acredale-Urban land complex, 0 to 1 percent slopes	773	0.3
4	Acredale-Urban land-Chapanoke complex, 0 to 1 percent slopes	26	*
5	Aquents, 0 to 2 percent slopes, frequently ponded	269	0.1
6	Arapahoe mucky fine sandy loam, 0 to 1 percent slopes	3,007	1.3
7	Arapahoe-Urban land complex, 0 to 1 percent slopes	34	*
8	Bojac loamy fine sand, 0 to 2 percent slopes	958	0.4
9	Bojac-Urban land complex, 0 to 2 percent slopes	712	0.3
10	Bojac-Urban land-Wando complex, 0 to 3 percent slopes	456	0.2
11	Chapanoke-Yeopim complex, 0 to 3 percent slopes	634	0.3
12	Chesapeake sandy loam, 0 to 2 percent slopes	1,487	0.6
13	Chesapeake-Urban land complex, 0 to 2 percent slopes	654	0.3
14E	Conetoe-Chesapeake-Tetotum complex, 2 to 40 percent slopes	509	0.2
15	Deloss mucky fine sandy loam, 0 to 1 percent slopes	8,635	3.7
16	Deloss-Tomotley-Nimmo complex, 0 to 1 percent slopes	5,586	2.4
17	Deloss-Urban land complex, 0 to 1 percent slopes	160	*
18	Dorovan-Belhaven complex, 0 to 1 percent slopes, frequently flooded	14,643	6.3
19	Dragston fine sandy loam, 0 to 2 percent slopes	1,178	0.5
20	Dragston-Tomotley complex, 0 to 2 percent slopes	5,480	2.4
21	Dragston-Urban land complex, 0 to 2 percent slopes	782	0.3
22	Dragston-Urban land-Tomotley complex, 0 to 2 percent slopes	2,193	1.0
23	Gertie silt loam, 0 to 1 percent slopes	2,261	1.0
24	Hyde mucky silt loam, 0 to 1 percent slopes	3,171	1.4
25	Munden fine sandy loam, 0 to 2 percent slopes	3,759	1.6
26C	Munden loamy fine sand, 2 to 8 percent slopes	570	0.2
27	Munden-Urban land complex, 0 to 2 percent slopes	2,020	0.9
28C	Munden-Urban land complex, 2 to 8 percent slopes	57	*
29	Munden-Urban land-Pactolus complex, 0 to 3 percent slopes	344	0.1
30	Nawney silt loam, 0 to 1 percent slopes, frequently flooded	2,512	1.1
31	Pactolus loamy fine sand, 0 to 3 percent slopes	552	0.2
32	Pasquotank silt loam, 0 to 1 percent slopes	727	0.3
33	Pocaty mucky peat, 0 to 1 percent slopes, very frequently flooded	832	0.4
34	Portsmouth mucky fine sandy loam, 0 to 1 percent slopes	6,762	2.9
35C	Psamments, 0 to 10 percent slopes	1,325	0.6
36	Pungo-Belhaven soils, 0 to 1 percent slopes, frequently ponded	43,589	18.9
37	Rappahannock muck, 0 to 1 percent slopes, very frequently flooded	1,131	0.5
38	Tetotum fine sandy loam, 0 to 2 percent slopes	2,303	1.0
39	Tetotum-Urban land complex, 0 to 2 percent slopes	349	0.2
40	Tetotum-Urban land-Chesapeake complex, 0 to 2 percent slopes	119	*
41	Tomotley fine sandy loam, 0 to 1 percent slopes	8,462	3.7
42	Tomotley-Bertie complex, 0 to 2 percent slopes	5,004	2.2
43	Tomotley-Deloss complex, 0 to 1 percent slopes	19,987	8.7
44	Tomotley-Deloss-Urban land complex, 0 to 1 percent slopes	3,034	1.3
45	Tomotley-Nimmo complex, 0 to 1 percent slopes	16,010	6.9
46	Tomotley-Urban land complex, 0 to 1 percent slopes	1,921	0.8
47	Tomotley-Urban land-Bertie complex, 0 to 2 percent slopes	1,337	0.6
48	Tomotley-Urban land-Nimmo complex, 0 to 1 percent slopes	4,149	1.8
49	Udorthents-Urban land complex, 0 to 45 percent slopes	6,566	2.8
50	Urban land, 0 to 5 percent slopes	3,878	1.7
51E	Urban land-Conetoe-Chesapeake-Tetotum complex, 2 to 40 percent slopes	364	0.2
52	Urban land-Deloss-Tomotley-Nimmo complex, 0 to 1 percent slopes	1,543	0.7
53	Wando loamy fine sand, 0 to 3 percent slopes	412	0.2
54	Weeksville mucky silt loam, 0 to 1 percent slopes	1,165	0.5
W	Water	7,882	3.4
	Total	230,600	100.0

* Less than 0.1 percent.

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part I

(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	Soybeans	Wheat
			Bu	Bu	Bu
1:					
Acredale----------	4w	C	150	45	56
2:					
Acredale----------	4w	C	150	45	56
Chapanoke---------	2w	C	150	45	56
3:					
Acredale----------	4w	C	150	45	56
Urban land--------	8s	---	---	---	---
4:					
Acredale----------	4w	C	150	45	56
Urban land--------	8s	---	---	---	---
Chapanoke---------	2w	C	150	45	56
5:					
Aquents-----------	8w	---	---	---	---
6:					
Arapahoe----------	3w	E	140	40	64
7:					
Arapahoe----------	3w	E	140	40	64
Urban land--------	8s	---	---	---	---
8:					
Bojac-------------	2s	T	110	40	56
9:					
Bojac-------------	2s	T	110	40	56
Urban land--------	8s	---	---	---	---
10:					
Bojac-------------	2s	T	110	40	56
Urban land--------	8s	---	---	---	---
Wando-------------	3s	II	55	20	20
11:					
Chapanoke---------	2w	C	150	45	56
Yeopim------------	2w	K	130	40	64
12:					
Chesapeake--------	1	B	130	45	60

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part I—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Soybeans	Wheat
			Bu	Bu	Bu
13:					
Chesapeake--------	1	B	130	45	60
Urban land--------	8s	---	---	---	---
14E:					
Conetoe-----------	6e	DD	---	---	---
Chesapeake--------	1	B	130	45	60
Tetotum-----------	2e	K	130	40	64
15:					
Deloss------------	4w	C	150	45	56
16:					
Deloss------------	4w	C	150	45	56
Tomotley----------	4w	C	150	45	56
Nimmo-------------	3w	E	140	40	64
17:					
Deloss------------	4w	C	150	45	56
Urban land--------	8s	---	---	---	---
18:					
Dorovan-----------	7w	PP	---	---	---
Belhaven----------	7w	PP	---	---	---
19:					
Dragston----------	4w	E	140	40	64
20:					
Dragston----------	4w	E	140	40	64
Tomotley----------	4w	C	150	45	56
21:					
Dragston----------	4w	E	140	40	64
Urban land--------	8s	---	---	---	---
22:					
Dragston----------	4w	E	140	40	64
Urban land--------	8s	---	---	---	---
Tomotley----------	4w	C	150	45	56

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part I—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Soybeans	Wheat
			Bu	Bu	Bu
23:					
Gertie	4w	H	140	40	48
24:					
Hyde	3w	C	150	45	56
25:					
Munden	2w	F	140	40	64
26C:					
Munden	2e	F	140	40	64
27:					
Munden	2w	F	140	40	64
Urban land	8s	---	---	---	---
28C:					
Munden	2e	F	140	40	64
Urban land	8s	---	---	---	---
29:					
Munden	2w	F	140	40	64
Urban land	8s	---	---	---	---
Pactolus	3s	EE	85	25	48
30:					
Nawney	7w	PP	---	---	---
31:					
Pactolus	3s	EE	85	25	48
32:					
Pasquotank	4w	C	150	45	56
33:					
Pocaty	8w	PP	---	---	---
34:					
Portsmouth	3w	C	150	45	60
35C:					
Psamments	4s	---	---	---	---
36:					
Pungo	7w	PP	---	---	---
Belhaven	7w	PP	---	---	---
37:					
Rappahannock	8w	PP	---	---	---
38:					
Tetotum	2w	K	130	40	64

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part I—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Soybeans	Wheat
			Bu	Bu	Bu
39:					
Tetotum	2w	K	130	40	64
Urban land	8s	---	---	---	---
40:					
Tetotum	2w	K	130	40	64
Urban land	8s	---	---	---	---
Chesapeake	1	B	130	45	60
41:					
Tomotley	4w	C	150	45	56
42:					
Tomotley	4w	C	150	45	56
Bertie	3w	J	130	40	64
43:					
Tomotley	4w	C	150	45	56
Deloss	4w	C	150	45	56
44:					
Tomotley	4w	C	150	45	56
Deloss	4w	C	150	45	56
Urban land	8s	---	---	---	---
45:					
Tomotley	4w	C	150	45	56
Nimmo	3w	E	140	40	64
46:					
Tomotley	4w	C	150	45	56
Urban land	8s	---	---	---	---
47:					
Tomotley	4w	C	150	45	56
Urban land	8s	---	---	---	---
Bertie	3w	J	130	40	64
48:					
Tomotley	4w	C	150	45	56
Urban land	8s	---	---	---	---
Nimmo	3w	E	140	40	64

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part I—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Soybeans	Wheat
			Bu	Bu	Bu
49. Udorthents-Urban land					
50. Urban land					
51E: Urban land.					
Conetoe	6e	DD	---	---	---
Chesapeake	1	B	130	45	60
Tetotum	2e	K	130	40	64
52: Urban land	8s	---	---	---	---
Deloss	4w	C	150	45	56
Tomotley	4w	C	150	45	56
Nimmo	3w	E	140	40	64
53: Wando	3s	II	55	20	20
54: Weeksville	4w	C	150	45	56
W. Water					

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part II

(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 capbility	Virginia Soil Management Group	Alfalfa hay	Grass hay	Pasture
			Tons	Tons	AUM
1:					
Acredale	4w	C	2.0	4.0	12.0
2:					
Acredale	4w	C	2.0	4.0	12.0
Chapanoke	2w	C	2.0	4.0	12.0
3:					
Acredale	4w	C	2.0	4.0	12.0
Urban land	8s	---	---	---	---
4:					
Acredale	4w	C	2.0	4.0	12.0
Urban land	8s	---	---	---	---
Chapanoke	2w	C	2.0	4.0	12.0
5:					
Aquents	8w	---	---	---	---
6:					
Arapahoe	3w	E	2.0	3.5	10.0
7:					
Arapahoe	3w	E	2.0	3.5	10.0
Urban land	8s	---	---	---	---
8:					
Bojac	2s	T	2.0	3.0	6.0
9:					
Bojac	2s	T	2.0	3.0	6.0
Urban land	8s	---	---	---	---
10:					
Bojac	2s	T	2.0	3.0	6.0
Urban land	8s	---	---	---	---
Wando	3s	II	---	3.0	5.5
11:					
Chapanoke	2w	C	2.0	4.0	12.0
Yeopim	2w	K	3.0	4.0	12.0
12:					
Chesapeake	1	B	5.5	4.0	12.0

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part II—Continued

Map symbol and soil name	Land capbility	Virginia Soil Management Group	Alfalfa hay	Grass hay	Pasture
			Tons	Tons	AUM
13:					
Chesapeake--------	1	B	5.5	4.0	12.0
Urban land--------	8s	---	---	---	---
14E:					
Conetoe-----------	6e	DD	---	---	6.0
Chesapeake--------	1	B	5.5	4.0	12.0
Tetotum-----------	2e	K	3.0	4.0	12.0
15:					
Deloss------------	4w	C	2.0	4.0	12.0
16:					
Deloss------------	4w	C	2.0	4.0	12.0
Tomotley----------	4w	C	2.0	4.0	12.0
Nimmo-------------	3w	E	2.0	3.5	10.0
17:					
Deloss------------	4w	C	2.0	4.0	12.0
Urban land--------	8s	---	---	---	---
18:					
Dorovan-----------	7w	PP	---	---	---
Belhaven----------	7w	PP	---	---	---
19:					
Dragston----------	4w	E	2.0	3.5	10.0
20:					
Dragston----------	4w	E	2.0	3.5	10.0
Tomotley----------	4w	C	2.0	4.0	12.0
21:					
Dragston----------	4w	E	2.0	3.5	10.0
Urban land--------	8s	---	---	---	---
22:					
Dragston----------	4w	E	2.0	3.5	10.0
Urban land--------	8s	---	---	---	---
Tomotley----------	4w	C	2.0	4.0	12.0
23:					
Gertie------------	4w	H	2.0	2.0	3.0
24:					
Hyde--------------	3w	C	2.0	4.0	12.0

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part II—Continued

Map symbol and soil name	Land capbility	Virginia Soil Management Group	Alfalfa hay	Grass hay	Pasture
			Tons	Tons	AUM
25:					
Munden-----------	2w	F	3.0	3.5	10.0
26C:					
Munden-----------	2e	F	3.0	3.5	10.0
27:					
Munden-----------	2w	F	3.0	3.5	10.0
Urban land--------	8s	---	---	---	---
28C:					
Munden-----------	2e	F	3.0	3.5	10.0
Urban land--------	8s	---	---	---	---
29:					
Munden-----------	2w	F	3.0	3.5	10.0
Urban land--------	8s	---	---	---	---
Pactolus----------	3s	EE	---	---	---
30:					
Nawney-----------	7w	PP	---	---	---
31:					
Pactolus----------	3s	EE	---	---	---
32:					
Pasquotank--------	4w	C	2.0	4.0	12.0
33:					
Pocaty-----------	8w	PP	---	---	---
34:					
Portsmouth--------	3w	C	2.0	4.0	12.0
35C:					
Psamments---------	4s	---	---	---	---
36:					
Pungo-------------	7w	PP	---	---	---
Belhaven----------	7w	PP	---	---	---
37:					
Rappahannock------	8w	PP	---	---	---
38:					
Tetotum----------	2w	K	3.0	4.0	12.0
39:					
Tetotum----------	2w	K	3.0	4.0	12.0
Urban land--------	8s	---	---	---	---

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part II—Continued

Map symbol and soil name	Land capbility	Virginia Soil Management Group	Alfalfa hay	Grass hay	Pasture
			Tons	Tons	AUM
40:					
Tetotum----------	2w	K	3.0	4.0	12.0
Urban land--------	8s	---	---	---	---
Chesapeake--------	1	B	5.5	4.0	12.0
41:					
Tomotley----------	4w	C	2.0	4.0	12.0
42:					
Tomotley----------	4w	C	2.0	4.0	12.0
Bertie------------	3w	J	2.0	3.5	10.0
43:					
Tomotley----------	4w	C	2.0	4.0	12.0
Deloss------------	4w	C	2.0	4.0	12.0
44:					
Tomotley----------	4w	C	2.0	4.0	12.0
Deloss------------	4w	C	2.0	4.0	12.0
Urban land--------	8s	---	---	---	---
45:					
Tomotley----------	4w	C	2.0	4.0	12.0
Nimmo-------------	3w	E	2.0	3.5	10.0
46:					
Tomotley----------	4w	C	2.0	4.0	12.0
Urban land--------	8s	---	---	---	---
47:					
Tomotley----------	4w	C	2.0	4.0	12.0
Urban land--------	8s	---	---	---	---
Bertie------------	3w	J	2.0	3.5	10.0
48:					
Tomotley----------	4w	C	2.0	4.0	12.0
Urban land--------	8s	---	---	---	---
Nimmo-------------	3w	E	2.0	3.5	10.0
49.					
Udorthents-Urban land					

Table 5.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture, Part II—Continued

Map symbol and soil name	Land capbility	Virginia Soil Management Group	Alfalfa hay	Grass hay	Pasture
			Tons	Tons	AUM
50. Urban land					
51E:					
Urban land	8s	---	---	---	---
Conetoe	6e	DD	---	---	6.0
Chesapeake	1	B	5.5	4.0	12.0
Tetotum	2e	K	3.0	4.0	12.0
52:					
Urban land	8s	---	---	---	---
Deloss	4w	C	2.0	4.0	12.0
Tomotley	4w	C	2.0	4.0	12.0
Nimmo	3w	E	2.0	3.5	10.0
53:					
Wando	3s	II	---	3.0	5.5
54:					
Weeksville	4w	C	2.0	4.0	12.0
W. Water					

Table 6.—Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the map unit name)

Map symbol	Map unit name
1	Acredale silt loam, 0 to 1 percent slopes (where drained)
2	Acredale-Chapanoke complex, 0 to 1 percent slopes (where drained)
6	Arapahoe mucky fine sandy loam, 0 to 1 percent slopes (where drained)
8	Bojac loamy fine sand, 0 to 2 percent slopes
11	Chapanoke-Yeopim complex, 0 to 3 percent slopes (where drained)
12	Chesapeake sandy loam, 0 to 2 percent slopes
15	Deloss mucky fine sandy loam, 0 to 1 percent slopes (where drained)
16	Deloss-Tomotley-Nimmo complex, 0 to 1 percent slopes (where drained)
19	Dragston fine sandy loam, 0 to 2 percent slopes
20	Dragston-Tomotley complex, 0 to 2 percent slopes
24	Hyde mucky silt loam, 0 to 1 percent slopes (where drained)
25	Munden fine sandy loam, 0 to 2 percent slopes
26C	Munden loamy fine sand, 2 to 8 percent slopes
32	Pasquotank silt loam, 0 to 1 percent slopes (where drained)
34	Portsmouth mucky fine sandy loam, 0 to 1 percent slopes (where drained)
38	Tetotum fine sandy loam, 0 to 2 percent slopes
41	Tomotley fine sandy loam, 0 to 1 percent slopes (where drained)
42	Tomotley-Bertie complex, 0 to 2 percent slopes (where drained)
43	Tomotley-Deloss complex, 0 to 1 percent slopes (where drained)
45	Tomotley-Nimmo complex, 0 to 1 percent slopes (where drained)
54	Weeksville mucky silt loam, 0 to 1 percent slopes (where drained)

Table 7.—Hydric Soils

Map symbol	Soil name
1	Acredale silt loam, 0 to 1 percent slopes
2	Acredale-Chapanoke complex, 0 to 1 percent slopes (Acredale soil)
3	Acredale-Urban land complex, 0 to 1 percent slopes(Acredale soil)
5	Aquents, 0 to 2 percent slopes, frequently ponded
6	Arapahoe mucky fine sandy loam, 0 to 1 percent slopes
7	Arapahoe-Urban land complex, 0 to 1 percent slopes (Arapahoe soil)
15	Deloss mucky fine sandy loam, 0 to 1 percent slopes
16	Deloss-Tomotley-Nimmo complex, 0 to 1 percent slopes
17	Deloss-Urban land complex, 0 to 1 percent slopes (Deloss soil)
18	Dorovan-Belhaven complex, 0 to 1 percent slopes, frequently flooded
22	Dragston-Urban land-Tomotley complex, 0 to 2 percent slopes (Tomotley soil)
23	Gertie silt loam, 0 to 1 percent slopes
24	Hyde mucky silt loam, 0 to 1 percent slopes
30	Nawney silt loam, 0 to 1 percent slopes, frequently flooded
32	Pasquotank silt loam, 0 to 1 percent slopes
33	Pocaty mucky peat, 0 to 1 percent slopes, very frequently flooded
34	Portsmouth mucky fine sandy loam, 0 to 1 percent slopes
36	Pungo-Belhaven soils, 0 to 1 percent slopes, frequently ponded
37	Rappahannock muck, 0 to 1 percent slopes, very frequently flooded
41	Tomotley fine sandy loam, 0 to 1 percent slopes
43	Tomotley-Deloss complex, 0 to 1 percent slopes
44	Tomotley-Deloss-Urban land complex, 0 to 1 percent slopes (Tomotley and Deloss soils)
45	Tomotley-Nimmo complex, 0 to 1 percent slopes
46	Tomotley-Urban land complex, 0 to 1 percent slopes (Tomotley soil)
47	Tomotley-Urban land-Bertie complex, 0 to 2 percent slopes (Tomotley soil)
48	Tomotley-Urban land-Nimmo complex, 0 to 1 percent slopes (Tomotley and Nimmo soils)
52	Urban land-Deloss-Tomotley-Nimmo complex, 0 to 1 percent slopes (Deloss, Tomotley, and Nimmo soils)
54	Weeksville mucky silt loam, 0 to 1 percent slopes

Table 8.—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		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1:					
Acredale	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	0.73	Too acid	1.00
2:					
Acredale	85	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	0.73	Too acid	1.00
Chapanoke	13	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.50	Too acid	0.99
		Slow water movement	0.30	Slow water movement	0.22
3:					
Acredale	60	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	0.73	Too acid	1.00
Urban land	30	Not rated		Not rated	
4:					
Acredale	55	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	0.73	Too acid	1.00
Urban land	30	Not rated		Not rated	
Chapanoke	13	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.50	Too acid	0.99
		Slow water movement	0.30	Slow water movement	0.22
5:					
Aquents	98	Not rated		Not rated	

Table 8.—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
6:					
Arapahoe------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.70	Too acid	1.00
		Too acid	0.68		
7:					
Arapahoe------------	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.70	Too acid	1.00
		Too acid	0.68		
Urban land----------	30	Not rated		Not rated	
8:					
Bojac---------------	85	Very limited		Very limited	
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.43	Too acid	0.99
9:					
Bojac---------------	60	Very limited		Very limited	
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.43	Too acid	0.99
Urban land----------	30	Not rated		Not rated	
10:					
Bojac---------------	35	Very limited		Very limited	
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.43	Too acid	0.99
Urban land----------	30	Not rated		Not rated	
Wando---------------	25	Very limited		Very limited	
		Filtering capacity	0.99	Filtering capacity	0.99
		Droughty	0.56	Droughty	0.56
		Leaching	0.45		
11:					
Chapanoke-----------	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.50	Too acid	0.99
		Slow water movement	0.30	Slow water movement	0.22
Yeopim--------------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.62	Too acid	1.00
		Slow water movement	0.30	Slow water movement	0.22

Table 8.—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
12:					
Chesapeake----------	95	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
13:					
Chesapeake----------	65	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
Urban land----------	30	Not rated		Not rated	
14E:					
Conetoe-------------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Leaching	0.45	Too acid	0.91
Chesapeake----------	30	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
Tetotum-------------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.73	Slope	1.00
15:					
Deloss--------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.70	Too acid	0.77
		Too acid	0.22		
16:					
Deloss--------------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.70	Too acid	0.77
		Too acid	0.22		
Tomotley------------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
Nimmo---------------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Runoff	0.40		
17:					
Deloss--------------	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.70	Too acid	0.77
		Too acid	0.22		
Urban land----------	30	Not rated		Not rated	

Table 8.—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
18:					
Dorovan	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Runoff	0.40	Low adsorption	1.00
Belhaven	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Runoff	0.40	Low adsorption	1.00
19:					
Dragston	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.50	Too acid	0.99
20:					
Dragston	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.50	Too acid	0.99
Tomotley	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
21:					
Dragston	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.50	Too acid	0.99
Urban land	30	Not rated		Not rated	
22:					
Dragston	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.50	Too acid	0.99
Urban land	30	Not rated		Not rated	
Tomotley	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		

Table 8.—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
23:					
Gertie	80	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	0.73	Too acid	1.00
24:					
Hyde	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70	Slow water movement	0.22
25:					
Munden	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.43	Too acid	0.99
26C:					
Munden	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.43	Too acid	0.99
27:					
Munden	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.43	Too acid	0.99
Urban land	30	Not rated		Not rated	
28C:					
Munden	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.43	Too acid	0.99
Urban land	30	Not rated		Not rated	
29:					
Munden	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Too acid	0.43	Too acid	0.99

Table 8.—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
29:					
Urban land	30	Not rated		Not rated	
Pactolus	20	Very limited		Very limited	
		Filtering capacity	0.99	Filtering capacity	0.99
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Leaching	0.45	Too acid	0.91
30:					
Nawney	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.78	Low adsorption	1.00
31:					
Pactolus	85	Very limited		Very limited	
		Filtering capacity	0.99	Filtering capacity	0.99
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Leaching	0.45	Too acid	0.91
32:					
Pasquotank	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.70	Too acid	0.91
		Too acid	0.32		
33:					
Pocaty	95	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Low adsorption	1.00
34:					
Portsmouth	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
35C:					
Psamments	95	Very limited		Very limited	
		Filtering capacity	0.99	Too acid	1.00
		Droughty	0.87	Filtering capacity	0.99
		Too acid	0.62	Droughty	0.87
36:					
Pungo	60	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Runoff	0.40	Low adsorption	1.00

Table 8.—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
36:					
Belhaven	38	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Runoff	0.40	Low adsorption	1.00
37:					
Rappahannock	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Salinity	1.00	Low adsorption	1.00
38:					
Tetotum	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
39:					
Tetotum	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
Urban land	30	Not rated		Not rated	
40:					
Tetotum	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
Urban land	30	Not rated		Not rated	
Chesapeake	25	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
41:					
Tomotley	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
42:					
Tomotley	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
Bertie	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.32	Too acid	0.91

Table 8.—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
43:					
Tomotley	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
Deloss	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.70	Too acid	0.77
		Too acid	0.22		
44:					
Tomotley	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
Deloss	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.70	Too acid	0.77
		Too acid	0.22		
Urban land	23	Not rated		Not rated	
45:					
Tomotley	78	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
Nimmo	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Runoff	0.40		
46:					
Tomotley	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
Urban land	30	Not rated		Not rated	
47:					
Tomotley	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
Urban land	30	Not rated		Not rated	

Table 8.—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
47:					
Bertie--------------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.32	Too acid	0.91
48:					
Tomotley------------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
Urban land----------	30	Not rated		Not rated	
Nimmo---------------	13	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Runoff	0.40		
49:					
Udorthents----------	70	Not rated		Not rated	
Urban land----------	25	Not rated		Not rated	
50:					
Urban land----------	90	Not rated		Not rated	
51E:					
Urban land----------	31	Not rated		Not rated	
Conetoe-------------	29	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Filtering capacity	0.99	Filtering capacity	0.99
		Leaching	0.45	Too acid	0.91
Chesapeake----------	20	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
Tetotum-------------	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Too acid	1.00
		Too acid	0.73	Slope	1.00
52:					
Urban land----------	31	Not rated		Not rated	
Deloss--------------	29	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.70	Too acid	0.77
		Too acid	0.22		

Table 8.—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
52:					
Tomotley------------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.70		
Nimmo---------------	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.73	Too acid	1.00
		Runoff	0.40		
53:					
Wando---------------	85	Very limited		Very limited	
		Filtering capacity	0.99	Filtering capacity	0.99
		Droughty	0.56	Droughty	0.56
		Leaching	0.45		
54:					
Weeksville----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Leaching	0.70	Too acid	0.99
		Too acid	0.50		
W:					
Water---------------	100	Not rated		Not rated	

Table 8.—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
1:					
Acredale	90	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
2:					
Acredale	85	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
Chapanoke	13	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.99	Depth to saturated zone	1.00
		Slow water movement	0.22	Too acid	0.99
3:					
Acredale	60	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
Urban land	30	Not rated		Not rated	
4:					
Acredale	55	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
Urban land	30	Not rated		Not rated	
Chapanoke	13	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.99	Depth to saturated zone	1.00
		Slow water movement	0.22	Too acid	0.99
5:					
Aquents	98	Not rated		Not rated	

Table 8.—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
6:					
Arapahoe	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Seepage	1.00
				Too acid	1.00
7:					
Arapahoe	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Seepage	1.00
				Too acid	1.00
Urban land	30	Not rated		Not rated	
8:					
Bojac	85	Very limited		Very limited	
		Filtering capacity	0.99	Seepage	1.00
		Too acid	0.99	Too acid	0.99
9:					
Bojac	60	Very limited		Very limited	
		Filtering capacity	0.99	Seepage	1.00
		Too acid	0.99	Too acid	0.99
Urban land	30	Not rated		Not rated	
10:					
Bojac	35	Very limited		Very limited	
		Filtering capacity	0.99	Seepage	1.00
		Too acid	0.99	Too acid	0.99
Urban land	30	Not rated		Not rated	
Wando	25	Very limited		Very limited	
		Filtering capacity	0.99	Seepage	1.00
		Droughty	0.56		
11:					
Chapanoke	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.99	Depth to saturated zone	1.00
		Slow water movement	0.22	Too acid	0.99
Yeopim	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
		Slow water movement	0.22	Too acid	1.00

Table 8.—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
12:					
Chesapeake	95	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
				Too acid	1.00
13:					
Chesapeake	65	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
				Too acid	1.00
Urban land	30	Not rated		Not rated	
14E:					
Conetoe	35	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
		Filtering capacity	0.99	Too acid	0.91
Chesapeake	30	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
				Too acid	1.00
Tetotum	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Too acid	1.00
15:					
Deloss	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.77	Depth to saturated zone	1.00
				Too level	1.00
16:					
Deloss	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.77	Depth to saturated zone	1.00
				Too level	1.00
Tomotley	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
Nimmo	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00

Table 8.—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
17:					
Deloss	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.77	Depth to saturated zone	1.00
				Too level	1.00
Urban land	30	Not rated		Not rated	
18:					
Dorovan	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	0.67	Seepage	1.00
Belhaven	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	0.67	Seepage	1.00
19:					
Dragston	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	0.99	Depth to saturated zone	1.00
		Too acid	0.99	Too acid	0.99
20:					
Dragston	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	0.99	Depth to saturated zone	1.00
		Too acid	0.99	Too acid	0.99
Tomotley	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
21:					
Dragston	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	0.99	Depth to saturated zone	1.00
		Too acid	0.99	Too acid	0.99
Urban land	30	Not rated		Not rated	

Table 8.—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
22:					
Dragston------------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	0.99	Depth to saturated zone	1.00
		Too acid	0.99	Too acid	0.99
Urban land----------	30	Not rated		Not rated	
Tomotley------------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
23:					
Gertie--------------	80	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
24:					
Hyde----------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Seepage	1.00
		Slow water movement	0.22	Too acid	1.00
25:					
Munden--------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	0.99	Depth to saturated zone	1.00
		Too acid	0.99	Too acid	0.99
26C:					
Munden--------------	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	0.99	Depth to saturated zone	1.00
		Too acid	0.99	Too acid	0.99
27:					
Munden--------------	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	0.99	Depth to saturated zone	1.00
		Too acid	0.99	Too acid	0.99
Urban land----------	30	Not rated		Not rated	

Table 8.—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
28C:					
Munden	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	0.99	Depth to saturated zone	1.00
		Too acid	0.99	Too acid	0.99
Urban land	30	Not rated		Not rated	
29:					
Munden	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	0.99	Depth to saturated zone	1.00
		Too acid	0.99	Too acid	0.99
Urban land	30	Not rated		Not rated	
Pactolus	20	Very limited		Very limited	
		Filtering capacity	0.99	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too acid	0.91	Too acid	0.91
30:					
Nawney	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Seepage	1.00
31:					
Pactolus	85	Very limited		Very limited	
		Filtering capacity	0.99	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99
		Too acid	0.91	Too acid	0.91
32:					
Pasquotank	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.91	Seepage	1.00
				Too level	1.00
33:					
Pocaty	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Low adsorption	1.00	Seepage	1.00
		Flooding	1.00	Depth to saturated zone	1.00

Table 8.—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
34:					
Portsmouth	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	1.00	Seepage	1.00
				Too acid	1.00
35C:					
Psamments	95	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
		Filtering capacity	0.99	Too acid	1.00
		Droughty	0.87	Depth to saturated zone	0.02
36:					
Pungo	60	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.67	Seepage	1.00
Belhaven	38	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.67	Seepage	1.00
37:					
Rappahannock	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Salinity	1.00	Seepage	1.00
38:					
Tetotum	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
39:					
Tetotum	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
Urban land	30	Not rated		Not rated	
40:					
Tetotum	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
Urban land	30	Not rated		Not rated	

Table 8.—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
40:					
Chesapeake----------	25	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
				Too acid	1.00
41:					
Tomotley------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
42:					
Tomotley------------	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
Bertie--------------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.91	Depth to saturated zone	1.00
				Too acid	0.91
43:					
Tomotley------------	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
Deloss--------------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.77	Depth to saturated zone	1.00
				Too level	1.00
44:					
Tomotley------------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
Deloss--------------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.77	Depth to saturated zone	1.00
				Too level	1.00
Urban land----------	23	Not rated		Not rated	
45:					
Tomotley------------	78	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00

Table 8.—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
45:					
Nimmo	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
46:					
Tomotley	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
Urban land	30	Not rated		Not rated	
47:					
Tomotley	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
Urban land	30	Not rated		Not rated	
Bertie	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.91	Depth to saturated zone	1.00
				Too acid	0.91
48:					
Tomotley	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
Urban land	30	Not rated		Not rated	
Nimmo	13	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
49:					
Udorthents	70	Not rated		Not rated	
Urban land	25	Not rated		Not rated	
50:					
Urban land	90	Not rated		Not rated	
51E:					
Urban land	31	Not rated		Not rated	

Table 8.—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
51E:					
Conetoe	29	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
		Filtering capacity	0.99	Too acid	0.91
Chesapeake	20	Very limited		Very limited	
		Too acid	1.00	Seepage	1.00
				Too acid	1.00
Tetotum	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
		Too steep for surface application	1.00	Too acid	1.00
52:					
Urban land	31	Not rated		Not rated	
Deloss	29	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	0.77	Depth to saturated zone	1.00
				Too level	1.00
Tomotley	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
Nimmo	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Too acid	1.00	Depth to saturated zone	1.00
				Too acid	1.00
53:					
Wando	85	Very limited		Very limited	
		Filtering capacity	0.99	Seepage	1.00
		Droughty	0.56		
54:					
Weeksville	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.99	Seepage	1.00
				Too level	1.00
W:					
Water	100	Not rated		Not rated	

Table 8.—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	Rapid infiltration of wastewater: Value	Slow rate treatment of wastewater: Rating class and limiting features	Slow rate treatment of wastewater: Value
1:					
Acredale	90	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	0.14	Slow water movement	0.94
2:					
Acredale	85	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	0.14	Slow water movement	0.94
Chapanoke	13	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	0.99
				Slow water movement	0.15
3:					
Acredale	60	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	0.14	Slow water movement	0.94
Urban land	30	Not rated		Not rated	
4:					
Acredale	55	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	0.14	Slow water movement	0.94
Urban land	30	Not rated		Not rated	
Chapanoke	13	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	0.99
				Slow water movement	0.15
5:					
Aquents	98	Not rated		Not rated	

Table 8.—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
6:					
Arapahoe	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.62	Too acid	1.00
		Too acid	0.14		
7:					
Arapahoe	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.62	Too acid	1.00
		Too acid	0.14		
Urban land	30	Not rated		Not rated	
8:					
Bojac	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	0.99
		Slow water movement	0.32	Too acid	0.99
9:					
Bojac	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	0.99
		Slow water movement	0.32	Too acid	0.99
Urban land	30	Not rated		Not rated	
10:					
Bojac	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	0.99
		Slow water movement	0.32	Too acid	0.99
Urban land	30	Not rated		Not rated	
Wando	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	0.99
11:					
Chapanoke	50	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	0.99
				Slow water movement	0.15
Yeopim	35	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	0.03	Slow water movement	0.15

Table 8.—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
12:					
Chesapeake----------	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	1.00
		Slow water movement	1.00		
		Too acid	0.14		
13:					
Chesapeake----------	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	1.00
		Slow water movement	1.00		
		Too acid	0.14		
Urban land----------	30	Not rated		Not rated	
14E:					
Conetoe-------------	35	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Filtering capacity	0.99
Chesapeake----------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	1.00
		Slow water movement	1.00		
		Too acid	0.14		
Tetotum-------------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
15:					
Deloss--------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.77
16:					
Deloss--------------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.77

Table 8.—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
16:					
Tomotley------------	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
Nimmo---------------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.62	Too acid	1.00
17:					
Deloss--------------	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.77
Urban land----------	30	Not rated		Not rated	
18:					
Dorovan-------------	55	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	0.67
Belhaven------------	40	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	0.67
19:					
Dragston------------	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.32	Filtering capacity	0.99
				Too acid	0.99
20:					
Dragston------------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.32	Filtering capacity	0.99
				Too acid	0.99
Tomotley------------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		

Table 8.—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
21:					
Dragston	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.32	Filtering capacity	0.99
				Too acid	0.99
Urban land	30	Not rated		Not rated	
22:					
Dragston	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.32	Filtering capacity	0.99
				Too acid	0.99
Urban land	30	Not rated		Not rated	
Tomotley	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
23:					
Gertie	80	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	0.14	Slow water movement	0.94
24:					
Hyde	85	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	0.14	Slow water movement	0.15
25:					
Munden	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.62	Filtering capacity	0.99
				Too acid	0.99
26C:					
Munden	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.62	Filtering capacity	0.99
				Too acid	0.99

Table 8.—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
27:					
Munden	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.62	Filtering capacity	0.99
				Too acid	0.99
Urban land	30	Not rated		Not rated	
28C:					
Munden	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.62	Filtering capacity	0.99
				Too acid	0.99
Urban land	30	Not rated		Not rated	
29:					
Munden	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.62	Filtering capacity	0.99
				Too acid	0.99
Urban land	30	Not rated		Not rated	
Pactolus	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	0.99
				Depth to saturated zone	0.99
				Too acid	0.91
30:					
Nawney	85	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	1.00
31:					
Pactolus	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	0.99
				Depth to saturated zone	0.99
				Too acid	0.91
32:					
Pasquotank	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.91

Table 8.—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
33:					
Pocaty	95	Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Low adsorption	1.00
		Depth to saturated zone	1.00	Flooding	1.00
34:					
Portsmouth	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
35C:					
Psamments	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	1.00
		Slope	0.12	Filtering capacity	0.99
				Too steep for surface application	0.32
36:					
Pungo	60	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.67
Belhaven	38	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.67
37:					
Rappahannock	95	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	0.62	Salinity	1.00
38:					
Tetotum	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		

Table 8.—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
39:					
Tetotum	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
Urban land	30	Not rated		Not rated	
40:					
Tetotum	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
Urban land	30	Not rated		Not rated	
Chesapeake	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	1.00
		Slow water movement	1.00		
		Too acid	0.14		
41:					
Tomotley	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
42:					
Tomotley	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
Bertie	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.91
43:					
Tomotley	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		

Table 8.—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
43:					
Deloss	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.77
44:					
Tomotley	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
Deloss	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.77
Urban land	23	Not rated		Not rated	
45:					
Tomotley	78	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
Nimmo	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.62	Too acid	1.00
46:					
Tomotley	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
Urban land	30	Not rated		Not rated	
47:					
Tomotley	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
Urban land	30	Not rated		Not rated	

Table 8.—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
47:					
Bertie	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.91
48:					
Tomotley	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
Urban land	30	Not rated		Not rated	
Nimmo	13	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.62	Too acid	1.00
49:					
Udorthents	70	Not rated		Not rated	
Urban land	25	Not rated		Not rated	
50:					
Urban land	90	Not rated		Not rated	
51E:					
Urban land	31	Not rated		Not rated	
Conetoe	29	Very limited		Very limited	
		Slope	1.00	Too steep for surface application	1.00
		Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
				Filtering capacity	0.99
Chesapeake	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	1.00
		Slow water movement	1.00		
		Too acid	0.14		
Tetotum	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00

Table 8.—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
52:					
Urban land	31	Not rated		Not rated	
Deloss	29	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.77
Tomotley	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
Nimmo	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.62	Too acid	1.00
53:					
Wando	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	0.99
54:					
Weeksville	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	0.99
W:					
Water	100	Not rated		Not rated	

Table 9.—Forestland Productivity

(Absence of an entry indicates that data were not available or that areas do not support tree growth)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
1:				
Acredale	loblolly pine	102	143	loblolly pine
	willow oak	84	---	
	yellow-poplar	98	---	
	white oak	80	---	
2:				
Acredale	loblolly pine	102	143	loblolly pine
	willow oak	84	---	
	yellow-poplar	98	---	
	white oak	80	---	
Chapanoke	loblolly pine	90	129	loblolly pine, sweetgum, American sycamore, green ash
3:				
Acredale	loblolly pine	102	143	loblolly pine
	willow oak	84	---	
	yellow-poplar	98	---	
	white oak	80	---	
Urban land.				
4:				
Acredale	loblolly pine	102	143	loblolly pine
	willow oak	84	---	
	yellow-poplar	98	---	
	white oak	80	---	
Urban land.				
Chapanoke	loblolly pine	90	129	loblolly pine, sweetgum, American sycamore, green ash
5:				
Aquents.				
6:				
Arapahoe	loblolly pine	93	143	loblolly pine, pond pine, willow oak, laurel oak, baldcypress
	pond pine	65	43	
7:				
Arapahoe	loblolly pine	93	143	loblolly pine, pond pine, willow oak, laurel oak, baldcypress
	pond pine	65	43	
Urban land.				

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
8:				
Bojac	loblolly pine	80	114	loblolly pine, longleaf pine
	southern red oak	70	57	
	sweetgum	80	86	
9:				
Bojac	loblolly pine	80	114	loblolly pine, longleaf pine
	southern red oak	70	57	
	sweetgum	80	86	
Urban land.				
10:				
Bojac	loblolly pine	80	114	loblolly pine, longleaf pine
	southern red oak	65	57	
	sweetgum	80	86	
Urban land.				
Wando	longleaf pine	70	---	longleaf pine, loblolly pine, southern red oak
	loblolly pine	74	114	
11:				
Chapanoke	loblolly pine	90	129	loblolly pine, sweetgum, American sycamore, green ash
Yeopim	loblolly pine	91	129	American sycamore, green ash, loblolly pine, sweetgum, yellow-poplar
12:				
Chesapeake	loblolly pine	86	129	loblolly pine, yellow-poplar
	southern red oak	85	72	
	yellow-poplar	100	114	
13:				
Chesapeake	loblolly pine	86	129	loblolly pine, yellow-poplar
	southern red oak	85	72	
	yellow-poplar	100	114	
Urban land.				
14E:				
Conetoe	loblolly pine	78	114	loblolly pine
	southern red oak	69	---	
Chesapeake	loblolly pine	86	129	loblolly pine, yellow-poplar
	southern red oak	85	72	
	yellow-poplar	100	114	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
14E:				
Tetotum	loblolly pine sweetgum southern red oak	87 --- ---	129 86 57	loblolly pine, cherrybark oak, water oak, willow oak, American sycamore, yellow-poplar, green ash
15:				
Deloss	loblolly pine	105	---	loblolly pine
16:				
Deloss	loblolly pine	105	---	loblolly pine
Tomotley	loblolly pine willow oak	99 86	143 86	eastern white pine, loblolly pine, sweetgum, yellow-poplar
Nimmo	loblolly pine sweetgum water oak white oak	95 95 80 80	143 114 72 57	loblolly pine, yellow-poplar, willow oak, water oak, southern red oak, white oak
17:				
Deloss	loblolly pine	105	---	loblolly pine
Urban land.				
18:				
Dorovan	blackgum	70	100	baldcypress, swamp tupelo, water tupelo
Belhaven	pond pine	63	43	baldcypress, swamp tupelo, water tupelo
19:				
Dragston	loblolly pine southern red oak sweetgum yellow-poplar	86 80 90 90	129 --- 100 86	loblolly pine, yellow-poplar, cherrybark oak, swamp chestnut oak, willow oak
20:				
Dragston	loblolly pine southern red oak sweetgum yellow-poplar	86 80 90 90	129 --- 100 86	loblolly pine, yellow-poplar, cherrybark oak, swamp chestnut oak, willow oak
Tomotley	loblolly pine willow oak	99 86	143 86	eastern white pine, loblolly pine, sweetgum, yellow-poplar

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
21:				
Dragston	loblolly pine	86	129	loblolly pine, yellow-poplar, cherrybark oak, swamp chestnut oak, willow oak
	southern red oak	80	---	
	sweetgum	90	100	
	yellow-poplar	90	86	
Urban land.				
22:				
Dragston	loblolly pine	86	129	loblolly pine, yellow-poplar, cherrybark oak, swamp chestnut oak, willow oak
	southern red oak	80	---	
	sweetgum	90	100	
	yellow-poplar	90	86	
Urban land.				
Tomotley	loblolly pine	99	143	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	willow oak	86	86	
23:				
Gertie	loblolly pine	99	95	sweetgum
24:				
Hyde	loblolly pine	107	172	loblolly pine, baldcypress, green ash, pond pine, water oak, willow oak
25:				
Munden	loblolly pine	90	129	loblolly pine
	sweetgum	90	100	
	white oak	76	57	
26C:				
Munden	loblolly pine	90	129	loblolly pine
	sweetgum	90	100	
	white oak	76	57	
27:				
Munden	loblolly pine	90	129	loblolly pine
	sweetgum	90	100	
	white oak	76	57	
Urban land.				
28C:				
Munden	loblolly pine	90	129	loblolly pine
	sweetgum	90	100	
	white oak	76	57	
Urban land.				

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
29:				
Munden	loblolly pine	90	129	loblolly pine
	sweetgum	90	100	
	white oak	76	57	
Urban land.				
Pactolus	loblolly pine	86	129	loblolly pine
30:				
Nawney	sweetgum	94	114	water tupelo
31:				
Pactolus	loblolly pine	86	129	loblolly pine
32:				
Pasquotank	loblolly pine	94	143	loblolly pine, green ash, sweetgum, American sycamore
	sweetgum	90	100	
	water oak	90	86	
33. Pocaty				
34:				
Portsmouth	loblolly pine	101	157	loblolly pine, willow oak, laurel oak, baldcypress
35C. Psamments				
36:				
Pungo	pond pine	55	29	baldcypress, swamp tupelo, water tupelo
Belhaven	pond pine	63	43	baldcypress, swamp tupelo, water tupelo
37. Rappahannock				
38:				
Tetotum	loblolly pine	87	129	loblolly pine, cherrybark oak, water oak, willow oak, American sycamore, yellow-poplar, green ash
	sweetgum	---	86	
	southern red oak	---	57	
39:				
Tetotum	loblolly pine	87	129	loblolly pine, cherrybark oak, water oak, willow oak, American sycamore, yellow-poplar, green ash
	sweetgum	---	86	
	southern red oak	---	57	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
39:				
Urban land.				
40:				
Tetotum	loblolly pine	87	129	loblolly pine, cherrybark oak, water oak, willow oak, American sycamore, yellow-poplar, green ash
	sweetgum	---	86	
	southern red oak	---	57	
Urban land.				
Chesapeake	loblolly pine	86	129	loblolly pine, yellow-poplar
	southern red oak	85	72	
	yellow-poplar	100	114	
41:				
Tomotley	loblolly pine	99	143	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	willow oak	86	86	
42:				
Tomotley	loblolly pine	99	143	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	willow oak	86	86	
Bertie	loblolly pine	90	129	loblolly pine, yellow-poplar, sweetgum
	southern red oak	80	57	
	sweetgum	90	100	
	white oak	80	57	
43:				
Tomotley	loblolly pine	99	143	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	willow oak	86	86	
Deloss	loblolly pine	105	---	loblolly pine
44:				
Tomotley	loblolly pine	99	143	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	willow oak	86	86	
Deloss	loblolly pine	105	---	loblolly pine
Urban land.				
45:				
Tomotley	loblolly pine	99	143	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	willow oak	86	86	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
45:				
Nimmo	loblolly pine	95	143	loblolly pine, yellow-poplar, willow oak, water oak, southern red oak, white oak
	sweetgum	95	114	
	water oak	80	72	
	white oak	80	57	
46:				
Tomotley	loblolly pine	99	143	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	willow oak	86	86	
Urban land.				
47:				
Tomotley	loblolly pine	99	143	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	willow oak	86	86	
Urban land.				
Bertie	loblolly pine	90	129	loblolly pine, yellow-poplar, sweetgum
	southern red oak	80	57	
	sweetgum	90	100	
	white oak	80	57	
48:				
Tomotley	loblolly pine	99	143	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	willow oak	86	86	
Urban land.				
Nimmo	loblolly pine	95	143	loblolly pine, yellow-poplar, willow oak, water oak, southern red oak, white oak
	sweetgum	95	114	
	water oak	80	72	
	white oak	80	57	
49. Udorthents-Urban land				
50. Urban land				
51E:				
Urban land.				
Conetoe	loblolly pine	78	114	loblolly pine
	southern red oak	69	---	
Chesapeake	loblolly pine	86	129	loblolly pine, yellow-poplar
	southern red oak	85	72	
	yellow-poplar	100	114	

Table 9.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
51E:				
Tetotum	loblolly pine	87	129	loblolly pine, cherrybark oak, water oak, willow oak, American sycamore, yellow-poplar, green ash
	sweetgum	---	86	
	southern red oak	---	57	
52:				
Urban land.				
Deloss	loblolly pine	105	---	loblolly pine
Tomotley	loblolly pine	99	143	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	willow oak	86	86	
Nimmo	loblolly pine	95	143	loblolly pine, yellow-poplar, willow oak, water oak, southern red oak, white oak
	sweetgum	95	114	
	water oak	80	72	
	white oak	80	57	
53:				
Wando	longleaf pine	70	---	longleaf pine, loblolly pine, southern red oak
	loblolly pine	74	114	
54:				
Weeksville	loblolly pine	107	129	loblolly pine
W.				
Water				

Table 10.—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		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
1:							
Acredale	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
2:							
Acredale	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Chapanoke	13	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
3:							
Acredale	60	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Urban land	30	Not rated		Not rated		Not rated	
4:							
Acredale	55	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Urban land	30	Not rated		Not rated		Not rated	
Chapanoke	13	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
5:							
Aquents	98	Not rated		Not rated		Not rated	
6:							
Arapahoe	85	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
7:							
Arapahoe	60	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
8:							
Bojac	85	Slight		Well suited		Moderate	
						Low strength	0.50

Table 10.—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
9:							
Bojac	60	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
10:							
Bojac	35	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
Wando	25	Slight		Well suited		Moderate	
						Low strength	0.50
11:							
Chapanoke	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
Yeopim	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
12:							
Chesapeake	95	Moderate		Moderately suited		Moderate	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
13:							
Chesapeake	65	Moderate		Moderately suited		Moderate	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
14E:							
Conetoe	35	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Chesapeake	30	Moderate		Moderately suited		Moderate	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
Tetotum	25	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
15:							
Deloss	85	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
16:							
Deloss	35	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Tomotley	30	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Nimmo	25	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50

Table 10.—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
17:							
Deloss	60	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
18:							
Dorovan	55	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	1.00	Low strength	1.00		
				Wetness	1.00		
Belhaven	40	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	1.00	Low strength	1.00		
				Wetness	1.00		
19:							
Dragston	92	Slight		Well suited		Moderate	
						Low strength	0.50
20:							
Dragston	70	Slight		Well suited		Moderate	
						Low strength	0.50
Tomotley	25	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
21:							
Dragston	65	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
22:							
Dragston	45	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
Tomotley	20	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
23:							
Gertie	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
24:							
Hyde	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
25:							
Munden	90	Slight		Well suited		Moderate	
						Low strength	0.50

Table 10.—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
26C:							
Munden	75	Slight		Well suited		Moderate	
						Low strength	0.50
27:							
Munden	65	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
28C:							
Munden	50	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
29:							
Munden	40	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
Pactolus	20	Slight		Well suited		Moderate	
						Low strength	0.50
30:							
Nawney	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	1.00	Wetness	1.00	Wetness	0.50
		Low strength	0.50	Low strength	0.50		
31:							
Pactolus	85	Slight		Well suited		Moderate	
						Low strength	0.50
32:							
Pasquotank	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
33:							
Pocaty	95	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	1.00	Low strength	1.00	Wetness	0.50
				Wetness	1.00		
34:							
Portsmouth	85	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
35C:							
Psamments	95	Slight		Well suited		Moderate	
						Low strength	0.50

Table 10.—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
36:							
Pungo	60	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Low strength	1.00
				Low strength	1.00		
				Wetness	1.00		
Belhaven	38	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Low strength	1.00
				Low strength	1.00		
				Wetness	1.00		
37:							
Rappahannock	95	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	1.00	Low strength	1.00	Wetness	0.50
				Wetness	1.00		
38:							
Tetotum	90	Slight		Well suited		Moderate	
						Low strength	0.50
39:							
Tetotum	65	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
40:							
Tetotum	40	Slight		Well suited		Moderate	
						Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
Chesapeake	25	Moderate		Moderately suited		Moderate	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
41:							
Tomotley	90	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
42:							
Tomotley	60	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Bertie	35	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
43:							
Tomotley	55	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Deloss	40	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50

Table 10.—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
44:							
Tomotley	40	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Deloss	35	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Urban land	23	Not rated		Not rated		Not rated	
45:							
Tomotley	78	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Nimmo	20	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
46:							
Tomotley	65	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
47:							
Tomotley	40	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
Bertie	25	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
48:							
Tomotley	55	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Urban land	30	Not rated		Not rated		Not rated	
Nimmo	13	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
49:							
Udorthents	70	Not rated		Not rated		Not rated	
Urban land	25	Not rated		Not rated		Not rated	
50:							
Urban land	90	Not rated		Not rated		Not rated	
51E:							
Urban land	31	Not rated		Not rated		Not rated	
Conetoe	29	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50
Chesapeake	20	Moderate		Moderately suited		Moderate	
		Sandiness	0.50	Sandiness	0.50	Low strength	0.50
Tetotum	15	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Low strength	0.50

Table 10.—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
52:							
Urban land	31	Not rated		Not rated		Not rated	
Deloss	29	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Tomotley	20	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
Nimmo	15	Slight		Moderately suited		Moderate	
				Wetness	0.50	Low strength	0.50
53:							
Wando	85	Slight		Well suited		Moderate	
						Low strength	0.50
54:							
Weeksville	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
W:							
Water	100	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Acredale--------	90	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
2:							
Acredale--------	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
Chapanoke-------	13	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
3:							
Acredale--------	60	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
Urban land------	30	Not rated		Not rated		Not rated	
4:							
Acredale--------	55	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
Urban land------	30	Not rated		Not rated		Not rated	
Chapanoke-------	13	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
5:							
Aquents---------	98	Not rated		Not rated		Not rated	
6:							
Arapahoe--------	85	Slight		Slight		Moderately suited	
						Wetness	0.50
7:							
Arapahoe--------	60	Slight		Slight		Moderately suited	
						Wetness	0.50
Urban land------	30	Not rated		Not rated		Not rated	
8:							
Bojac-----------	85	Slight		Slight		Well suited	
9:							
Bojac-----------	60	Slight		Slight		Well suited	
Urban land------	30	Not rated		Not rated		Not rated	

Table 10.—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
10:							
Bojac	35	Slight		Slight		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
Wando	25	Slight		Slight		Well suited	
11:							
Chapanoke	50	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
Yeopim	35	Slight		Slight		Moderately suited	
						Low strength	0.50
12:							
Chesapeake	95	Slight		Slight		Moderately suited	
						Sandiness	0.50
13:							
Chesapeake	65	Slight		Slight		Moderately suited	
						Sandiness	0.50
Urban land	30	Not rated		Not rated		Not rated	
14E:							
Conetoe	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Chesapeake	30	Slight		Slight		Moderately suited	
						Sandiness	0.50
Tetotum	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
15:							
Deloss	85	Slight		Slight		Moderately suited	
						Wetness	0.50
16:							
Deloss	35	Slight		Slight		Moderately suited	
						Wetness	0.50
Tomotley	30	Slight		Slight		Moderately suited	
						Wetness	0.50
Nimmo	25	Slight		Slight		Moderately suited	
						Wetness	0.50
17:							
Deloss	60	Slight		Slight		Moderately suited	
						Wetness	0.50
Urban land	30	Not rated		Not rated		Not rated	
18:							
Dorovan	55	Very severe		Very severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Flooding	1.00
						Low strength	1.00
						Wetness	1.00

Table 10.—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
18:							
Belhaven	40	Very severe		Very severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Flooding	1.00
						Low strength	1.00
						Wetness	1.00
19:							
Dragston	92	Slight		Slight		Well suited	
20:							
Dragston	70	Slight		Slight		Well suited	
Tomotley	25	Slight		Slight		Moderately suited	
						Wetness	0.50
21:							
Dragston	65	Slight		Slight		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
22:							
Dragston	45	Slight		Slight		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
Tomotley	20	Slight		Slight		Moderately suited	
						Wetness	0.50
23:							
Gertie	80	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
24:							
Hyde	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
25:							
Munden	90	Slight		Slight		Well suited	
26C:							
Munden	75	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
27:							
Munden	65	Slight		Slight		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
28C:							
Munden	50	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
Urban land	30	Not rated		Not rated		Not rated	

Table 10.—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
29:							
Munden	40	Slight		Slight		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
Pactolus	20	Slight		Slight		Well suited	
30:							
Nawney	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	1.00
						Low strength	0.50
31:							
Pactolus	85	Slight		Slight		Well suited	
32:							
Pasquotank	90	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
33:							
Pocaty	95	Very severe		Very severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Flooding	1.00
						Low strength	1.00
						Wetness	1.00
34:							
Portsmouth	85	Slight		Slight		Moderately suited	
						Wetness	0.50
35C:							
Psamments	95	Slight		Moderate		Well suited	
				Slope/erodibility	0.50		
36:							
Pungo	60	Very severe		Very severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Low strength	1.00
						Wetness	1.00
Belhaven	38	Very severe		Very severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Low strength	1.00
						Wetness	1.00
37:							
Rappahannock	95	Very severe		Very severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Flooding	1.00
						Low strength	1.00
						Wetness	1.00
38:							
Tetotum	90	Slight		Slight		Well suited	
39:							
Tetotum	65	Slight		Slight		Well suited	
Urban land	30	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40:							
Tetotum----------	40	Slight		Slight		Well suited	
Urban land------	30	Not rated		Not rated		Not rated	
Chesapeake------	25	Slight		Slight		Moderately suited	
						Sandiness	0.50
41:							
Tomotley--------	90	Slight		Slight		Moderately suited	
						Wetness	0.50
42:							
Tomotley--------	60	Slight		Slight		Moderately suited	
						Wetness	0.50
Bertie----------	35	Slight		Slight		Moderately suited	
						Wetness	0.50
43:							
Tomotley--------	55	Slight		Slight		Moderately suited	
						Wetness	0.50
Deloss----------	40	Slight		Slight		Moderately suited	
						Wetness	0.50
44:							
Tomotley--------	40	Slight		Slight		Moderately suited	
						Wetness	0.50
Deloss----------	35	Slight		Slight		Moderately suited	
						Wetness	0.50
Urban land------	23	Not rated		Not rated		Not rated	
45:							
Tomotley--------	78	Slight		Slight		Moderately suited	
						Wetness	0.50
Nimmo-----------	20	Slight		Slight		Moderately suited	
						Wetness	0.50
46:							
Tomotley--------	65	Slight		Slight		Moderately suited	
						Wetness	0.50
Urban land------	30	Not rated		Not rated		Not rated	
47:							
Tomotley--------	40	Slight		Slight		Moderately suited	
						Wetness	0.50
Urban land------	30	Not rated		Not rated		Not rated	
Bertie----------	25	Slight		Slight		Moderately suited	
						Wetness	0.50

Table 10.—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
48:							
Tomotley--------	55	Slight		Slight		Moderately suited	
						Wetness	0.50
Urban land------	30	Not rated		Not rated		Not rated	
Nimmo-----------	13	Slight		Slight		Moderately suited	
						Wetness	0.50
49:							
Udorthents------	70	Not rated		Not rated		Not rated	
Urban land------	25	Not rated		Not rated		Not rated	
50:							
Urban land------	90	Not rated		Not rated		Not rated	
51E:							
Urban land------	31	Not rated		Not rated		Not rated	
Conetoe---------	29	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Chesapeake------	20	Slight		Slight		Moderately suited	
						Sandiness	0.50
Tetotum---------	15	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
52:							
Urban land------	31	Not rated		Not rated		Not rated	
Deloss----------	29	Slight		Slight		Moderately suited	
						Wetness	0.50
Tomotley--------	20	Slight		Slight		Moderately suited	
						Wetness	0.50
Nimmo-----------	15	Slight		Slight		Moderately suited	
						Wetness	0.50
53:							
Wando-----------	85	Slight		Slight		Well suited	
54:							
Weeksville------	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
W:							
Water-----------	100	Not rated		Not rated		Not rated	

Table 10.—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		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Acredale--------	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
2:							
Acredale--------	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Chapanoke-------	13	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
3:							
Acredale--------	60	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Urban land------	30	Not rated		Not rated		Not rated	
4:							
Acredale--------	55	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Urban land------	30	Not rated		Not rated		Not rated	
Chapanoke-------	13	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
5:							
Aquents---------	98	Not rated		Not rated		Not rated	
6:							
Arapahoe--------	85	Well suited		Well suited		Well suited	
7:							
Arapahoe--------	60	Well suited		Well suited		Well suited	
Urban land------	30	Not rated		Not rated		Not rated	
8:							
Bojac-----------	85	Well suited		Well suited		Well suited	
9:							
Bojac-----------	60	Well suited		Well suited		Well suited	
Urban land------	30	Not rated		Not rated		Not rated	

Table 10.—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
10:							
Bojac	35	Well suited		Well suited		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
Wando	25	Well suited		Well suited		Well suited	
11:							
Chapanoke	50	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Yeopim	35	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
12:							
Chesapeake	95	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
13:							
Chesapeake	65	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
Urban land	30	Not rated		Not rated		Not rated	
14E:							
Conetoe	35	Well suited		Poorly suited		Well suited	
				Slope	0.75		
Chesapeake	30	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
Tetotum	25	Well suited		Poorly suited		Well suited	
				Slope	0.75		
15:							
Deloss	85	Well suited		Well suited		Well suited	
16:							
Deloss	35	Well suited		Well suited		Well suited	
Tomotley	30	Well suited		Well suited		Well suited	
Nimmo	25	Well suited		Well suited		Well suited	
17:							
Deloss	60	Well suited		Well suited		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
18:							
Dorovan	55	Well suited		Well suited		Poorly suited	
						Low strength	1.00
						Wetness	1.00
Belhaven	40	Well suited		Well suited		Poorly suited	
						Low strength	1.00
						Wetness	1.00

Table 10.—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
19:							
Dragston	92	Well suited		Well suited		Well suited	
20:							
Dragston	70	Well suited		Well suited		Well suited	
Tomotley	25	Well suited		Well suited		Well suited	
21:							
Dragston	65	Well suited		Well suited		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
22:							
Dragston	45	Well suited		Well suited		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
Tomotley	20	Well suited		Well suited		Well suited	
23:							
Gertie	80	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
24:							
Hyde	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
25:							
Munden	90	Well suited		Well suited		Well suited	
26C:							
Munden	75	Well suited		Well suited		Well suited	
27:							
Munden	65	Well suited		Well suited		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
28C:							
Munden	50	Well suited		Well suited		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
29:							
Munden	40	Well suited		Well suited		Well suited	
Urban land	30	Not rated		Not rated		Not rated	
Pactolus	20	Well suited		Well suited		Well suited	
30:							
Nawney	85	Moderately suited		Moderately suited		Poorly suited	
		Wetness	0.50	Wetness	0.50	Wetness	1.00
						Low strength	0.50
31:							
Pactolus	85	Well suited		Well suited		Well suited	

Table 10.—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
32:							
Pasquotank------	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
33:							
Pocaty----------	95	Moderately suited		Poorly suited		Poorly suited	
		Wetness	0.50	Wetness	0.75	Low strength	1.00
						Wetness	1.00
34:							
Portsmouth------	85	Well suited		Well suited		Well suited	
35C:							
Psamments-------	95	Well suited		Moderately suited		Well suited	
				Slope	0.50		
36:							
Pungo-----------	60	Well suited		Well suited		Poorly suited	
						Low strength	1.00
						Wetness	1.00
Belhaven--------	38	Well suited		Well suited		Poorly suited	
						Low strength	1.00
						Wetness	1.00
37:							
Rappahannock----	95	Moderately suited		Poorly suited		Poorly suited	
		Wetness	0.50	Wetness	0.75	Low strength	1.00
						Wetness	1.00
38:							
Tetotum---------	90	Well suited		Well suited		Well suited	
39:							
Tetotum---------	65	Well suited		Well suited		Well suited	
Urban land------	30	Not rated		Not rated		Not rated	
40:							
Tetotum---------	40	Well suited		Well suited		Well suited	
Urban land------	30	Not rated		Not rated		Not rated	
Chesapeake------	25	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
41:							
Tomotley--------	90	Well suited		Well suited		Well suited	
42:							
Tomotley--------	60	Well suited		Well suited		Well suited	
Bertie----------	35	Well suited		Well suited		Well suited	
43:							
Tomotley--------	55	Well suited		Well suited		Well suited	
Deloss----------	40	Well suited		Well suited		Well suited	

Table 10.—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
44:							
Tomotley--------	40	Well suited		Well suited		Well suited	
Deloss----------	35	Well suited		Well suited		Well suited	
Urban land------	23	Not rated		Not rated		Not rated	
45:							
Tomotley--------	78	Well suited		Well suited		Well suited	
Nimmo-----------	20	Well suited		Well suited		Well suited	
46:							
Tomotley--------	65	Well suited		Well suited		Well suited	
Urban land------	30	Not rated		Not rated		Not rated	
47:							
Tomotley--------	40	Well suited		Well suited		Well suited	
Urban land------	30	Not rated		Not rated		Not rated	
Bertie----------	25	Well suited		Well suited		Well suited	
48:							
Tomotley--------	55	Well suited		Well suited		Well suited	
Urban land------	30	Not rated		Not rated		Not rated	
Nimmo-----------	13	Well suited		Well suited		Well suited	
49:							
Udorthents------	70	Not rated		Not rated		Not rated	
Urban land------	25	Not rated		Not rated		Not rated	
50:							
Urban land------	90	Not rated		Not rated		Not rated	
51E:							
Urban land------	31	Not rated		Not rated		Not rated	
Conetoe---------	29	Well suited		Poorly suited		Well suited	
				Slope	0.75		
Chesapeake------	20	Moderately suited		Moderately suited		Moderately suited	
		Sandiness	0.50	Sandiness	0.50	Sandiness	0.50
Tetotum---------	15	Well suited		Poorly suited		Well suited	
				Slope	0.75		
52:							
Urban land------	31	Not rated		Not rated		Not rated	
Deloss----------	29	Well suited		Well suited		Well suited	
Tomotley--------	20	Well suited		Well suited		Well suited	
Nimmo-----------	15	Well suited		Well suited		Well suited	

Table 10.—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
53:							
Wando-----------	85	Well suited		Well suited		Well suited	
54:							
Weeksville------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
W:							
Water-----------	100	Not rated		Not rated		Not rated	

Table 10.—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
1:					
Acredale	90	Well suited		Well suited	
2:					
Acredale	85	Well suited		Well suited	
Chapanoke	13	Well suited		Well suited	
3:					
Acredale	60	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
4:					
Acredale	55	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
Chapanoke	13	Well suited		Well suited	
5:					
Aquents	98	Not rated		Not rated	
6:					
Arapahoe	85	Well suited		Well suited	
7:					
Arapahoe	60	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
8:					
Bojac	85	Well suited		Well suited	
9:					
Bojac	60	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
10:					
Bojac	35	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
Wando	25	Well suited		Well suited	
11:					
Chapanoke	50	Well suited		Well suited	
Yeopim	35	Well suited		Well suited	
12:					
Chesapeake	95	Well suited		Well suited	

Table 10.—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
13:					
Chesapeake----------	65	Well suited		Well suited	
Urban land----------	30	Not rated		Not rated	
14E:					
Conetoe-------------	35	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Chesapeake----------	30	Well suited		Well suited	
Tetotum-------------	25	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
15:					
Deloss--------------	85	Well suited		Well suited	
16:					
Deloss--------------	35	Well suited		Well suited	
Tomotley------------	30	Well suited		Well suited	
Nimmo---------------	25	Well suited		Well suited	
17:					
Deloss--------------	60	Well suited		Well suited	
Urban land----------	30	Not rated		Not rated	
18:					
Dorovan-------------	55	Well suited		Unsuited	
				Wetness	1.00
Belhaven------------	40	Well suited		Unsuited	
				Wetness	1.00
19:					
Dragston------------	92	Well suited		Well suited	
20:					
Dragston------------	70	Well suited		Well suited	
Tomotley------------	25	Well suited		Well suited	
21:					
Dragston------------	65	Well suited		Well suited	
Urban land----------	30	Not rated		Not rated	
22:					
Dragston------------	45	Well suited		Well suited	
Urban land----------	30	Not rated		Not rated	
Tomotley------------	20	Well suited		Well suited	
23:					
Gertie--------------	80	Well suited		Well suited	

Table 10.—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
24:					
Hyde	85	Well suited		Well suited	
25:					
Munden	90	Well suited		Well suited	
26C:					
Munden	75	Well suited		Well suited	
27:					
Munden	65	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
28C:					
Munden	50	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
29:					
Munden	40	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
Pactolus	20	Well suited		Well suited	
30:					
Nawney	85	Poorly suited		Unsuited	
		Wetness	0.50	Wetness	1.00
31:					
Pactolus	85	Well suited		Well suited	
32:					
Pasquotank	90	Well suited		Well suited	
33:					
Pocaty	95	Poorly suited		Unsuited	
		Wetness	0.50	Wetness	1.00
34:					
Portsmouth	85	Well suited		Well suited	
35C:					
Psamments	95	Well suited		Well suited	
36:					
Pungo	60	Well suited		Unsuited	
				Wetness	1.00
Belhaven	38	Well suited		Unsuited	
				Wetness	1.00
37:					
Rappahannock	95	Poorly suited		Unsuited	
		Wetness	0.50	Wetness	1.00
38:					
Tetotum	90	Well suited		Well suited	

Table 10.—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
39:					
Tetotum	65	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
40:					
Tetotum	40	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
Chesapeake	25	Well suited		Well suited	
41:					
Tomotley	90	Well suited		Well suited	
42:					
Tomotley	60	Well suited		Well suited	
Bertie	35	Well suited		Well suited	
43:					
Tomotley	55	Well suited		Well suited	
Deloss	40	Well suited		Well suited	
44:					
Tomotley	40	Well suited		Well suited	
Deloss	35	Well suited		Well suited	
Urban land	23	Not rated		Not rated	
45:					
Tomotley	78	Well suited		Well suited	
Nimmo	20	Well suited		Well suited	
46:					
Tomotley	65	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
47:					
Tomotley	40	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
Bertie	25	Well suited		Well suited	
48:					
Tomotley	55	Well suited		Well suited	
Urban land	30	Not rated		Not rated	
Nimmo	13	Well suited		Well suited	
49:					
Udorthents	70	Not rated		Not rated	
Urban land	25	Not rated		Not rated	

Table 10.—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
50:					
Urban land	90	Not rated		Not rated	
51E:					
Urban land	31	Not rated		Not rated	
Conetoe	29	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
Chesapeake	20	Well suited		Well suited	
Tetotum	15	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
52:					
Urban land	31	Not rated		Not rated	
Deloss	29	Well suited		Well suited	
Tomotley	20	Well suited		Well suited	
Nimmo	15	Well suited		Well suited	
53:					
Wando	85	Well suited		Well suited	
54:					
Weeksville	85	Well suited		Well suited	
W:					
Water	100	Not rated		Not rated	

Table 10.—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		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1:					
Acredale	90	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
2:					
Acredale	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Chapanoke	13	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
3:					
Acredale	60	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Urban land	30	Not rated		Not rated	
4:					
Acredale	55	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Urban land	30	Not rated		Not rated	
Chapanoke	13	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
5:					
Aquents	98	Not rated		Not rated	
6:					
Arapahoe	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
7:					
Arapahoe	60	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Urban land	30	Not rated		Not rated	
8:					
Bojac	85	High		Low	
		Texture/rock fragments	1.00		

Table 10.—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
9:					
Bojac	60	High		Low	
		Texture/rock fragments	1.00		
Urban land	30	Not rated		Not rated	
10:					
Bojac	35	High		Low	
		Texture/rock fragments	1.00		
Urban land	30	Not rated		Not rated	
Wando	25	High		Low	
		Texture/rock fragments	1.00		
11:					
Chapanoke	50	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Yeopim	35	Moderate		Low	
		Texture/rock fragments	0.50		
12:					
Chesapeake	95	High		Low	
		Texture/rock fragments	1.00		
13:					
Chesapeake	65	High		Low	
		Texture/rock fragments	1.00		
Urban land	30	Not rated		Not rated	
14E:					
Conetoe	35	High		Low	
		Texture/rock fragments	1.00		
Chesapeake	30	High		Low	
		Texture/rock fragments	1.00		
Tetotum	25	Moderate		Low	
		Texture/rock fragments	0.50		
15:					
Deloss	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00

Table 10.—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
16:					
Deloss	35	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Tomotley	30	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Nimmo	25	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
17:					
Deloss	60	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Urban land	30	Not rated		Not rated	
18:					
Dorovan	55	Low		High	
				Wetness	1.00
Belhaven	40	Low		High	
				Wetness	1.00
19:					
Dragston	92	High		Moderate	
		Texture/rock fragments	1.00	Wetness	0.50
20:					
Dragston	70	High		Moderate	
		Texture/rock fragments	1.00	Wetness	0.50
Tomotley	25	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
21:					
Dragston	65	High		Moderate	
		Texture/rock fragments	1.00	Wetness	0.50
Urban land	30	Not rated		Not rated	
22:					
Dragston	45	High		Moderate	
		Texture/rock fragments	1.00	Wetness	0.50
Urban land	30	Not rated		Not rated	
Tomotley	20	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00

Table 10.—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
23:					
Gertie	80	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
24:					
Hyde	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
25:					
Munden	90	Moderate		Low	
		Texture/rock fragments	0.50		
26C:					
Munden	75	Moderate		Low	
		Texture/rock fragments	0.50		
27:					
Munden	65	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	30	Not rated		Not rated	
28C:					
Munden	50	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	30	Not rated		Not rated	
29:					
Munden	40	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	30	Not rated		Not rated	
Pactolus	20	High		Low	
		Texture/surface depth/rock fragments	1.00		
30:					
Nawney	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
31:					
Pactolus	85	High		Low	
		Texture/surface depth/rock fragments	1.00		
32:					
Pasquotank	90	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00

Table 10.—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
33:					
Pocaty	95	Low		High	
				Wetness	1.00
34:					
Portsmouth	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
35C:					
Psamments	95	High		Low	
		Texture/rock fragments	1.00		
36:					
Pungo	60	Low		High	
				Wetness	1.00
Belhaven	38	Low		High	
				Wetness	1.00
37:					
Rappahannock	95	Low		High	
				Wetness	1.00
				Soil reaction	0.50
38:					
Tetotum	90	Moderate		Low	
		Texture/rock fragments	0.50		
39:					
Tetotum	65	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	30	Not rated		Not rated	
40:					
Tetotum	40	Moderate		Low	
		Texture/rock fragments	0.50		
Urban land	30	Not rated		Not rated	
Chesapeake	25	High		Low	
		Texture/rock fragments	1.00		
41:					
Tomotley	90	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
42:					
Tomotley	60	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00

Table 10.—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
42:					
Bertie	35	High		High	
		Texture/rock fragments	1.00	Wetness	1.00
43:					
Tomotley	55	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Deloss	40	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
44:					
Tomotley	40	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Deloss	35	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Urban land	23	Not rated		Not rated	
45:					
Tomotley	78	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Nimmo	20	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
46:					
Tomotley	65	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Urban land	30	Not rated		Not rated	
47:					
Tomotley	40	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Urban land	30	Not rated		Not rated	
Bertie	25	High		High	
		Texture/rock fragments	1.00	Wetness	1.00
48:					
Tomotley	55	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Urban land	30	Not rated		Not rated	

Table 10.—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
48:					
Nimmo	13	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
49:					
Udorthents	70	Not rated		Not rated	
Urban land	25	Not rated		Not rated	
50:					
Urban land	90	Not rated		Not rated	
51E:					
Urban land	31	Not rated		Not rated	
Conetoe	29	High		Low	
		Texture/rock fragments	1.00		
Chesapeake	20	High		Low	
		Texture/rock fragments	1.00		
Tetotum	15	Moderate		Low	
		Texture/rock fragments	0.50		
52:					
Urban land	31	Not rated		Not rated	
Deloss	29	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Tomotley	20	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
Nimmo	15	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
53:					
Wando	85	High		Low	
		Texture/rock fragments	1.00		
54:					
Weeksville	85	Low		High	
		Texture/rock fragments	0.10	Wetness	1.00
W:					
Water	100	Not rated		Not rated	

Table 11.—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		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Acredale--------	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	0.94	Slow water movement	0.94	Slow water movement	0.94
2:							
Acredale--------	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
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
Chapanoke-------	13	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	0.15	Slow water movement	0.15	Slow water movement	0.15
3:							
Acredale--------	60	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	0.94	Slow water movement	0.94	Slow water movement	0.94
Urban land------	30	Not rated		Not rated		Not rated	
4:							
Acredale--------	55	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	0.94	Slow water movement	0.94	Slow water movement	0.94
Urban land------	30	Not rated		Not rated		Not rated	
Chapanoke-------	13	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	0.15	Slow water movement	0.15	Slow water movement	0.15
5:							
Aquents---------	98	Not rated		Not rated		Not rated	
6:							
Arapahoe--------	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

Table 11.—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
7:							
Arapahoe--------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
8:							
Bojac-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.31	Too sandy	0.31	Too sandy	0.31
9:							
Bojac-----------	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.31	Too sandy	0.31	Too sandy	0.31
Urban land------	30	Not rated		Not rated		Not rated	
10:							
Bojac-----------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.31	Too sandy	0.31	Too sandy	0.31
Urban land------	30	Not rated		Not rated		Not rated	
Wando-----------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.82	Too sandy	0.82	Too sandy	0.82
11:							
Chapanoke-------	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
		Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
Yeopim----------	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
12:							
Chesapeake------	95	Not limited		Not limited		Not limited	
13:							
Chesapeake------	65	Not limited		Not limited		Not limited	
Urban land------	30	Not rated		Not rated		Not rated	
14E:							
Conetoe---------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.96	Too sandy	0.96	Too sandy	0.96
Chesapeake------	30	Not limited		Not limited		Not limited	
Tetotum---------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98

Table 11.—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
15:							
Deloss----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
16:							
Deloss----------	35	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 sandy	0.01	Too sandy	0.01	Too sandy	0.01
Tomotley--------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nimmo-----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
17:							
Deloss----------	60	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 sandy	0.01	Too sandy	0.01	Too sandy	0.01
Urban land------	30	Not rated		Not rated		Not rated	
18:							
Dorovan---------	55	Not rated		Not rated		Not rated	
Belhaven--------	40	Not rated		Not rated		Not rated	
19:							
Dragston--------	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
20:							
Dragston--------	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
Tomotley--------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
21:							
Dragston--------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
22:							
Dragston--------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 11.—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
22:							
Urban land	30	Not rated		Not rated		Not rated	
Tomotley	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
23:							
Gertie	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
		Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
24:							
Hyde	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
		Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
25:							
Munden	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
26C:							
Munden	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Too sandy	0.89	Depth to saturated zone	0.98
		Too sandy	0.89	Depth to saturated zone	0.75	Too sandy	0.89
						Slope	0.50
27:							
Munden	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Too sandy	0.89	Depth to saturated zone	0.98
		Too sandy	0.89	Depth to saturated zone	0.75	Too sandy	0.89
Urban land	30	Not rated		Not rated		Not rated	
28C:							
Munden	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Too sandy	0.89	Depth to saturated zone	0.98
		Too sandy	0.89	Depth to saturated zone	0.75	Too sandy	0.89
						Slope	0.50
Urban land	30	Not rated		Not rated		Not rated	
29:							
Munden	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Too sandy	0.89	Depth to saturated zone	0.98
		Too sandy	0.89	Depth to saturated zone	0.75	Too sandy	0.89
Urban land	30	Not rated		Not rated		Not rated	

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29:							
Pactolus	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Too sandy	0.79
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
30:							
Nawney	85	Not rated		Not rated		Not rated	
31:							
Pactolus	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Too sandy	0.79
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39
32:							
Pasquotank	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
33:							
Pocaty	95	Not rated		Not rated		Not rated	
34:							
Portsmouth	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	0.01	Too sandy	0.01	Too sandy	0.01
35C:							
Psamments	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.88
36:							
Pungo	60	Not rated		Not rated		Not rated	
Belhaven	38	Not rated		Not rated		Not rated	
37:							
Rappahannock	95	Not rated		Not rated		Not rated	
38:							
Tetotum	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
39:							
Tetotum	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
Urban land	30	Not rated		Not rated		Not rated	
40:							
Tetotum	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98

Table 11.—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
40:							
Urban land	30	Not rated		Not rated		Not rated	
Chesapeake	25	Not limited		Not limited		Not limited	
41:							
Tomotley	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
42:							
Tomotley	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Bertie	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
43:							
Tomotley	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Deloss	40	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 sandy	0.01	Too sandy	0.01	Too sandy	0.01
44:							
Tomotley	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Deloss	35	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 sandy	0.01	Too sandy	0.01	Too sandy	0.01
Urban land	23	Not rated		Not rated		Not rated	
45:							
Tomotley	78	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nimmo	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
46:							
Tomotley	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land	30	Not rated		Not rated		Not rated	

Table 11.—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
47:							
Tomotley--------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
Bertie----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
48:							
Tomotley--------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
Nimmo-----------	13	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
49:							
Udorthents------	70	Not rated		Not rated		Not rated	
Urban land------	25	Not rated		Not rated		Not rated	
50:							
Urban land------	90	Not rated		Not rated		Not rated	
51E:							
Urban land------	31	Not rated		Not rated		Not rated	
Conetoe---------	29	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.96	Too sandy	0.96	Too sandy	0.96
Chesapeake------	20	Not limited		Not limited		Not limited	
Tetotum---------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
52:							
Urban land------	31	Not rated		Not rated		Not rated	
Deloss----------	29	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 sandy	0.01	Too sandy	0.01	Too sandy	0.01
Tomotley--------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nimmo-----------	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

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53:							
Wando-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.82	Too sandy	0.82	Too sandy	0.82
54:							
Weeksville------	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
W:							
Water-----------	100	Not rated		Not rated		Not rated	

Table 11.—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
1:							
Acredale--------	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
2:							
Acredale--------	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
Chapanoke-------	13	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
3:							
Acredale--------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
4:							
Acredale--------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
Chapanoke-------	13	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
5:							
Aquents---------	98	Not rated		Not rated		Not rated	
6:							
Arapahoe--------	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
7:							
Arapahoe--------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
8:							
Bojac-----------	85	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.31	Too sandy	0.31		

Table 11.—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
9:							
Bojac	60	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.31	Too sandy	0.31		
Urban land	30	Not rated		Not rated		Not rated	
10:							
Bojac	35	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.31	Too sandy	0.31		
Urban land	30	Not rated		Not rated		Not rated	
Wando	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.82	Too sandy	0.82	Droughty	0.92
11:							
Chapanoke	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
Yeopim	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
12:							
Chesapeake	95	Not limited		Not limited		Not limited	
13:							
Chesapeake	65	Not limited		Not limited		Not limited	
Urban land	30	Not rated		Not rated		Not rated	
14E:							
Conetoe	35	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.96	Too sandy	0.96	Slope	1.00
		Slope	0.02			Droughty	0.01
Chesapeake	30	Not limited		Not limited		Not limited	
Tetotum	25	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	1.00
		Slope	0.18			Depth to saturated zone	0.75
15:							
Deloss	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	0.01	Too sandy	0.01		
16:							
Deloss	35	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 sandy	0.01	Too sandy	0.01		
Tomotley	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 11.—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
16:							
Nimmo-----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
17:							
Deloss----------	60	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 sandy	0.01	Too sandy	0.01		
Urban land------	30	Not rated		Not rated		Not rated	
18:							
Dorovan---------	55	Not rated		Not rated		Not rated	
Belhaven--------	40	Not rated		Not rated		Not rated	
19:							
Dragston--------	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
20:							
Dragston--------	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
Tomotley--------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
21:							
Dragston--------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
22:							
Dragston--------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
Tomotley--------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
23:							
Gertie----------	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
24:							
Hyde------------	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

Table 11.—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
25:							
Munden----------	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
26C:							
Munden----------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.89	Too sandy	0.89	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44		
27:							
Munden----------	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.89	Too sandy	0.89	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44		
Urban land------	30	Not rated		Not rated		Not rated	
28C:							
Munden----------	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.89	Too sandy	0.89	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44		
Urban land------	30	Not rated		Not rated		Not rated	
29:							
Munden----------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.89	Too sandy	0.89	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44		
Urban land------	30	Not rated		Not rated		Not rated	
Pactolus--------	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Droughty	0.34
						Depth to saturated zone	0.19
30:							
Nawney----------	85	Not rated		Not rated		Not rated	
31:							
Pactolus--------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Droughty	0.34
						Depth to saturated zone	0.19
32:							
Pasquotank------	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
33:							
Pocaty----------	95	Not rated		Not rated		Not rated	

Table 11.—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
34:							
Portsmouth------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	0.01	Too sandy	0.01		
35C:							
Psamments-------	95	Very limited		Very limited		Somewhat limited	
		Too sandy	1.00	Too sandy	1.00	Droughty	0.87
36:							
Pungo-----------	60	Not rated		Not rated		Not rated	
Belhaven--------	38	Not rated		Not rated		Not rated	
37:							
Rappahannock----	95	Not rated		Not rated		Not rated	
38:							
Tetotum---------	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
39:							
Tetotum---------	65	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Urban land------	30	Not rated		Not rated		Not rated	
40:							
Tetotum---------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Urban land------	30	Not rated		Not rated		Not rated	
Chesapeake------	25	Not limited		Not limited		Not limited	
41:							
Tomotley--------	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
42:							
Tomotley--------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Bertie----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
43:							
Tomotley--------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 11.—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
43:							
Deloss----------	40	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 sandy	0.01	Too sandy	0.01		
44:							
Tomotley--------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Deloss----------	35	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 sandy	0.01	Too sandy	0.01		
Urban land------	23	Not rated		Not rated		Not rated	
45:							
Tomotley--------	78	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nimmo-----------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
46:							
Tomotley--------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
47:							
Tomotley--------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
Bertie----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
48:							
Tomotley--------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land------	30	Not rated		Not rated		Not rated	
Nimmo-----------	13	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
49:							
Udorthents------	70	Not rated		Not rated		Not rated	
Urban land------	25	Not rated		Not rated		Not rated	

Table 11.—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
50:							
Urban land------	90	Not rated		Not rated		Not rated	
51E:							
Urban land------	31	Not rated		Not rated		Not rated	
Conetoe---------	29	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.96	Too sandy	0.96	Slope	1.00
		Slope	0.02			Droughty	0.01
Chesapeake------	20	Not limited		Not limited		Not limited	
Tetotum---------	15	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	1.00
		Slope	0.18			Depth to saturated zone	0.75
52:							
Urban land------	31	Not rated		Not rated		Not rated	
Deloss----------	29	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 sandy	0.01	Too sandy	0.01		
Tomotley--------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nimmo-----------	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
53:							
Wando-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.82	Too sandy	0.82	Droughty	0.92
54:							
Weeksville------	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
W:							
Water-----------	100	Not rated		Not rated		Not rated	

Table 12.—Building Site Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
1:							
Acredale	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	0.50	Shrink-swell	0.50
2:							
Acredale	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	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Chapanoke	13	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
3:							
Acredale	60	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	0.50	Shrink-swell	0.50
Urban land	30	Not rated		Not rated		Not rated	
4:							
Acredale	55	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	0.50	Shrink-swell	0.50
Urban land	30	Not rated		Not rated		Not rated	
Chapanoke	13	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
5:							
Aquents	98	Not rated		Not rated		Not rated	
6:							
Arapahoe	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
7:							
Arapahoe	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land	30	Not rated		Not rated		Not rated	
8:							
Bojac	85	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.61		

Table 12.—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
9:							
Bojac	60	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.61		
Urban land	30	Not rated		Not rated		Not rated	
10:							
Bojac	35	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.61		
Urban land	30	Not rated		Not rated		Not rated	
Wando	25	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.15		
11:							
Chapanoke	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
Yeopim	35	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
12:							
Chesapeake	95	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.61		
13:							
Chesapeake	65	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.61		
Urban land	30	Not rated		Not rated		Not rated	
14E:							
Conetoe	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Chesapeake	30	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.61		
Tetotum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.98	Slope	1.00	Depth to saturated zone	0.98
15:							
Deloss	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

Table 12.—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
16:							
Deloss-----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Tomotley---------	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nimmo------------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
17:							
Deloss-----------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land-------	30	Not rated		Not rated		Not rated	
18:							
Dorovan----------	55	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	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
Belhaven---------	40	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	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
19:							
Dragston---------	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
20:							
Dragston---------	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
Tomotley---------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
21:							
Dragston---------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land-------	30	Not rated		Not rated		Not rated	
22:							
Dragston---------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 12.—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
22:							
Urban land	30	Not rated		Not rated		Not rated	
Tomotley	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
23:							
Gertie	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
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
24:							
Hyde	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
25:							
Munden	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
26C:							
Munden	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
27:							
Munden	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Urban land	30	Not rated		Not rated		Not rated	
28C:							
Munden	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Urban land	30	Not rated		Not rated		Not rated	
29:							
Munden	40	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Urban land	30	Not rated		Not rated		Not rated	
Pactolus	20	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
30:							
Nawney	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

Table 12.—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
31:							
Pactolus----------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
32:							
Pasquotank--------	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
33:							
Pocaty------------	95	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	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
34:							
Portsmouth--------	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
35C:							
Psamments---------	95	Not limited		Somewhat limited		Somewhat limited	
				Depth to saturated zone	0.73	Slope	0.12
36:							
Pungo-------------	60	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Belhaven----------	38	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
37:							
Rappahannock------	95	Very limited		Very limited		Very limited	
		Subsidence	1.00	Subsidence	1.00	Subsidence	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
38:							
Tetotum-----------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
39:							
Tetotum-----------	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Urban land--------	30	Not rated		Not rated		Not rated	

Table 12.—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
40:							
Tetotum----------	40	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Urban land-------	30	Not rated		Not rated		Not rated	
Chesapeake-------	25	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.61		
41:							
Tomotley---------	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
42:							
Tomotley---------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Bertie-----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
43:							
Tomotley---------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Deloss-----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
44:							
Tomotley---------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Deloss-----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land-------	23	Not rated		Not rated		Not rated	
45:							
Tomotley---------	78	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nimmo------------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
46:							
Tomotley---------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land-------	30	Not rated		Not rated		Not rated	

Table 12.—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
47:							
Tomotley	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land	30	Not rated		Not rated		Not rated	
Bertie	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
48:							
Tomotley	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Urban land	30	Not rated		Not rated		Not rated	
Nimmo	13	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
49:							
Udorthents	70	Not rated		Not rated		Not rated	
Urban land	25	Not rated		Not rated		Not rated	
50:							
Urban land	90	Not rated		Not rated		Not rated	
51E:							
Urban land	31	Not rated		Not rated		Not rated	
Conetoe	29	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Chesapeake	20	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.61		
Tetotum	15	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.98	Slope	1.00	Depth to saturated zone	0.98
52:							
Urban land	31	Not rated		Not rated		Not rated	
Deloss	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Tomotley	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nimmo	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

Table 12.—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
53:							
Wando------------	85	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.15		
54:							
Weeksville-------	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
W:							
Water------------	100	Not rated		Not rated		Not rated	

Table 12.—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		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Acredale	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				
2:							
Acredale	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
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Chapanoke	13	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		
3:							
Acredale	60	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				
Urban land	30	Not rated		Not rated		Not rated	
4:							
Acredale	55	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				
Urban land	30	Not rated		Not rated		Not rated	
Chapanoke	13	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		
5:							
Aquents	98	Not rated		Not rated		Not rated	
6:							
Arapahoe	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
				Cutbanks cave	1.00		

Table 12.—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
7:							
Arapahoe	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Urban land	30	Not rated		Not rated		Not rated	
8:							
Bojac	85	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
				Depth to saturated zone	0.61		
9:							
Bojac	60	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
				Depth to saturated zone	0.61		
Urban land	30	Not rated		Not rated		Not rated	
10:							
Bojac	35	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
				Depth to saturated zone	0.61		
Urban land	30	Not rated		Not rated		Not rated	
Wando	25	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.92
				Depth to saturated zone	0.15		
11:							
Chapanoke	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
		Low strength	1.00	Cutbanks cave	0.10		
Yeopim	35	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	1.00		
12:							
Chesapeake	95	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
				Depth to saturated zone	0.61		
13:							
Chesapeake	65	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
				Depth to saturated zone	0.61		
Urban land	30	Not rated		Not rated		Not rated	

Table 12.—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
14E:							
Conetoe	35	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
				Slope	1.00	Droughty	0.01
Chesapeake	30	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
				Depth to saturated zone	0.61		
Tetotum	25	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.75	Cutbanks cave	1.00	Depth to saturated zone	0.75
				Slope	1.00		
15:							
Deloss	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
				Cutbanks cave	1.00		
16:							
Deloss	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Tomotley	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Nimmo	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
17:							
Deloss	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Urban land	30	Not rated		Not rated		Not rated	
18:							
Dorovan	55	Very limited		Very limited		Not rated	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Subsidence	1.00	Organic matter content	1.00		
		Flooding	1.00	Flooding	0.80		
Belhaven	40	Very limited		Very limited		Not rated	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Subsidence	1.00	Organic matter content	1.00		
		Flooding	1.00	Flooding	0.80		

Table 12.—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
19:							
Dragston--------	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
20:							
Dragston--------	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
				Cutbanks cave	1.00		
Tomotley--------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
21:							
Dragston--------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Urban land------	30	Not rated		Not rated		Not rated	
22:							
Dragston--------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Urban land------	30	Not rated		Not rated		Not rated	
Tomotley--------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
23:							
Gertie----------	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
		Low strength	1.00	Cutbanks cave	1.00		
		Shrink-swell	0.50				
24:							
Hyde------------	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
		Low strength	1.00	Cutbanks cave	1.00		
25:							
Munden----------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
				Cutbanks cave	1.00		

Table 12.—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
26C:							
Munden	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
				Cutbanks cave	1.00		
27:							
Munden	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
				Cutbanks cave	1.00		
Urban land	30	Not rated		Not rated		Not rated	
28C:							
Munden	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
				Cutbanks cave	1.00		
Urban land	30	Not rated		Not rated		Not rated	
29:							
Munden	40	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
				Cutbanks cave	1.00		
Urban land	30	Not rated		Not rated		Not rated	
Pactolus	20	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00	Droughty	0.34
				Cutbanks cave	1.00	Depth to saturated zone	0.19
30:							
Nawney	85	Very limited		Very limited		Not rated	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Cutbanks cave	1.00		
				Flooding	0.80		
31:							
Pactolus	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.19	Depth to saturated zone	1.00	Droughty	0.34
				Cutbanks cave	1.00	Depth to saturated zone	0.19
32:							
Pasquotank	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	0.22	Cutbanks cave	0.10		
33:							
Pocaty	95	Very limited		Very limited		Not rated	
		Depth to saturated zone	1.00	Flooding	1.00		
		Subsidence	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Organic matter content	1.00		

Table 12.—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
34:							
Portsmouth	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
				Cutbanks cave	1.00		
35C:							
Psamments	95	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.87
				Depth to saturated zone	0.73		
36:							
Pungo	60	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Subsidence	1.00	Organic matter content	1.00		
Belhaven	38	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Subsidence	1.00	Organic matter content	1.00		
37:							
Rappahannock	95	Very limited		Very limited		Not rated	
		Depth to saturated zone	1.00	Flooding	1.00		
		Subsidence	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Cutbanks cave	1.00		
38:							
Tetotum	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
				Cutbanks cave	1.00		
39:							
Tetotum	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
				Cutbanks cave	1.00		
Urban land	30	Not rated		Not rated		Not rated	
40:							
Tetotum	40	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
				Cutbanks cave	1.00		
Urban land	30	Not rated		Not rated		Not rated	
Chesapeake	25	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
				Depth to saturated zone	0.61		

Table 12.—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
41:							
Tomotley--------	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
				Cutbanks cave	1.00		
42:							
Tomotley--------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Bertie----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
43:							
Tomotley--------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Deloss----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
44:							
Tomotley--------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Deloss----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Urban land------	23	Not rated		Not rated		Not rated	
45:							
Tomotley--------	78	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Nimmo-----------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
46:							
Tomotley--------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Urban land------	30	Not rated		Not rated		Not rated	

Table 12.—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
47:							
Tomotley--------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Urban land------	30	Not rated		Not rated		Not rated	
Bertie----------	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
48:							
Tomotley--------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Urban land------	30	Not rated		Not rated		Not rated	
Nimmo-----------	13	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
49:							
Udorthents------	70	Not rated		Not rated		Not rated	
Urban land------	25	Not rated		Not rated		Not rated	
50:							
Urban land------	90	Not rated		Not rated		Not rated	
51E:							
Urban land------	31	Not rated		Not rated		Not rated	
Conetoe---------	29	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
				Slope	1.00	Droughty	0.01
Chesapeake------	20	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
				Depth to saturated zone	0.61		
Tetotum---------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.75			Depth to saturated zone	0.75
				Cutbanks cave	1.00		
				Slope	1.00		
52:							
Urban land------	31	Not rated		Not rated		Not rated	
Deloss----------	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		

Table 12.—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
52:							
Tomotley	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Cutbanks cave	1.00		
Nimmo	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
				Cutbanks cave	1.00		
53:							
Wando	85	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.92
				Depth to saturated zone	0.15		
54:							
Weeksville	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
				Cutbanks cave	1.00		
W:							
Water	100	Not rated		Not rated		Not rated	

Table 13.—Sanitary Facilities, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
1:					
Acredale------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
2:					
Acredale------------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
Chapanoke-----------	13	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
3:					
Acredale------------	60	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
Urban land----------	30	Not rated		Not rated	
4:					
Acredale------------	55	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.50
Urban land----------	30	Not rated		Not rated	
Chapanoke-----------	13	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
5:					
Aquents-------------	98	Not rated		Not rated	
6:					
Arapahoe------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 13.—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
7:					
Arapahoe	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Urban land	30	Not rated		Not rated	
8:					
Bojac	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.71
9:					
Bojac	60	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.71
Urban land	30	Not rated		Not rated	
10:					
Bojac	35	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.71
Urban land	30	Not rated		Not rated	
Wando	25	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Filtering capacity	1.00		
		Depth to saturated zone	0.40		
11:					
Chapanoke	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
Yeopim	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		

Table 13.—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
12:					
Chesapeake----------	95	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.71
		Slow water movement	0.50		
13:					
Chesapeake----------	65	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.71
		Slow water movement	0.50		
Urban land----------	30	Not rated		Not rated	
14E:					
Conetoe-------------	35	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
Chesapeake----------	30	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.71
		Slow water movement	0.50		
Tetotum-------------	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
15:					
Deloss--------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
16:					
Deloss--------------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		

Table 13.—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
16:					
Tomotley	30	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Nimmo	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
17:					
Deloss	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Urban land	30	Not rated		Not rated	
18:					
Dorovan	55	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
Belhaven	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00
19:					
Dragston	92	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
20:					
Dragston	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00

Table 13.—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
20:					
Tomotley	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
21:					
Dragston	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
Urban land	30	Not rated		Not rated	
22:					
Dragston	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
Urban land	30	Not rated		Not rated	
Tomotley	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
23:					
Gertie	80	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		
24:					
Hyde	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
25:					
Munden	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 13.—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
26C:					
Munden	75	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.32
27:					
Munden	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Urban land	30	Not rated		Not rated	
28C:					
Munden	50	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.32
Urban land	30	Not rated		Not rated	
29:					
Munden	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Urban land	30	Not rated		Not rated	
Pactolus	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00		
30:					
Nawney	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	0.99	Organic matter content	1.00
31:					
Pactolus	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00		

Table 13.—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
32:					
Pasquotank----------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
33:					
Pocaty--------------	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
34:					
Portsmouth----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
35C:					
Psamments-----------	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	0.92
		Filtering capacity	1.00	Slope	0.68
36:					
Pungo---------------	60	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
Belhaven------------	38	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Organic matter content	1.00
37:					
Rappahannock--------	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Seepage	1.00

Table 13.—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
38:					
Tetotum-------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
39:					
Tetotum-------------	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Urban land----------	30	Not rated		Not rated	
40:					
Tetotum-------------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Urban land----------	30	Not rated		Not rated	
Chesapeake----------	25	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.71
		Slow water movement	0.50		
41:					
Tomotley------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
42:					
Tomotley------------	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		

Table 13.—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
42:					
Bertie	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
43:					
Tomotley	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Deloss	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
44:					
Tomotley	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Deloss	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Urban land	23	Not rated		Not rated	
45:					
Tomotley	78	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Nimmo	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00

Table 13.—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
46:					
Tomotley	65	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Urban land	30	Not rated		Not rated	
47:					
Tomotley	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Urban land	30	Not rated		Not rated	
Bertie	25	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
48:					
Tomotley	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Urban land	30	Not rated		Not rated	
Nimmo	13	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
49:					
Udorthents	70	Not rated		Not rated	
Urban land	25	Not rated		Not rated	
50:					
Urban land	90	Not rated		Not rated	

Table 13.—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
51E:					
Urban land----------	31	Not rated		Not rated	
Conetoe-------------	29	Very limited		Very limited	
		Slope	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	1.00
Chesapeake----------	20	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Depth to saturated zone	0.71
		Depth to saturated zone	0.99		
		Slow water movement	0.50		
Tetotum-------------	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
52:					
Urban land----------	31	Not rated		Not rated	
Deloss--------------	29	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Tomotley------------	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
Nimmo---------------	15	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
53:					
Wando---------------	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Filtering capacity	1.00		
		Depth to saturated zone	0.40		

Table 13.—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
54:					
Weeksville----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.50		
W:					
Water---------------	100	Not rated		Not rated	

Table 13.—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
1:							
Acredale----------	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
		Too clayey	0.50			Too clayey	0.50
2:							
Acredale----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Chapanoke---------	13	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	0.50			Too clayey	0.50
3:							
Acredale----------	60	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	0.50			Too clayey	0.50
Urban land--------	30	Not rated		Not rated		Not rated	
4:							
Acredale----------	55	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	0.50			Too clayey	0.50
Urban land--------	30	Not rated		Not rated		Not rated	
Chapanoke---------	13	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	0.50			Too clayey	0.50
5:							
Aquents-----------	98	Not rated		Not rated		Not rated	
6:							
Arapahoe----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	1.00

Table 13.—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
7:							
Arapahoe	60	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 sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	1.00
Urban land	30	Not rated		Not rated		Not rated	
8:							
Bojac	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.50
		Seepage, bottom layer	1.00	Seepage	1.00		
9:							
Bojac	60	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.50
		Seepage, bottom layer	1.00	Seepage	1.00		
Urban land	30	Not rated		Not rated		Not rated	
10:							
Bojac	35	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.50
		Seepage, bottom layer	1.00	Seepage	1.00		
Urban land	30	Not rated		Not rated		Not rated	
Wando	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00				
11:							
Chapanoke	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
		Too clayey	0.50			Too clayey	0.50
Yeopim	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Seepage, bottom layer	1.00				
12:							
Chesapeake	95	Very limited		Very limited		Not limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00				

Table 13.—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
13:							
Chesapeake	65	Very limited		Very limited		Not limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00				
Urban land	30	Not rated		Not rated		Not rated	
14E:							
Conetoe	35	Very limited		Very limited		Very limited	
		Slope	1.00	Seepage	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Slope	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50
Chesapeake	30	Very limited		Very limited		Not limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00				
Tetotum	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to saturated zone	0.99
		Seepage, bottom layer	1.00				
15:							
Deloss	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
		Seepage, bottom layer	1.00				
16:							
Deloss	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00				
Tomotley	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
Nimmo	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21

Table 13.—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
17:							
Deloss	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00				
Urban land	30	Not rated		Not rated		Not rated	
18:							
Dorovan	55	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	Organic matter content	1.00
		Organic matter content	1.00				
Belhaven	40	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		
19:							
Dragston	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
20:							
Dragston	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
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Tomotley	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
21:							
Dragston	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Urban land	30	Not rated		Not rated		Not rated	

Table 13.—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
22:							
Dragston----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
Urban land--------	30	Not rated		Not rated		Not rated	
Tomotley----------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
23:							
Gertie------------	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
		Seepage, bottom layer	1.00			Hard to compact	1.00
		Too clayey	0.50			Seepage	1.00
24:							
Hyde--------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
25:							
Munden------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Too sandy	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00			Depth to saturated zone	0.99
26C:							
Munden------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Too sandy	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00			Depth to saturated zone	0.99
27:							
Munden------------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Too sandy	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00			Depth to saturated zone	0.99
Urban land--------	30	Not rated		Not rated		Not rated	

Table 13.—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
28C:							
Munden------------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Too sandy	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00			Depth to saturated zone	0.99
Urban land--------	30	Not rated		Not rated		Not rated	
29:							
Munden------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Too sandy	1.00	Seepage	1.00	Seepage	1.00
		Seepage, bottom layer	1.00			Depth to saturated zone	0.99
Urban land--------	30	Not rated		Not rated		Not rated	
Pactolus----------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	0.86
		Too sandy	0.50			Too sandy	0.50
30:							
Nawney------------	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		
31:							
Pactolus----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	0.86
		Too sandy	0.50			Too sandy	0.50
32:							
Pasquotank--------	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
33:							
Pocaty------------	95	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	Organic matter content	1.00
		Organic matter content	1.00			Salinity	1.00
34:							
Portsmouth--------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	1.00

Table 13.—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
35C:							
Psamments	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00				
36:							
Pungo	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00			Organic matter content	1.00
Belhaven	38	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
37:							
Rappahannock	95	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	Organic matter content	1.00
		Organic matter content	1.00	Seepage	1.00	Salinity	1.00
38:							
Tetotum	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Seepage, bottom layer	1.00				
39:							
Tetotum	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Seepage, bottom layer	1.00				
Urban land	30	Not rated		Not rated		Not rated	
40:							
Tetotum	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Seepage, bottom layer	1.00				
Urban land	30	Not rated		Not rated		Not rated	
Chesapeake	25	Very limited		Very limited		Not limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00				

Table 13.—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
41:							
Tomotley----------	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
		Seepage, bottom layer	1.00			Seepage	0.21
42:							
Tomotley----------	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
Bertie------------	35	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 sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	1.00
43:							
Tomotley----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
Deloss------------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00				
44:							
Tomotley----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
Deloss------------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00				
Urban land--------	23	Not rated		Not rated		Not rated	
45:							
Tomotley----------	78	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
Nimmo-------------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21

Table 13.—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
46:							
Tomotley----------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
Urban land--------	30	Not rated		Not rated		Not rated	
47:							
Tomotley----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
Urban land--------	30	Not rated		Not rated		Not rated	
Bertie------------	25	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 sandy	1.00	Seepage	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00			Seepage	1.00
48:							
Tomotley----------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
Urban land--------	30	Not rated		Not rated		Not rated	
Nimmo-------------	13	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
49:							
Udorthents--------	70	Not rated		Not rated		Not rated	
Urban land--------	25	Not rated		Not rated		Not rated	
50:							
Urban land--------	90	Not rated		Not rated		Not rated	
51E:							
Urban land--------	31	Not rated		Not rated		Not rated	
Conetoe-----------	29	Very limited		Very limited		Very limited	
		Slope	1.00	Seepage	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Slope	1.00	Seepage	1.00
		Too sandy	0.50			Too sandy	0.50

Table 13.—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
51E:							
Chesapeake	20	Very limited		Very limited		Not limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00				
Tetotum	15	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to saturated zone	0.99
		Seepage, bottom layer	1.00				
52:							
Urban land	31	Not rated		Not rated		Not rated	
Deloss	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00				
Tomotley	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00			Seepage	0.21
Nimmo	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
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.21
53:							
Wando	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00				
54:							
Weeksville	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
		Seepage, bottom layer	1.00				
W:							
Water	100	Not rated		Not rated		Not rated	

Table 14.—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
1:					
Acredale	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
2:					
Acredale	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Chapanoke	13	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3:					
Acredale	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	30	Not rated		Not rated	
4:					
Acredale	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	30	Not rated		Not rated	
Chapanoke	13	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
5:					
Aquents	98	Not rated		Not rated	
6:					
Arapahoe	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.32
7:					
Arapahoe	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.32
Urban land	30	Not rated		Not rated	
8:					
Bojac	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.79

Table 14.—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
9:					
Bojac	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.79
Urban land	30	Not rated		Not rated	
10:					
Bojac	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.79
Urban land	30	Not rated		Not rated	
Wando	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.26
		Thickest layer	0.00	Bottom layer	0.88
11:					
Chapanoke	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Yeopim	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.06
12:					
Chesapeake	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.79
13:					
Chesapeake	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.79
Urban land	30	Not rated		Not rated	
14E:					
Conetoe	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.32
Chesapeake	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.79
Tetotum	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.31
15:					
Deloss	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.36

Table 14.—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
16:					
Deloss	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.36
Tomotley	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28
Nimmo	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.28
17:					
Deloss	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.36
Urban land	30	Not rated		Not rated	
18:					
Dorovan	55	Not rated		Not rated	
Belhaven	40	Not rated		Not rated	
19:					
Dragston	92	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.28
20:					
Dragston	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.28
Tomotley	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28
21:					
Dragston	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.28
Urban land	30	Not rated		Not rated	
22:					
Dragston	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.28
Urban land	30	Not rated		Not rated	
Tomotley	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28

Table 14.—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
23:					
Gertie	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.32
24:					
Hyde	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.31
25:					
Munden	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.16
26C:					
Munden	75	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.16
27:					
Munden	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.16
Urban land	30	Not rated		Not rated	
28C:					
Munden	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.16
Urban land	30	Not rated		Not rated	
29:					
Munden	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.16
Urban land	30	Not rated		Not rated	
Pactolus	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.06
		Thickest layer	0.00	Bottom layer	0.06
30:					
Nawney	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.10
31:					
Pactolus	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.06
		Thickest layer	0.00	Bottom layer	0.06
32:					
Pasquotank	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14.—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
33:					
Pocaty	95	Not rated		Not rated	
34:					
Portsmouth	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.36
35C:					
Psamments	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.14
		Thickest layer	0.00	Bottom layer	0.57
36:					
Pungo	60	Not rated		Not rated	
Belhaven	38	Not rated		Not rated	
37:					
Rappahannock	95	Not rated		Not rated	
38:					
Tetotum	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.31
39:					
Tetotum	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.31
Urban land	30	Not rated		Not rated	
40:					
Tetotum	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.31
Urban land	30	Not rated		Not rated	
Chesapeake	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.79
41:					
Tomotley	90	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.28
42:					
Tomotley	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28
Bertie	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.32

Table 14.—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
43:					
Tomotley	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28
Deloss	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.36
44:					
Tomotley	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28
Deloss	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.36
Urban land	23	Not rated		Not rated	
45:					
Tomotley	78	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.28
Nimmo	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.28
46:					
Tomotley	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28
Urban land	30	Not rated		Not rated	
47:					
Tomotley	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28
Urban land	30	Not rated		Not rated	
Bertie	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.32
48:					
Tomotley	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28
Urban land	30	Not rated		Not rated	
Nimmo	13	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.28

Table 14.—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
49:					
Udorthents----------	70	Not rated		Not rated	
Urban land----------	25	Not rated		Not rated	
50:					
Urban land----------	90	Not rated		Not rated	
51E:					
Urban land----------	31	Not rated		Not rated	
Conetoe-------------	29	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.32
Chesapeake----------	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.79
Tetotum-------------	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.31
52:					
Urban land----------	31	Not rated		Not rated	
Deloss--------------	29	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.36
Tomotley------------	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.28
Nimmo---------------	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.28
53:					
Wando---------------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.26
		Thickest layer	0.00	Bottom layer	0.88
54:					
Weeksville----------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.16
W:					
Water---------------	100	Not rated		Not rated	

Table 14.—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
1:							
Acredale	90	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00		
		Water erosion	0.90	Shrink-swell	0.99		
2:							
Acredale	85	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00		
		Water erosion	0.90	Shrink-swell	0.99		
Chapanoke	13	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.32	Low strength	0.00	Too acid	0.88
		Water erosion	0.90				
3:							
Acredale	60	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00		
		Water erosion	0.90	Shrink-swell	0.99		
Urban land	30	Not rated		Not rated		Not rated	
4:							
Acredale	55	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00		
		Water erosion	0.90	Shrink-swell	0.99		
Urban land	30	Not rated		Not rated		Not rated	
Chapanoke	13	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.32	Low strength	0.00	Too acid	0.88
		Water erosion	0.90				
5:							
Aquents	98	Not rated		Not rated		Not rated	
6:							
Arapahoe	85	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12			Too sandy	0.99

Table 14.—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
7:							
Arapahoe	60	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12			Too sandy	0.99
Urban land	30	Not rated		Not rated		Not rated	
8:							
Bojac	85	Poor		Good		Fair	
		Wind erosion	0.00			Too acid	0.92
		Organic matter content low	0.12			Too sandy	0.98
		Too acid	0.39				
9:							
Bojac	60	Poor		Good		Fair	
		Wind erosion	0.00			Too acid	0.92
		Organic matter content low	0.12			Too sandy	0.98
		Too acid	0.39				
Urban land	30	Not rated		Not rated		Not rated	
10:							
Bojac	35	Poor		Good		Fair	
		Wind erosion	0.00			Too acid	0.92
		Organic matter content low	0.12			Too sandy	0.98
		Too acid	0.39				
Urban land	30	Not rated		Not rated		Not rated	
Wando	25	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content low	0.12				
11:							
Chapanoke	50	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00	Too acid	0.88
		Too acid	0.32				
		Water erosion	0.90				
Yeopim	35	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.14
				Wetness depth	0.14	Too acid	0.76
		Too acid	0.20				
		Water erosion	0.90				
12:							
Chesapeake	95	Fair		Good		Fair	
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				

Table 14.—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
13:							
Chesapeake	65	Fair		Good		Fair	
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				
Urban land	30	Not rated		Not rated		Not rated	
14E:							
Conetoe	35	Poor		Fair		Poor	
		Too sandy	0.00	Slope	0.98	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Organic matter content low	0.12			Too acid	0.98
Chesapeake	30	Fair		Good		Fair	
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				
Tetotum	25	Fair		Fair		Poor	
		Too acid	0.12	Wetness depth	0.14	Slope	0.00
		Organic matter content low	0.12	Slope	0.82	Wetness depth	0.14
						Too acid	0.59
15:							
Deloss	85	Fair		Poor		Poor	
		Too acid	0.32	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.50			Too acid	0.88
16:							
Deloss	35	Fair		Poor		Poor	
		Too acid	0.32	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.50			Too acid	0.88
Tomotley	30	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
Nimmo	25	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.88
17:							
Deloss	60	Fair		Poor		Poor	
		Too acid	0.32	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.50			Too acid	0.88
Urban land	30	Not rated		Not rated		Not rated	
18:							
Dorovan	55	Not rated		Poor		Not rated	
				Wetness depth	0.00		
Belhaven	40	Not rated		Poor		Not rated	
				Wetness depth	0.00		

Table 14.—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
19:							
Dragston--------	92	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.50			Too acid	0.88
20:							
Dragston--------	70	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.50			Too acid	0.88
Tomotley--------	25	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
21:							
Dragston--------	65	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.50			Too acid	0.88
Urban land------	30	Not rated		Not rated		Not rated	
22:							
Dragston--------	45	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.50			Too acid	0.88
Urban land------	30	Not rated		Not rated		Not rated	
Tomotley--------	20	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
23:							
Gertie----------	80	Fair		Poor		Poor	
		Too clayey	0.02	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.12	Shrink-swell	0.99	Too clayey	0.01
		Organic matter content low	0.12			Too acid	0.59
24:							
Hyde------------	85	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00	Too acid	0.59
		Water erosion	0.99				
25:							
Munden----------	90	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
		Too acid	0.50			Too acid	0.98

Table 14.—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
26C:							
Munden----------	75	Poor		Fair		Fair	
		Wind erosion	0.00	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.50				
27:							
Munden----------	65	Poor		Fair		Fair	
		Wind erosion	0.00	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.50				
Urban land------	30	Not rated		Not rated		Not rated	
28C:							
Munden----------	50	Poor		Fair		Fair	
		Wind erosion	0.00	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.50				
Urban land------	30	Not rated		Not rated		Not rated	
29:							
Munden----------	40	Poor		Fair		Fair	
		Wind erosion	0.00	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.50				
Urban land------	30	Not rated		Not rated		Not rated	
Pactolus--------	20	Poor		Fair		Fair	
		Wind erosion	0.00	Wetness depth	0.53	Too sandy	0.01
		Organic matter content low	0.00			Wetness depth	0.53
		Too sandy	0.01			Too acid	0.88
30:							
Nawney----------	85	Fair		Poor		Poor	
		Too acid	0.08	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.92
31:							
Pactolus--------	85	Poor		Fair		Fair	
		Wind erosion	0.00	Wetness depth	0.53	Too sandy	0.01
		Organic matter content low	0.00			Wetness depth	0.53
		Too sandy	0.01			Too acid	0.88
32:							
Pasquotank------	90	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.32	Low strength	0.78	Too acid	0.88
		Water erosion	0.90				

Table 14.—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
33:							
Pocaty----------	95	Not rated		Poor		Not rated	
				Wetness depth	0.00		
34:							
Portsmouth------	85	Fair		Poor		Poor	
		Too acid	0.50	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.50			Too acid	0.59
35C:							
Psamments-------	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Organic matter content low	0.12				
		Droughty	0.13				
36:							
Pungo-----------	60	Not rated		Poor		Not rated	
				Wetness depth	0.00		
Belhaven--------	38	Not rated		Poor		Not rated	
				Wetness depth	0.00		
37:							
Rappahannock----	95	Not rated		Poor		Not rated	
				Wetness depth	0.00		
38:							
Tetotum---------	90	Fair		Fair		Fair	
		Too acid	0.12	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.12			Too acid	0.59
39:							
Tetotum---------	65	Fair		Fair		Fair	
		Too acid	0.12	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.12			Too acid	0.59
Urban land------	30	Not rated		Not rated		Not rated	
40:							
Tetotum---------	40	Fair		Fair		Fair	
		Too acid	0.12	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.12			Too acid	0.59
Urban land------	30	Not rated		Not rated		Not rated	
Chesapeake------	25	Fair		Good		Fair	
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				
41:							
Tomotley--------	90	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59

Table 14.—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
42:							
Tomotley	60	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
Bertie	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
						Too acid	0.98
		Too acid	0.54				
43:							
Tomotley	55	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
Deloss	40	Fair		Poor		Poor	
		Too acid	0.32	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.50			Too acid	0.88
44:							
Tomotley	40	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
Deloss	35	Fair		Poor		Poor	
		Too acid	0.32	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.50			Too acid	0.88
Urban land	23	Not rated		Not rated		Not rated	
45:							
Tomotley	78	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
Nimmo	20	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.88
46:							
Tomotley	65	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
Urban land	30	Not rated		Not rated		Not rated	
47:							
Tomotley	40	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59

Table 14.—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
47:							
Urban land	30	Not rated		Not rated		Not rated	
Bertie	25	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.54			Too acid	0.98
48:							
Tomotley	55	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
Urban land	30	Not rated		Not rated		Not rated	
Nimmo	13	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.88
49:							
Udorthents	70	Not rated		Not rated		Not rated	
Urban land	25	Not rated		Not rated		Not rated	
50:							
Urban land	90	Not rated		Not rated		Not rated	
51E:							
Urban land	31	Not rated		Not rated		Not rated	
Conetoe	29	Poor		Fair		Poor	
		Too sandy	0.00	Slope	0.98	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Organic matter content low	0.12			Too acid	0.98
Chesapeake	20	Fair		Good		Fair	
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				
Tetotum	15	Fair		Fair		Poor	
		Too acid	0.12	Wetness depth	0.14	Slope	0.00
		Organic matter content low	0.12	Slope	0.82	Wetness depth	0.14
						Too acid	0.59
52:							
Urban land	31	Not rated		Not rated		Not rated	
Deloss	29	Fair		Poor		Poor	
		Too acid	0.32	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.50			Too acid	0.88

Table 14.—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
52:							
Tomotley--------	20	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
Nimmo-----------	15	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.88
53:							
Wando-----------	85	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content low	0.12				
54:							
Weeksville------	85	Fair		Poor		Poor	
		Too acid	0.32	Wetness depth	0.00	Wetness depth	0.00
		Water erosion	0.99			Too acid	0.88
W:							
Water-----------	100	Not rated		Not rated		Not rated	

Table 15.—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
1:							
Acredale--------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.38		
2:							
Acredale--------	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	0.38		
Chapanoke-------	13	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
						Cutbanks cave	0.10
				Piping	0.07		
3:							
Acredale--------	60	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.38		
Urban land------	30	Not rated		Not rated		Not rated	
4:							
Acredale--------	55	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.38		
Urban land------	30	Not rated		Not rated		Not rated	
Chapanoke-------	13	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
						Cutbanks cave	0.10
				Piping	0.07		
5:							
Aquents---------	98	Not rated		Not rated		Not rated	
6:							
Arapahoe--------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.32		
7:							
Arapahoe--------	60	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.32		
Urban land------	30	Not rated		Not rated		Not rated	

Table 15.—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
8:							
Bojac	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Cutbanks cave	1.00
						Depth to saturated zone	0.81
9:							
Bojac	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Cutbanks cave	1.00
						Depth to saturated zone	0.81
Urban land	30	Not rated		Not rated		Not rated	
10:							
Bojac	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Cutbanks cave	1.00
						Depth to saturated zone	0.81
Urban land	30	Not rated		Not rated		Not rated	
Wando	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.88	Depth to water	1.00
11:							
Chapanoke	50	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
						Cutbanks cave	0.10
				Piping	0.07		
Yeopim	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	0.71		
				Seepage	0.06		
12:							
Chesapeake	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Cutbanks cave	1.00
						Depth to saturated zone	0.81
13:							
Chesapeake	65	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Cutbanks cave	1.00
						Depth to saturated zone	0.81
Urban land	30	Not rated		Not rated		Not rated	
14E:							
Conetoe	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.32	Depth to water	1.00
		Slope	0.04				
Chesapeake	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Cutbanks cave	1.00
						Depth to saturated zone	0.81

Table 15.—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
14E:							
Tetotum---------	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Slope	0.08	Seepage	0.31		
15:							
Deloss----------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.36		
16:							
Deloss----------	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.36		
Tomotley--------	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Nimmo-----------	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
17:							
Deloss----------	60	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.36		
Urban land------	30	Not rated		Not rated		Not rated	
18:							
Dorovan---------	55	Somewhat limited		Not rated		Somewhat limited	
		Seepage	0.70			Slow refill	0.30
						Cutbanks cave	0.10
Belhaven--------	40	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
19:							
Dragston--------	92	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
20:							
Dragston--------	70	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Tomotley--------	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		

Table 15.—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
21:							
Dragston--------	65	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Urban land------	30	Not rated		Not rated		Not rated	
22:							
Dragston--------	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Urban land------	30	Not rated		Not rated		Not rated	
Tomotley--------	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
23:							
Gertie----------	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	0.39		
				Seepage	0.32		
24:							
Hyde------------	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.05	Depth to saturated zone	1.00	Cutbanks cave	1.00
						Slow refill	0.30
				Piping	0.57		
				Seepage	0.31		
25:							
Munden----------	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.16		
26C:							
Munden----------	75	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.16		
27:							
Munden----------	65	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.16		
Urban land------	30	Not rated		Not rated		Not rated	
28C:							
Munden----------	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.16		

Table 15.—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
28C:							
Urban land	30	Not rated		Not rated		Not rated	
29:							
Munden	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.16		
Urban land	30	Not rated		Not rated		Not rated	
Pactolus	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.99	Cutbanks cave	1.00
				Seepage	0.06	Depth to saturated zone	0.01
30:							
Nawney	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00	Slow refill	0.30
				Seepage	0.10		
31:							
Pactolus	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.99	Cutbanks cave	1.00
				Seepage	0.06	Depth to saturated zone	0.01
32:							
Pasquotank	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
				Piping	1.00	Cutbanks cave	0.10
33:							
Pocaty	95	Somewhat limited		Not rated		Very limited	
		Seepage	0.70			Salinity and saturated zone	1.00
						Cutbanks cave	0.10
34:							
Portsmouth	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.36		
35C:							
Psamments	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.57	Cutbanks cave	1.00
				Depth to saturated zone	0.02	Depth to saturated zone	0.68
36:							
Pungo	60	Somewhat limited		Not rated		Somewhat limited	
		Seepage	0.70			Slow refill	0.30
						Cutbanks cave	0.10
Belhaven	38	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10

Table 15.—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
37:							
Rappahannock----	95	Very limited		Not rated		Very limited	
		Seepage	1.00			Cutbanks cave	1.00
						Salinity and saturated zone	1.00
38:							
Tetotum---------	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.31		
39:							
Tetotum---------	65	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.31		
Urban land------	30	Not rated		Not rated		Not rated	
40:							
Tetotum---------	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.31		
Urban land------	30	Not rated		Not rated		Not rated	
Chesapeake------	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Cutbanks cave	1.00
						Depth to saturated zone	0.81
41:							
Tomotley--------	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
42:							
Tomotley--------	60	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Bertie----------	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.32		
43:							
Tomotley--------	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Deloss----------	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.36		

Table 15.—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
44:							
Tomotley	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Deloss	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.36		
Urban land	23	Not rated		Not rated		Not rated	
45:							
Tomotley	78	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Nimmo	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
46:							
Tomotley	65	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Urban land	30	Not rated		Not rated		Not rated	
47:							
Tomotley	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Urban land	30	Not rated		Not rated		Not rated	
Bertie	25	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.32		
48:							
Tomotley	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Urban land	30	Not rated		Not rated		Not rated	
Nimmo	13	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		

Table 15.—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
49:							
Udorthents	70	Not rated		Not rated		Not rated	
Urban land	25	Not rated		Not rated		Not rated	
50:							
Urban land	90	Not rated		Not rated		Not rated	
51E:							
Urban land	31	Not rated		Not rated		Not rated	
Conetoe	29	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.32	Depth to water	1.00
		Slope	0.04				
Chesapeake	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Cutbanks cave	1.00
						Depth to saturated zone	0.81
Tetotum	15	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
		Slope	0.08	Seepage	0.31		
52:							
Urban land	31	Not rated		Not rated		Not rated	
Deloss	29	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.36		
Tomotley	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
Nimmo	15	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.28		
53:							
Wando	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.88	Depth to water	1.00
54:							
Weeksville	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00		
				Seepage	0.16		
W:							
Water	100	Not rated		Not rated		Not rated	

Table 16.—Engineering Soil Properties

(Absence of an entry indicates that the data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
1:										
Acredale------	0-7	Loam, very fine sandy loam, silt loam	ML, CL-ML, CL	A-4, A-6	100	100	85-100	50-90	21-39	4-13
	7-15	Silt loam, loam	CL, CL-ML	A-4, A-6	100	100	85-100	60-90	22-39	7-25
	15-43	Silt loam, silty clay loam	CL	A-6, A-7	100	100	90-100	70-95	29-50	12-29
	43-66	Fine sandy loam, clay, loamy fine sand, fine sand, silty clay, silt loam, silty clay loam	CL, SM, SC, SC-SM	A-2, A-4	100	100	65-100	20-95	0-53	NP-32
2:										
Acredale------	0-7	Very fine sandy loam, loam, silt loam	ML, CL-ML, CL	A-4, A-6	100	100	85-100	50-90	21-39	4-13
	7-15	Silt loam, loam	CL-ML, CL	A-4, A-6	100	100	85-100	60-90	22-39	7-25
	15-43	Silt loam, silty clay loam	CL	A-6, A-7	100	100	90-100	70-95	29-50	12-29
	43-66	Clay, silty clay, loamy fine sand, fine sandy loam, fine sand, silt loam, silty clay loam	SM, SC, SC-SM, CL	A-2, A-4	100	100	65-100	20-95	0-53	NP-32
Chapanoke-----	0-6	Loam, silt loam	CL, CL-ML, ML	A-4, A-6	100	100	85-100	60-90	20-43	3-18
	6-50	Silty clay loam, loam, silt loam	CL	A-6, A-7	100	100	85-100	60-95	27-49	12-28
	50-62	Fine sandy loam, loamy fine sand, loam, fine sand	CL-ML, SM, CL, SC-SM, ML	A-2, A-4, A-6	100	100	70-95	28-75	16-38	2-19

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
3:										
Acredale------	0-7	Silt loam, very fine sandy loam, loam	ML, CL-ML, CL	A-4, A-6	100	100	85-100	50-90	21-39	4-13
	7-15	Silt loam, loam	CL-ML, CL	A-4, A-6	100	100	85-100	60-90	22-39	7-25
	15-43	Silt loam, silty clay loam	CL	A-6, A-7	100	100	90-100	70-95	29-50	12-29
	43-66	Silty clay loam, silt loam, silty clay, fine sand, loamy fine sand, fine sandy loam, clay	SC, CL, SM, SC-SM	A-2, A-4	100	100	65-100	20-95	0-53	NP-32
Urban land.										
4:										
Acredale------	0-7	Silt loam, very fine sandy loam, loam	ML, CL-ML, CL	A-4, A-6	100	100	85-100	50-90	21-39	4-13
	7-15	Silt loam, loam	CL, CL-ML	A-4, A-6	100	100	85-100	60-90	22-39	7-25
	15-43	Silt loam, silty clay loam	CL	A-6, A-7	100	100	90-100	70-95	29-50	12-29
	43-66	Loamy fine sand, fine sand, silty clay, silt loam, silty clay loam, clay, fine sandy loam	SC, SC-SM, SM, CL	A-2, A-4	100	100	65-100	20-95	0-53	NP-32
Urban land.										
Chapanoke-----	0-6	Loam, silt loam	ML, CL, CL-ML	A-4, A-6	100	100	85-100	60-90	20-43	3-18
	6-50	Silty clay loam, loam, silt loam	CL	A-6, A-7	100	100	85-100	60-95	27-49	12-28
	50-62	Fine sandy loam, loamy fine sand, loam, fine sand	CL-ML, ML, SC-SM, SM, CL	A-2, A-4, A-6	100	100	70-95	28-75	16-38	2-19
5.										
Aquents										

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
6:										
Arapahoe------	0-17	Mucky fine sandy loam, mucky loamy fine sand, mucky very fine sandy loam, very fine sandy loam, loamy fine sand, fine sandy loam	SM, SC-SM, SC	A-2-4, A-4	100	100	70-95	28-65	7-25	NP-8
	17-42	Fine sandy loam, loamy fine sand	SC	A-2, A-4	100	100	70-85	28-55	18-30	4-12
	42-80	Fine sand, loamy fine sand	SM	A-2, A-4	100	100	65-85	20-45	0-23	NP-6
7:										
Arapahoe------	0-17	Mucky fine sandy loam, mucky very fine sandy loam, fine sandy loam, mucky loamy fine sand, very fine sandy loam, loamy fine sand	SC-SM, SC, SM	A-2-4, A-4	100	100	70-95	28-65	7-25	NP-8
	17-42	Fine sandy loam, loamy fine sand	SC	A-2, A-4	100	100	70-85	28-55	18-30	4-12
	42-80	Fine sand, loamy fine sand	SM	A-2, A-4	100	100	65-85	20-45	0-23	NP-6
Urban land.										
8:										
Bojac---------	0-8	Loamy fine sand, loamy sand	SM	A-2, A-4	100	100	50-85	15-45	0-23	NP-5
	8-47	Fine sandy loam, loamy sand, sandy loam	SC-SM	A-2, A-4	100	100	50-85	15-55	18-30	4-12
	47-85	Fine sand, loamy fine sand, sand, loamy sand, sandy loam	SW-SM, SM, SP-SM	A-2, A-3	100	100	50-70	5-40	0-27	NP-10

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
9:										
Bojac---------	0-8	Loamy sand, loamy fine sand	SM	A-2, A-4	100	100	50-85	15-45	0-23	NP-5
	8-47	Fine sandy loam, loamy sand, sandy loam	SC-SM	A-2, A-4	100	100	50-85	15-55	18-30	4-12
	47-85	Fine sand, loamy fine sand, sand, loamy sand, sandy loam	SM, SW-SM, SP-SM	A-2, A-3	100	100	50-70	5-40	0-27	NP-10
Urban land.										
10:										
Bojac---------	0-8	Loamy fine sand, loamy sand	SM	A-2, A-4	100	100	50-85	15-45	0-23	NP-5
	8-47	Fine sandy loam, loamy sand, sandy loam	SC-SM	A-2, A-4	100	100	50-85	15-55	18-30	4-12
	47-85	Fine sand, loamy fine sand, sand, loamy sand, sandy loam	SP-SM, SW-SM, SM	A-2, A-3	100	100	50-70	5-40	0-27	NP-10
Urban land.										
Wando---------	0-8	Fine sand, loamy fine sand	SM	A-4, A-2	100	100	65-85	20-45	0-22	NP-4
	8-79	Loamy fine sand, fine sand	SM	A-2, A-4	100	100	65-85	20-45	0-21	NP-4
11:										
Chapanoke-----	0-6	Loam, silt loam	ML, CL-ML, CL	A-4, A-6	100	100	85-100	60-90	20-43	3-18
	6-50	Silty clay loam, loam, silt loam	CL	A-6, A-7	100	100	85-100	60-95	27-49	12-28
	50-62	Fine sandy loam, loamy fine sand, loam, fine sand	CL, ML, SC-SM, SM, CL-ML	A-2, A-4, A-6	100	100	70-95	28-75	16-38	2-19

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
11:										
Yeopim--------	0-8	Loam, very fine sandy loam, silt loam	ML, CL-ML	A-4	100	100	85-100	50-90	16-35	1-13
	8-42	Silty clay loam, silt loam, loam	CL	A-6, A-7	100	100	85-100	60-95	27-44	12-25
	42-62	Loamy fine sand, fine sandy loam, fine sand	ML, SC-SM, SM	A-2, A-4	100	100	65-85	20-55	0-32	NP-13
12:										
Chesapeake----	0-7	Loamy sand, loamy fine sand, fine sandy loam, sandy loam	SC-SM, SM	A-2	100	100	50-85	15-55	0-33	NP-12
	7-13	Fine sand, loamy fine sand, loamy sand	SC-SM, SM	A-2	100	100	65-85	20-45	0-21	NP-4
	13-42	Loam, fine sandy loam, sandy clay loam, clay loam, sandy loam	CL, SC	A-6	100	100	70-100	40-80	27-43	12-24
	42-60	Sand, loamy sand, loamy fine sand, fine sandy loam, sandy loam, fine sand	SC-SM, SM, SP-SM	A-2, A-3, A-4	100	100	50-85	5-55	0-27	NP-10
13:										
Chesapeake----	0-7	Loamy sand, loamy fine sand, sandy loam, fine sandy loam	SM, SC-SM	A-2	100	100	50-85	15-55	0-33	NP-12
	7-13	Loamy sand, loamy fine sand, fine sand	SC-SM, SM	A-2	100	100	65-85	20-45	0-21	NP-4
	13-42	Loam, clay loam, sandy clay loam, fine sandy loam, sandy loam	CL, SC	A-6	100	100	70-100	40-80	27-43	12-24
	42-60	Fine sandy loam, sand, fine sand, sandy loam, loamy sand, loamy fine sand	SM, SP-SM, SC-SM	A-2, A-3, A-4	100	100	50-85	5-55	0-27	NP-10

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
13: Urban land.										
14E: Conetoe-------	0-8	Fine sand, loamy sand, loamy fine sand	SM	A-4, A-2	100	100	65-85	20-45	0-26	NP-6
	8-25	Fine sand, loamy fine sand, loamy sand	SM	A-2	100	100	65-85	20-45	0-23	NP-6
	25-41	Sandy loam, sandy clay loam, fine sandy loam	SC-SM, SC	A-6, A-2, A-4	100	100	60-90	30-55	20-40	6-21
	41-79	Sandy clay loam, fine sandy loam, sand, fine sand, loamy fine sand	SM	A-4, A-2	100	100	65-90	20-55	0-36	NP-17
Chesapeake----	0-7	Fine sandy loam, sandy loam, loamy fine sand, loamy sand	SM, SC-SM	A-2	100	100	50-85	15-55	0-33	NP-12
	7-13	Loamy fine sand, loamy sand, fine sand	SM, SC-SM	A-2	100	100	65-85	20-45	0-21	NP-4
	13-42	Loam, clay loam, sandy clay loam, sandy loam, fine sandy loam	SC, CL	A-6	100	100	70-100	40-80	27-43	12-24
	42-60	Sandy loam, fine sandy loam, loamy fine sand, loamy sand, sand, fine sand	SC-SM, SM, SP-SM	A-2, A-3, A-4	100	100	50-85	5-55	0-27	NP-10
Tetotum-------	0-9	Fine sandy loam, loamy fine sand	SC-SM, ML, SM	A-2, A-4	100	100	70-85	15-55	17-31	2-10
	9-48	Sandy clay loam, silty clay loam, fine sandy loam, loam, clay loam	CL, SC	A-6, A-7	100	100	70-100	40-95	27-44	12-25
	48-72	Loamy fine sand, fine sandy loam, fine sand	SC, ML, CL, SM	A-2, A-4, A-6	100	100	65-85	20-55	0-32	NP-13

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
15:										
Deloss--------	0-13	Sandy loam, fine sandy loam, loam, mucky sandy loam, mucky fine sandy loam, mucky loam	SM, SC-SM, ML	A-2, A-4	100	100	60-95	30-75	18-73	2-12
	13-48	Sandy clay loam, clay loam, fine sandy loam	CL, SC, SC-SM	A-6, A-7	100	100	70-100	40-80	28-45	12-25
	48-79	Sandy loam, fine sand, loamy fine sand, fine sandy loam	SC, SC-SM, SM	A-2, A-4, A-6	100	100	65-85	20-55	0-32	NP-13
16:										
Deloss--------	0-13	Fine sandy loam, sandy loam, loam, mucky loam, mucky fine sandy loam, mucky sandy loam	ML, SM, SC-SM	A-2, A-4	100	100	60-95	30-75	18-73	2-12
	13-48	Sandy clay loam, clay loam, fine sandy loam	CL, SC, SC-SM	A-6, A-7	100	100	70-100	40-80	28-45	12-25
	48-79	Sandy loam, fine sand, loamy fine sand, fine sandy loam	SC, SC-SM, SM	A-2, A-4, A-6	100	100	65-85	20-55	0-32	NP-13
Tomotley------	0-7	Fine sandy loam, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	CL, SC, SC-SM	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
16:										
Nimmo---------	0-7	Loamy fine sand, fine sandy loam, loam	SM, SC-SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Loamy fine sand, loam, sandy loam, fine sandy loam	SC, CL-ML, SC-SM	A-2, A-4	100	100	70-95	28-75	18-30	4-12
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
17:										
Deloss--------	0-13	Sandy loam, mucky loam, mucky sandy loam, mucky fine sandy loam, loam, fine sandy loam	SM, SC-SM, ML	A-2, A-4	100	100	60-95	30-75	18-73	2-12
	13-48	Sandy clay loam, clay loam, fine sandy loam	SC-SM, SC, CL	A-6, A-7	100	100	70-100	40-80	28-45	12-25
	48-79	Sandy loam, fine sand, loamy fine sand, fine sandy loam	SC, SC-SM, SM	A-2, A-4, A-6	100	100	65-85	20-55	0-32	NP-13
Urban land.										
18:										
Dorovan-------	0-3	Mucky peat	PT	---	---	---	---	---	---	---
	3-79	Muck	PT	---	---	---	---	---	---	---
Belhaven------	0-26	Muck	PT		---	---	---	---	---	---
	26-79	Sand, sandy loam, fine sandy loam, loamy sand, fine sand, loamy fine sand, loam, clay loam, sandy clay loam	SC-SM, CL, CL-ML, SC	A-4, A-6	100	100	50-100	5-80	0-54	NP-24

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
19:										
Dragston------	0-9	Loamy fine sand, fine sandy loam	CL-ML, SM, SC-SM, SC	A-2, A-4	100	100	70-85	28-55	17-31	1-10
	9-37	Fine sandy loam, sandy loam, loam, loamy fine sand	SC-SM, SC, CL-ML	A-2, A-4	100	100	70-95	28-75	18-30	4-12
	37-79	Fine sand, loamy fine sand, fine sandy loam	SC-SM, SM	A-2	100	100	53-85	20-55	0-27	NP-10
20:										
Dragston------	0-9	Loamy fine sand, fine sandy loam	CL-ML, SC, SC-SM, SM	A-2, A-4	100	100	70-85	28-55	17-31	1-10
	9-37	Fine sandy loam, sandy loam, loam, loamy fine sand	SC-SM, SC, CL-ML	A-2, A-4	100	100	70-95	28-75	18-30	4-12
	37-79	Fine sand, loamy fine sand, fine sandy loam	SM, SC-SM	A-2	100	100	53-85	20-55	0-27	NP-10
Tomotley------	0-7	Loamy fine sand, fine sandy loam	SM, SC-SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	SC-SM, SC, CL	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
21:										
Dragston------	0-9	Fine sandy loam, loamy fine sand	SM, SC-SM, SC, CL-ML	A-2, A-4	100	100	70-85	28-55	17-31	1-10
	9-37	Loamy fine sand, loam, fine sandy loam, sandy loam	CL-ML, SC, SC-SM	A-2, A-4	100	100	70-95	28-75	18-30	4-12
	37-79	Fine sand, loamy fine sand, fine sandy loam	SM, SC-SM	A-2	100	100	53-85	20-55	0-27	NP-10
Urban land.										

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
22:										
Dragston------	0-9	Fine sandy loam, loamy fine sand	SM, SC-SM, SC, CL-ML	A-2, A-4	100	100	70-85	28-55	17-31	1-10
	9-37	Loamy fine sand, loam, sandy loam, fine sandy loam	SC-SM, SC, CL-ML	A-2, A-4	100	100	70-95	28-75	18-30	4-12
	37-79	Fine sand, loamy fine sand, fine sandy loam	SC-SM, SM	A-2	100	100	53-85	20-55	0-27	NP-10
Urban land.										
Tomotley------	0-7	Loamy fine sand, fine sandy loam	SM, SC-SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	SC, SC-SM, CL	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SM, SC-SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
23:										
Gertie--------	0-5	Loam, silt loam	CL-ML, CL, SC-SM	A-4, A-6	100	100	85-100	60-90	21-43	6-18
	5-42	Clay loam, clay, silty clay, silty clay loam	CL, CH	A-7	100	100	90-100	70-95	39-59	21-36
	42-75	Silt loam, fine sand, loam, fine sandy loam, loamy fine sand	SM, CL-ML, SC	A-2, A-4	100	100	65-100	20-90	0-36	NP-17
24:										
Hyde----------	0-15	Mucky silt loam, mucky loam, loam, silt loam	CH, OL, OH, PT, ML, MH	A-4	100	100	85-100	60-90	22-73	6-12
	15-51	Clay loam, silty clay loam, loam, silt loam	CL	A-6, A-7	100	100	85-100	60-95	27-44	12-25
	51-62	Loamy fine sand, fine sand, silty clay loam, loam, silt loam, clay loam, fine sandy loam	ML	A-4	100	100	65-100	50-95	0-44	NP-25

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
25:										
Munden--------	0-8	Loamy fine sand, fine sandy loam	SM	A-2, A-4	100	100	70-85	28-55	0-28	NP-10
	8-32	Loamy fine sand, fine sandy loam	SC, SC-SM	A-2, A-4, A-6	100	100	70-85	28-55	18-30	4-12
	32-62	Fine sand, loamy fine sand	SC-SM, SM	A-2	100	100	65-85	20-45	0-23	NP-6
26C:										
Munden--------	0-8	Fine sandy loam, loamy fine sand	SM	A-2, A-4	100	100	70-85	28-55	0-28	NP-10
	8-32	Loamy fine sand, fine sandy loam	SC, SC-SM	A-2, A-4, A-6	100	100	70-85	28-55	18-30	4-12
	32-62	Fine sand, loamy fine sand	SM, SC-SM	A-2	100	100	65-85	20-45	0-23	NP-6
27:										
Munden--------	0-8	Fine sandy loam, loamy fine sand	SM	A-2, A-4	100	100	70-85	28-55	0-28	NP-10
	8-32	Loamy fine sand, fine sandy loam	SC, SC-SM	A-2, A-4, A-6	100	100	70-85	28-55	18-30	4-12
	32-62	Fine sand, loamy fine sand	SM, SC-SM	A-2	100	100	65-85	20-45	0-23	NP-6
Urban land.										
28C:										
Munden--------	0-8	Loamy fine sand, fine sandy loam	SM	A-2, A-4	100	100	70-85	28-55	0-28	NP-10
	8-32	Loamy fine sand, fine sandy loam	SC-SM, SC	A-2, A-4, A-6	100	100	70-85	28-55	18-30	4-12
	32-62	Fine sand, loamy fine sand	SM, SC-SM	A-2	100	100	65-85	20-45	0-23	NP-6
Urban land.										
29:										
Munden--------	0-8	Fine sandy loam, loamy fine sand	SM	A-2, A-4	100	100	70-85	28-55	0-28	NP-10
	8-32	Loamy fine sand, fine sandy loam	SC-SM, SC	A-2, A-4, A-6	100	100	70-85	28-55	18-30	4-12
	32-62	Fine sand, loamy fine sand	SC-SM, SM	A-2	100	100	65-85	20-45	0-23	NP-6

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
29: Urban land.										
Pactolus------	0-2	Loamy fine sand, loamy sand, sand, fine sand	SP-SM, SM	A-4	100	100	50-85	5-45	0-28	NP-7
	2-79	Loamy sand, fine sand, loamy fine sand, sand	SP-SM, SM	A-2, A-3	100	100	50-85	5-45	0-24	NP-7
30:										
Nawney--------	0-4	Mucky peat	PT	A-1	---	---	---	---	---	---
	4-9	Mucky silt loam, mucky loam, silt loam, loam	CL	A-6, A-4	100	100	85-100	60-90	16-31	3-12
	9-47	Silt loam, loam, sandy loam, sandy clay loam, silty clay loam	SC, CL	A-4, A-6	100	100	58-100	29-95	18-38	4-16
	47-60	Silty clay loam, clay loam, clay, sand, loamy sand, silt loam, loam, sandy loam	SM	A-2-4, A-2	100	100	49-100	5-95	8-52	NP-23
31:										
Pactolus------	0-2	Loamy fine sand, fine sand, loamy sand, sand	SP-SM, SM	A-4	100	100	50-85	5-45	0-28	NP-7
	2-79	Sand, loamy sand, fine sand, loamy fine sand	SM, SP-SM	A-2, A-3	100	100	50-85	5-45	0-24	NP-7
32:										
Pasquotank----	0-6	Very fine sandy loam, silt loam, loam	ML, CL-ML	A-4	100	100	85-100	50-90	18-35	2-12
	6-44	Loam, very fine sandy loam, silt loam	ML, CL-ML	A-4	100	100	85-100	50-90	16-30	2-12
	44-60	Loamy fine sand, fine sandy loam, fine sand, silty clay loam, loam, very fine sandy loam, silt loam	CL-ML, ML	A-4	100	100	65-100	10-95	0-44	NP-25

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
33:										
Pocaty--------	0-12	Peat	PT	A-8	---	---	---	---	---	---
	12-20	Mucky peat, muck	PT	A-8	---	---	---	---	---	---
	20-60	Muck	PT	A-8	---	---	---	---	---	---
	60-80	Loamy fine sand, silty clay, sand, loam, fine sandy loam, silt loam, fine sand, clay loam	CH, CL, SW-SM, SM, ML	A-2-4, A-6, A-6, A-7-6	100	100	50-100	5-95	11-52	0-23
34:										
Portsmouth----	0-19	Fine sandy loam, loamy fine sand, loam, mucky loam, mucky loamy fine sand, mucky fine sandy loam	SM, SC-SM, ML	A-2, A-4	100	100	70-95	28-75	23-73	2-12
	19-38	Sandy clay loam, clay loam, loam, fine sandy loam	SC, CL	A-6	100	100	70-100	40-80	28-45	12-25
	38-72	Sand, loamy fine sand, loamy sand, fine sand	SP-SM, SM	A-2, A-3, A-4	100	100	50-85	5-45	0-24	NP-6
35C:										
Psamments-----	0-6	Fine sand, sand	SM, SC-SM	A-2-4, A-3	100	100	50-80	5-35	8-10	NP-3
	6-60	Sand, fine sand	SM, SC-SM, SP-SM	A-2-4, A-3	100	100	50-80	5-35	8-10	NP-3
36:										
Pungo---------	0-3	Mucky peat	PT		---	---	---	---	---	---
	3-79	Muck	PT		---	---	---	---	---	---
Belhaven------	0-26	Muck	PT		---	---	---	---	---	---
	26-79	Sandy loam, fine sandy loam, fine sand, loamy fine sand, loamy sand, sand, loam, clay loam, sandy clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6	100	100	50-100	5-80	0-54	NP-24

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
37:										
Rappahannock--	0-41	Muck	PT	A-8	---	---	---	---	---	---
	41-79	Fine sandy loam, loam, silt loam, fine sand, loamy fine sand	SM	A-2, A-4	100	100	65-100	20-90	0-16	NP-2
38:										
Tetotum-------	0-9	Fine sandy loam, loamy fine sand	SC-SM, ML, SM	A-2, A-4	100	100	70-85	15-55	17-31	2-10
	9-48	Silty clay loam, loam, fine sandy loam, clay loam, sandy clay loam	CL, SC	A-6, A-7	100	100	70-100	40-95	27-44	12-25
	48-72	Fine sand, fine sandy loam, loamy fine sand	SC, ML, CL, SM	A-2, A-4, A-6	100	100	65-85	20-55	0-32	NP-13
39:										
Tetotum-------	0-9	Loamy fine sand, fine sandy loam	ML, SM, SC-SM	A-2, A-4	100	100	70-85	15-55	17-31	2-10
	9-48	Silty clay loam, sandy clay loam, clay loam, loam, fine sandy loam	CL, SC	A-6, A-7	100	100	70-100	40-95	27-44	12-25
	48-72	Fine sand, fine sandy loam, loamy fine sand	SM, SC, ML, CL	A-2, A-4, A-6	100	100	65-85	20-55	0-32	NP-13
Urban land.										
40:										
Tetotum-------	0-9	Loamy fine sand, fine sandy loam	SM, ML, SC-SM	A-2, A-4	100	100	70-85	15-55	17-31	2-10
	9-48	Loam, fine sandy loam, silty clay loam, sandy clay loam, clay loam	SC, CL	A-6, A-7	100	100	70-100	40-95	27-44	12-25
	48-72	Fine sand, fine sandy loam, loamy fine sand	SC, ML, CL, SM	A-2, A-4, A-6	100	100	65-85	20-55	0-32	NP-13
Urban land.										

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
40:										
Chesapeake----	0-7	Fine sandy loam, sandy loam, loamy fine sand, loamy sand	SM, SC-SM	A-2	100	100	50-85	15-55	0-33	NP-12
	7-13	Loamy fine sand, fine sand, loamy sand	SM, SC-SM	A-2	100	100	65-85	20-45	0-21	NP-4
	13-42	Sandy loam, clay loam, loam, sandy clay loam, fine sandy loam	CL, SC	A-6	100	100	70-100	40-80	27-43	12-24
	42-60	Fine sand, sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam	SP-SM, SM, SC-SM	A-2, A-3, A-4	100	100	50-85	5-55	0-27	NP-10
41:										
Tomotley------	0-7	Fine sandy loam, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	CL, SC, SC-SM	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
42:										
Tomotley------	0-7	Loamy fine sand, fine sandy loam	SC-SM, SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	CL, SC, SC-SM	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
42:										
Bertie--------	0-5	Sandy loam, loamy fine sand, loam, fine sandy loam	SC-SM, SM, SC, ML	A-2, A-4	100	100	70-95	28-75	17-35	2-13
	5-31	Sandy loam, loam, clay loam, sandy clay loam, fine sandy loam	CL, SC	A-6, A-7	100	100	70-100	40-80	27-44	12-25
	31-60	Fine sand, fine sandy loam, sand, loamy fine sand, loamy sand	SM, SC-SM	A-2	100	100	65-85	20-55	0-27	NP-10
43:										
Tomotley------	0-7	Loamy fine sand, fine sandy loam	SM, SC-SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	SC-SM, SC, CL	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SM, SC-SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
Deloss--------	0-13	Sandy loam, mucky sandy loam, mucky fine sandy loam, mucky loam, loam, fine sandy loam	SM, ML, SC-SM	A-2, A-4	100	100	60-95	30-75	18-73	2-12
	13-48	Sandy clay loam, clay loam, fine sandy loam	CL, SC, SC-SM	A-6, A-7	100	100	70-100	40-80	28-45	12-25
	48-79	Sandy loam, fine sand, loamy fine sand, fine sandy loam	SM, SC-SM, SC	A-2, A-4, A-6	100	100	65-85	20-55	0-32	NP-13

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
44:										
Tomotley------	0-7	Loamy fine sand, fine sandy loam	SC-SM, SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	CL, SC, SC-SM	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SM, SC-SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
Deloss--------	0-13	Sandy loam, mucky sandy loam, mucky fine sandy loam, fine sandy loam, loam, mucky loam	ML, SC-SM, SM	A-2, A-4	100	100	60-95	30-75	18-73	2-12
	13-48	Sandy clay loam, clay loam, fine sandy loam	CL, SC, SC-SM	A-6, A-7	100	100	70-100	40-80	28-45	12-25
	48-79	Sandy loam, fine sand, loamy fine sand, fine sandy loam	SC, SC-SM, SM	A-2, A-4, A-6	100	100	65-85	20-55	0-32	NP-13
Urban land.										
45:										
Tomotley------	0-7	Fine sandy loam, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	CL, SC, SC-SM	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SM, SC-SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
Nimmo---------	0-7	Fine sandy loam, loamy fine sand, loam	SM, SC-SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Loamy fine sand, loam, sandy loam, fine sandy loam	CL-ML, SC, SC-SM	A-2, A-4	100	100	70-95	28-75	18-30	4-12
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SM, SC-SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
46:										
Tomotley------	0-7	Loamy fine sand, fine sandy loam	SM, SC-SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	SC-SM, SC, CL	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
Urban land.										
47:										
Tomotley------	0-7	Fine sandy loam, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	SC-SM, SC, CL	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SM, SC-SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
Urban land.										
Bertie--------	0-5	Loamy fine sand, fine sandy loam, loam, sandy loam	SC-SM, ML, SC, SM	A-2, A-4	100	100	70-95	28-75	17-35	2-13
	5-31	Fine sandy loam, clay loam, loam, sandy loam, sandy clay loam	SC, CL	A-6, A-7	100	100	70-100	40-80	27-44	12-25
	31-60	Loamy fine sand, fine sandy loam, sand, loamy sand, fine sand	SM, SC-SM	A-2	100	100	65-85	20-55	0-27	NP-10
48:										
Tomotley------	0-7	Loamy fine sand, fine sandy loam	SM, SC-SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	CL, SC, SC-SM	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SM, SC-SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
48: Urban land.										
Nimmo	0-7	Loam, loamy fine sand, fine sandy loam	SM, SC-SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy loam, loam, loamy fine sand	CL-ML, SC, SC-SM	A-2, A-4	100	100	70-95	28-75	18-30	4-12
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SM, SC-SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
49. Urdorthents-Urban land										
50. Urban land										
51E: Urban land.										
Conetoe	0-8	Fine sand, loamy fine sand, loamy sand	SM	A-4, A-2	100	100	65-85	20-45	0-26	NP-6
	8-25	Fine sand, loamy sand, loamy fine sand	SM	A-2	100	100	65-85	20-45	0-23	NP-6
	25-41	Sandy loam, sandy clay loam, fine sandy loam	SC, SC-SM	A-6, A-2, A-4	100	100	60-90	30-55	20-40	6-21
	41-79	Fine sand, loamy fine sand, fine sandy loam, sand, sandy clay loam	SM	A-4, A-2	100	100	65-90	20-55	0-36	NP-17

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
51E:										
Chesapeake----	0-7	Sandy loam, fine sandy loam, loamy sand, loamy fine sand	SC-SM, SM	A-2	100	100	50-85	15-55	0-33	NP-12
	7-13	Loamy fine sand, fine sand, loamy sand	SC-SM, SM	A-2	100	100	65-85	20-45	0-21	NP-4
	13-42	Sandy clay loam, sandy loam, loam, clay loam, fine sandy loam	CL, SC	A-6	100	100	70-100	40-80	27-43	12-24
	42-60	Sandy loam, fine sandy loam, loamy fine sand, loamy sand, sand, fine sand	SP-SM, SM, SC-SM	A-2, A-3, A-4	100	100	50-85	5-55	0-27	NP-10
Tetotum-------	0-9	Loamy fine sand, fine sandy loam	ML, SM, SC-SM	A-2, A-4	100	100	70-85	15-55	17-31	2-10
	9-48	Loam, fine sandy loam, silty clay loam, clay loam, sandy clay loam	CL, SC	A-6, A-7	100	100	70-100	40-95	27-44	12-25
	48-72	Fine sand, fine sandy loam, loamy fine sand	SM, SC, ML, CL	A-2, A-4, A-6	100	100	65-85	20-55	0-32	NP-13
52:										
Urban land.										
Deloss--------	0-13	Loam, mucky loam, mucky fine sandy loam, fine sandy loam, sandy loam, mucky sandy loam	ML, SM, SC-SM	A-2, A-4	100	100	60-95	30-75	18-73	2-12
	13-48	Sandy clay loam, clay loam, fine sandy loam	CL, SC, SC-SM	A-6, A-7	100	100	70-100	40-80	28-45	12-25
	48-79	Sandy loam, fine sand, loamy fine sand, fine sandy loam	SC, SC-SM, SM	A-2, A-4, A-6	100	100	65-85	20-55	0-32	NP-13

Table 16.—Engineering Soil Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
52:										
Tomotley------	0-7	Fine sandy loam, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy clay loam, clay loam	CL, SC, SC-SM	A-6	100	100	70-100	40-80	27-44	12-25
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
Nimmo---------	0-7	Loam, fine sandy loam, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	70-85	28-55	18-39	2-13
	7-42	Fine sandy loam, sandy loam, loam, loamy fine sand	CL-ML, SC, SC-SM	A-2, A-4	100	100	70-95	28-75	18-30	4-12
	42-79	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SM	A-2, A-4	100	100	50-85	5-45	0-23	NP-6
53:										
Wando---------	0-8	Loamy fine sand, fine sand	SM	A-4, A-2	100	100	65-85	20-45	0-22	NP-4
	8-79	Loamy fine sand, fine sand	SM	A-2, A-4	100	100	65-85	20-45	0-21	NP-4
54:										
Weeksville----	0-22	Loam, silt loam, very fine sandy loam, mucky silt loam, mucky very fine sandy loam, mucky loam	ML	A-4, A-5	100	100	85-100	50-90	23-46	2-12
	22-50	Silt loam, very fine sandy loam, loam	ML, CL-ML	A-4	100	100	85-100	50-90	17-33	2-12
	50-72	Loamy fine sand, very fine sand, fine sand, silty clay loam, silt loam	SM	A-2	100	100	65-100	20-95	0-49	NP-28
W.										
Water										

Table 17.—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	Sand	Silt	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	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
1:														
Acredale----------	0-7	5-70	10-85	8-20	1.45-1.55	4.00-14.00	0.16-0.22	0.0-2.9	1.0-4.0	.43	.43	3	5	56
	7-15	5-50	30-85	12-27	1.45-1.55	4.00-14.00	0.19-0.22	0.0-2.9	0.2-1.0	.43	.43			
	15-43	5-30	45-85	18-40	1.45-1.55	0.42-1.40	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37			
	43-66	5-75	15-85	2-45	1.25-1.70	0.42-141.00	0.05-0.22	0.0-2.9	0.0-0.5	.37	.37			
2:														
Acredale----------	0-7	5-70	10-85	8-20	1.45-1.55	4.00-14.00	0.16-0.22	0.0-2.9	1.0-4.0	.43	.43	3	5	56
	7-15	5-50	30-85	12-27	1.45-1.55	4.00-14.00	0.19-0.22	0.0-2.9	0.2-1.0	.43	.43			
	15-43	5-30	45-85	18-40	1.45-1.55	0.42-1.40	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37			
	43-66	5-75	15-85	2-45	1.25-1.70	0.42-141.00	0.05-0.22	0.0-2.9	0.0-0.5	.37	.37			
Chapanoke---------	0-6	5-50	30-85	7-27	1.45-1.55	14.00-42.00	0.19-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	6-50	5-50	30-85	18-40	1.45-1.55	1.40-4.00	0.15-0.22	0.0-2.9	0.0-0.5	.37	.37			
	50-62	30-90	5-50	5-27	1.45-1.65	1.40-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.32	.32			
3:														
Acredale----------	0-7	5-70	10-85	8-20	1.45-1.55	4.00-14.00	0.16-0.22	0.0-2.9	1.0-4.0	.43	.43	3	5	56
	7-15	5-50	30-85	12-27	1.45-1.55	4.00-14.00	0.19-0.22	0.0-2.9	0.2-1.0	.43	.43			
	15-43	5-30	45-85	18-40	1.45-1.55	0.42-1.40	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37			
	43-66	5-75	15-85	2-45	1.25-1.70	0.42-141.00	0.05-0.22	0.0-2.9	0.0-0.5	.37	.37			
Urban land.														
4:														
Acredale----------	0-7	5-70	10-85	8-20	1.45-1.55	4.00-14.00	0.16-0.22	0.0-2.9	1.0-4.0	.43	.43	3	5	56
	7-15	5-50	30-85	12-27	1.45-1.55	4.00-14.00	0.19-0.22	0.0-2.9	0.2-1.0	.43	.43			
	15-43	5-30	45-85	18-40	1.45-1.55	0.42-1.40	0.15-0.22	3.0-5.9	0.0-0.5	.37	.37			
	43-66	5-75	15-85	2-45	1.25-1.70	0.42-141.00	0.05-0.22	0.0-2.9	0.0-0.5	.37	.37			
Urban land.														
Chapanoke---------	0-6	5-50	30-85	7-27	1.45-1.55	14.00-42.00	0.19-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	6-50	5-50	30-85	18-40	1.45-1.55	1.40-4.00	0.15-0.22	0.0-2.9	0.0-0.5	.37	.37			
	50-62	30-90	5-50	5-27	1.45-1.65	1.40-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.32	.32			
5.														
Aquents														
6:														
Arapahoe----------	0-17	50-90	5-45	5-15	1.45-1.65	4.00-42.00	0.10-0.17	0.0-2.9	3.0-20	.24	.24	5	2	134
	17-42	50-90	5-45	8-18	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.0-0.5	.28	.28			
	42-80	70-99	0-20	1-10	1.55-1.70	14.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	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	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
7:														
Arapahoe---------	0-17	50-90	5-45	5-15	1.45-1.65	4.00-42.00	0.10-0.17	0.0-2.9	3.0-20	.24	.24	5	2	134
	17-42	50-90	5-45	8-18	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.0-0.5	.28	.28			
	42-80	70-99	0-20	1-10	1.55-1.70	14.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
Urban land.														
8:														
Bojac------------	0-8	70-90	1-30	3-9	1.55-1.65	42.00-141.00	0.05-0.10	0.0-2.9	0.5-1.0	.28	.28	5	2	134
	8-47	50-90	5-45	8-18	1.50-1.65	14.00-42.00	0.08-0.16	0.0-2.9	0.0-0.5	.28	.28			
	47-85	50-99	0-45	1-15	1.50-1.70	42.00-141.00	0.02-0.07	0.0-2.9	0.0-0.5	.10	.10			
9:														
Bojac------------	0-8	70-90	1-30	3-9	1.55-1.65	42.00-141.00	0.05-0.10	0.0-2.9	0.5-1.0	.28	.28	5	2	134
	8-47	50-90	5-45	8-18	1.50-1.65	14.00-42.00	0.08-0.16	0.0-2.9	0.0-0.5	.28	.28			
	47-85	50-99	0-45	1-15	1.50-1.70	42.00-141.00	0.02-0.07	0.0-2.9	0.0-0.5	.10	.10			
Urban land.														
10:														
Bojac------------	0-8	70-90	1-30	3-9	1.55-1.65	42.00-141.00	0.05-0.10	0.0-2.9	0.5-1.0	.28	.28	5	2	134
	8-47	50-90	5-45	8-18	1.50-1.65	14.00-42.00	0.08-0.16	0.0-2.9	0.0-0.5	.28	.28			
	47-85	50-99	0-45	1-15	1.50-1.70	42.00-141.00	0.02-0.07	0.0-2.9	0.0-0.5	.10	.10			
Urban land.														
Wando------------	0-8	70-99	0-20	0-8	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.5-1.0	.28	.28	5	2	134
	8-79	70-99	0-20	1-8	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20			
11:														
Chapanoke--------	0-6	5-50	30-85	7-27	1.45-1.55	14.00-42.00	0.19-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	6-50	5-50	30-85	18-40	1.45-1.55	1.40-4.00	0.15-0.22	0.0-2.9	0.0-0.5	.37	.37			
	50-62	30-90	5-50	5-27	1.45-1.65	1.40-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.32	.32			
Yeopim-----------	0-8	5-70	10-85	4-20	1.45-1.55	14.00-42.00	0.19-0.22	0.0-2.9	0.5-2.0	.43	.43	5	5	56
	8-42	5-50	30-85	18-35	1.45-1.55	1.40-4.00	0.15-0.22	0.0-2.9	0.0-0.5	.37	.37			
	42-62	60-99	1-25	2-20	1.50-1.70	4.00-42.00	0.05-0.16	0.0-2.9	0.0-0.5	.17	.17			
12:														
Chesapeake-------	0-7	50-90	5-45	2-18	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	7-13	70-99	0-20	2-8	1.55-1.70	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20			
	13-42	25-80	5-40	18-34	1.40-1.60	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	42-60	50-99	0-45	2-15	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.10			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	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	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
13:														
Chesapeake-------	0-7	50-90	5-45	2-18	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	7-13	70-99	0-20	2-8	1.55-1.70	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20			
	13-42	25-80	5-40	18-34	1.40-1.60	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	42-60	50-99	0-45	2-15	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.10			
Urban land.														
14E:														
Conetoe----------	0-8	70-99	0-20	2-10	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.5-2.0	.28	.28	5	2	134
	8-25	70-99	0-20	2-10	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20			
	25-41	50-80	5-30	10-30	1.45-1.60	14.00-42.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	41-79	50-99	0-30	2-25	1.45-1.70	14.00-141.00	0.05-0.13	0.0-2.9	0.0-0.5	.10	.10			
Chesapeake-------	0-7	50-90	5-45	2-18	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	7-13	70-99	0-20	2-8	1.55-1.70	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20			
	13-42	25-80	5-40	18-34	1.40-1.60	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	42-60	50-99	0-45	2-15	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.10			
Tetotum----------	0-9	50-90	5-45	5-15	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.32	.32	5	3	86
	9-48	5-85	5-85	18-35	1.45-1.55	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	48-72	50-99	0-45	2-20	1.50-1.70	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.15	.15			
15:														
Deloss-----------	0-13	30-80	5-50	5-20	1.45-1.60	14.00-42.00	0.13-0.19	0.0-2.9	1.0-20	.28	.28	5	3	86
	13-48	25-80	2-55	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.2-1.0	.17	.17			
	48-79	50-99	0-30	1-20	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.24	.24			
16:														
Deloss-----------	0-13	30-80	5-50	5-20	1.45-1.60	14.00-42.00	0.13-0.19	0.0-2.9	1.0-20	.28	.28	5	3	86
	13-48	25-80	2-55	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.2-1.0	.17	.17			
	48-79	50-99	0-30	1-20	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.24	.24			
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
Nimmo------------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	30-90	5-50	8-18	1.45-1.65	14.00-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.20	.20			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
17:														
Deloss-----------	0-13	30-80	5-50	5-20	1.45-1.60	14.00-42.00	0.13-0.19	0.0-2.9	1.0-20	.28	.28	5	3	86
	13-48	25-80	2-55	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.2-1.0	.17	.17			
	48-79	50-99	0-30	1-20	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.24	.24			
Urban land.														

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	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	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
18:														
Dorovan----------	0-3	---	---	---	0.25-0.40	4.00-14.00	0.25-0.50	---	20-80	---	---	3	2	134
	3-79	---	---	---	0.35-0.55	4.00-14.00	0.25-0.50	---	20-80	---	---			
Belhaven---------	0-26	---	---	---	0.35-0.55	4.00-14.00	0.25-0.50	---	20-80	---	---	2	2	134
	26-79	25-99	0-45	2-35	1.40-1.70	1.40-141.00	0.05-0.16	0.0-2.9	1.0-5.0	.24	.24			
19:														
Dragston---------	0-9	50-90	5-45	4-15	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-2.0	.28	.28	4	3	86
	9-37	30-90	5-50	8-18	1.45-1.65	14.00-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.20	.20			
	37-79	50-99	0-45	2-15	1.50-1.70	42.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.10			
20:														
Dragston---------	0-9	50-90	5-45	4-15	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-2.0	.28	.28	4	3	86
	9-37	30-90	5-50	8-18	1.45-1.65	14.00-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.20	.20			
	37-79	50-99	0-45	2-15	1.50-1.70	42.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.10			
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
21:														
Dragston---------	0-9	50-90	5-45	4-15	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-2.0	.28	.28	4	3	86
	9-37	30-90	5-50	8-18	1.45-1.65	14.00-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.20	.20			
	37-79	50-99	0-45	2-15	1.50-1.70	42.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.10			
Urban land.														
22:														
Dragston---------	0-9	50-90	5-45	4-15	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-2.0	.28	.28	4	3	86
	9-37	30-90	5-50	8-18	1.45-1.65	14.00-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.20	.20			
	37-79	50-99	0-45	2-15	1.50-1.70	42.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.10			
Urban land.														
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
23:														
Gertie-----------	0-5	5-50	30-85	10-27	1.40-1.55	4.00-14.00	0.14-0.20	0.0-2.9	0.5-3.0	.43	.43	4	5	56
	5-42	5-40	20-65	30-50	1.35-1.55	0.42-1.40	0.10-0.15	3.0-5.9	0.0-0.5	.28	.28			
	42-75	10-99	0-85	2-25	1.45-1.70	0.01-141.00	0.05-0.22	0.0-2.9	0.0-0.5	.20	.20			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
24:														
Hyde	0-15	5-50	30-85	10-20	1.40-1.55	4.00-14.00	0.19-0.22	0.0-2.9	1.0-20	.37	.37	5	5	56
	15-51	5-50	30-85	18-35	1.45-1.55	1.40-4.00	0.13-0.22	0.0-2.9	0.0-0.5	.28	.28			
	51-62	5-99	0-85	1-35	1.45-1.70	1.40-4.00	0.05-0.22	0.0-2.9	0.0-0.5	.10	.10			
25:														
Munden	0-8	50-90	5-45	3-15	1.50-1.65	42.00-141.00	0.10-0.16	0.0-2.9	0.5-1.0	.28	.28	5	3	86
	8-32	50-90	5-45	8-18	1.50-1.65	4.00-42.00	0.10-0.16	0.0-2.9	0.0-0.5	.17	.17			
	32-62	70-99	0-20	1-10	1.50-1.70	14.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.17			
26C:														
Munden	0-8	50-90	5-45	3-15	1.50-1.65	42.00-141.00	0.10-0.16	0.0-2.9	0.5-1.0	.28	.28	5	2	134
	8-32	50-90	5-45	8-18	1.50-1.65	4.00-42.00	0.10-0.16	0.0-2.9	0.0-0.5	.17	.17			
	32-62	70-99	0-20	1-10	1.50-1.70	14.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.17			
27:														
Munden	0-8	50-90	5-45	3-15	1.50-1.65	42.00-141.00	0.10-0.16	0.0-2.9	0.5-1.0	.28	.28	5	2	134
	8-32	50-90	5-45	8-18	1.50-1.65	4.00-42.00	0.10-0.16	0.0-2.9	0.0-0.5	.17	.17			
	32-62	70-99	0-20	1-10	1.50-1.70	14.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.17			
Urban land.														
28C:														
Munden	0-8	50-90	5-45	3-15	1.50-1.65	42.00-141.00	0.10-0.16	0.0-2.9	0.5-1.0	.28	.28	5	2	134
	8-32	50-90	5-45	8-18	1.50-1.65	4.00-42.00	0.10-0.16	0.0-2.9	0.0-0.5	.17	.17			
	32-62	70-99	0-20	1-10	1.50-1.70	14.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.17			
Urban land.														
29:														
Munden	0-8	50-90	5-45	3-15	1.50-1.65	42.00-141.00	0.10-0.16	0.0-2.9	0.5-1.0	.28	.28	5	2	134
	8-32	50-90	5-45	8-18	1.50-1.65	4.00-42.00	0.10-0.16	0.0-2.9	0.0-0.5	.17	.17			
	32-62	70-99	0-20	1-10	1.50-1.70	14.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.17			
Urban land.														
Pactolus	0-2	70-99	0-20	2-12	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.5-2.0	.28	.28	5	2	134
	2-79	70-99	0-20	2-12	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.0-0.0	.17	.17			
30:														
Nawney	0-4	---	---	---	0.25-0.40	4.00-14.00	0.20-0.25	0.0-0.0	20-80	---	---	5	8	0
	4-9	5-50	30-85	10-27	1.45-1.55	4.00-14.00	0.19-0.22	0.0-2.9	1.0-20	.43	.43			
	9-47	10-80	5-85	10-35	1.45-1.60	4.00-14.00	0.13-0.22	0.0-2.9	0.0-0.5	.28	.28			
	47-60	10-99	0-85	1-55	1.45-1.70	0.42-14.00	0.05-0.22	0.0-2.9	0.0-0.5	.10	.10			

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	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	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
31:														
Pactolus----------	0-2	70-99	0-20	2-12	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.5-2.0	.28	.28	5	2	134
	2-79	70-99	0-20	2-12	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.0-0.0	.17	.17			
32:														
Pasquotank--------	0-6	5-70	10-85	5-18	1.45-1.55	4.00-14.00	0.19-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	6-44	5-70	10-85	5-18	1.45-1.55	4.00-14.00	0.10-0.22	0.0-2.9	0.0-0.5	.37	.37			
	44-60	5-99	1-85	2-35	1.45-1.70	4.00-141.00	0.05-0.22	0.0-2.9	0.0-0.5	.37	.37			
33:														
Pocaty------------	0-12	---	---	---	0.05-0.20	14.00-42.00	0.15-0.20	0.0-2.9	30-90	---	---	2	8	0
	12-20	---	---	---	0.10-0.35	4.00-14.00	0.20-0.25	0.0-2.9	30-90	---	---			
	20-60	---	---	---	0.20-0.55	4.00-14.00	0.20-0.30	0.0-2.9	30-90	---	---			
	60-80	10-99	0-85	5-50	1.30-1.60	0.42-1.40	0.06-0.18	0.0-2.9	0.0-0.0	.02	.02			
34:														
Portsmouth--------	0-19	30-90	5-50	5-20	1.45-1.65	4.00-42.00	0.10-0.19	0.0-2.9	3.0-20	.20	.20	5	3	86
	19-38	25-80	5-40	18-35	1.40-1.60	4.00-14.00	0.13-0.19	0.0-2.9	0.2-1.0	.15	.15			
	38-72	70-99	0-20	1-10	1.55-1.70	14.00-141.00	0.05-0.10	0.0-2.9	0.2-1.0	.10	.10			
35C:														
Psamments---------	0-6	90-99	0-10	1-10	1.35-1.70	42.00-141.00	0.05-0.10	0.0-1.5	0.5-3.0	.10	.10	5	8	0
	6-60	90-99	---	1-10	1.60-1.70	42.00-141.00	0.05-0.07	0.0-1.5	0.0-0.5	.10	.10			
36:														
Pungo-------------	0-3	---	---	---	0.25-0.40	4.00-14.00	0.25-0.50	---	20-80	---	---	3	2	134
	3-79	---	---	---	0.35-0.55	4.00-14.00	0.25-0.50	---	20-80	---	---			
Belhaven----------	0-26	---	---	---	0.35-0.55	4.00-14.00	0.25-0.50	---	20-80	---	---	2	2	134
	26-79	25-99	0-45	2-35	1.40-1.70	1.40-141.00	0.05-0.16	0.0-2.9	1.0-5.0	.24	.24			
37:														
Rappahannock------	0-41	---	---	---	0.35-0.55	4.00-42.00	0.25-0.35	0.0-2.9	22-95	---	---	2	8	0
	41-79	10-99	0-85	3-10	1.60-1.75	1.40-141.00	0.04-0.09	0.0-2.9	0.5-8.0	.15	.15			
38:														
Tetotum-----------	0-9	50-90	5-45	5-15	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.32	.32	4	3	86
	9-48	5-85	5-85	18-35	1.45-1.55	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	48-72	50-99	0-45	2-20	1.50-1.70	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.15	.15			
39:														
Tetotum-----------	0-9	50-90	5-45	5-15	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.32	.32	4	3	86
	9-48	5-85	5-85	18-35	1.45-1.55	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	48-72	50-99	0-45	2-20	1.50-1.70	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.15	.15			
Urban land.														

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	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	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
40:														
Tetotum----------	0-9	50-90	5-45	5-15	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.32	.32	4	3	86
	9-48	5-85	5-85	18-35	1.45-1.55	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	48-72	50-99	0-45	2-20	1.50-1.70	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.15	.15			
Urban land.														
Chesapeake-------	0-7	50-90	5-45	2-18	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	7-13	70-99	0-20	2-8	1.55-1.70	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20			
	13-42	25-80	5-40	18-34	1.40-1.60	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	42-60	50-99	0-45	2-15	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.10			
41:														
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
42:														
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
Bertie-----------	0-5	30-90	5-50	5-20	1.45-1.60	14.00-42.00	0.10-0.19	0.0-2.9	0.5-2.0	.32	.32	4	3	86
	5-31	25-80	5-40	18-35	1.40-1.60	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.17	.17			
	31-60	50-99	0-45	2-15	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.17			
43:														
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
Deloss-----------	0-13	30-80	5-50	5-20	1.45-1.60	14.00-42.00	0.13-0.19	0.0-2.9	1.0-20	.28	.28	5	3	86
	13-48	25-80	2-55	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.2-1.0	.17	.17			
	48-79	50-99	0-30	1-20	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.24	.24			
44:														
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
Deloss-----------	0-13	30-80	5-50	5-20	1.45-1.60	14.00-42.00	0.13-0.19	0.0-2.9	1.0-20	.28	.28	5	3	86
	13-48	25-80	2-55	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.2-1.0	.17	.17			
	48-79	50-99	0-30	1-20	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.24	.24			
Urban land.														

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	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	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
45:														
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
Nimmo------------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	30-90	5-50	8-18	1.45-1.65	14.00-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.20	.20			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
46:														
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
Urban land.														
47:														
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
Urban land.														
Bertie-----------	0-5	30-90	5-50	5-20	1.45-1.60	14.00-42.00	0.10-0.19	0.0-2.9	0.5-2.0	.32	.32	4	3	86
	5-31	25-80	5-40	18-35	1.40-1.60	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.17	.17			
	31-60	50-99	0-45	2-15	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.17			
48:														
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
Urban land.														
Nimmo------------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	30-90	5-50	8-18	1.45-1.65	14.00-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.20	.20			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
49.														
Udorthents-Urban land														
50.														
Urban land														

Table 17.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	um/sec	In/in	Pct	Pct					
51E:														
Urban land.														
Conetoe----------	0-8	70-99	0-20	2-10	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.5-2.0	.28	.28	5	2	134
	8-25	70-99	0-20	2-10	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20			
	25-41	50-80	5-30	10-30	1.45-1.60	14.00-42.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	41-79	50-99	0-30	2-25	1.45-1.70	14.00-141.00	0.05-0.13	0.0-2.9	0.0-0.5	.10	.10			
Chesapeake-------	0-7	50-90	5-45	2-18	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.24	.24	5	3	86
	7-13	70-99	0-20	2-8	1.55-1.70	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20			
	13-42	25-80	5-40	18-34	1.40-1.60	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	42-60	50-99	0-45	2-15	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.10	.10			
Tetotum----------	0-9	50-90	5-45	5-15	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	0.5-2.0	.32	.32	5	3	86
	9-48	5-85	5-85	18-35	1.45-1.55	4.00-14.00	0.13-0.19	0.0-2.9	0.0-0.5	.15	.15			
	48-72	50-99	0-45	2-20	1.50-1.70	4.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.15	.15			
52:														
Urban land.														
Deloss-----------	0-13	30-80	5-50	5-20	1.45-1.60	14.00-42.00	0.13-0.19	0.0-2.9	1.0-20	.28	.28	5	3	86
	13-48	25-80	2-55	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.2-1.0	.17	.17			
	48-79	50-99	0-30	1-20	1.50-1.70	14.00-141.00	0.05-0.16	0.0-2.9	0.0-0.5	.24	.24			
Tomotley---------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	25-80	2-45	18-35	1.40-1.60	4.00-14.00	0.13-0.16	0.0-2.9	0.0-0.5	.15	.15			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
Nimmo------------	0-7	50-90	5-45	5-20	1.50-1.65	14.00-42.00	0.10-0.16	0.0-2.9	1.0-4.0	.28	.28	5	3	86
	7-42	30-90	5-50	8-18	1.45-1.65	14.00-42.00	0.10-0.19	0.0-2.9	0.0-0.5	.20	.20			
	42-79	70-99	0-20	2-10	1.55-1.70	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
53:														
Wando------------	0-8	70-99	0-20	0-8	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.5-1.0	.28	.28	5	2	134
	8-79	70-99	0-20	1-8	1.55-1.70	42.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.20	.20			
54:														
Weeksville-------	0-22	5-70	10-85	5-18	1.45-1.55	4.00-14.00	0.19-0.22	0.0-2.9	3.0-20	.37	.37	5	5	56
	22-50	5-70	---	5-18	1.45-1.55	4.00-14.00	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
	50-72	5-99	1-85	2-40	1.45-1.70	14.00-141.00	0.05-0.22	0.0-2.9	0.0-0.5	.10	.10			
W.														
Water														

Table 18.—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	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
1:						
Acredale-------------	0-7	5.0-16	3.8-12	3.6-5.5	0	0
	7-15	4.8-12	3.6-8.8	3.6-5.5	0	0
	15-43	6.3-15	4.7-11	4.5-7.3	0	0
	43-66	0.7-17	0.5-13	4.5-7.3	0	0
2:						
Acredale-------------	0-7	5.0-16	3.8-12	3.6-5.5	0	0
	7-15	4.8-12	3.6-8.8	3.6-5.5	0	0
	15-43	6.3-15	4.7-11	4.5-7.3	0	0
	43-66	0.7-17	0.5-13	4.5-7.3	0	0
Chapanoke------------	0-6	4.7-16	3.5-12	3.5-6.5	0	0
	6-50	6.3-15	4.7-11	3.5-6.5	0	0
	50-62	1.8-11	1.3-7.9	3.5-6.5	0	0
3:						
Acredale-------------	0-7	5.0-16	3.8-12	3.6-5.5	0	0
	7-15	4.8-12	3.6-8.8	3.6-5.5	0	0
	15-43	6.3-15	4.7-11	4.5-7.3	0	0
	43-66	0.7-17	0.5-13	4.5-7.3	0	0
Urban land.						
4:						
Acredale-------------	0-7	5.0-16	3.8-12	3.6-5.5	0	0
	7-15	4.8-12	3.6-8.8	3.6-5.5	0	0
	15-43	6.3-15	4.7-11	4.5-7.3	0	0
	43-66	0.7-17	0.5-13	4.5-7.3	0	0
Urban land.						
Chapanoke------------	0-6	4.7-16	3.5-12	3.5-6.5	0	0
	6-50	6.3-15	4.7-11	3.5-6.5	0	0
	50-62	1.8-11	1.3-7.9	3.5-6.5	0	0
5.						
Aquents						
6:						
Arapahoe-------------	0-17	3.5-49	2.6-37	3.6-6.0	0	0
	17-42	2.0-5.6	1.5-4.2	3.5-5.5	0	0
	42-80	0.2-3.6	0.2-2.7	5.6-7.8	0	0
7:						
Arapahoe-------------	0-17	3.5-49	2.6-37	3.6-6.0	0	0
	17-42	2.0-5.6	1.5-4.2	3.5-5.5	0	0
	42-80	0.2-3.6	0.2-2.7	5.6-7.8	0	0
Urban land.						
8:						
Bojac----------------	0-8	1.9-4.5	1.4-3.4	3.6-6.5	0	0
	8-47	2.8-5.6	1.5-4.2	3.6-6.5	0	0
	47-85	0.2-4.9	0.2-3.7	4.5-6.0	0	0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
9:						
Bojac----------------	0-8	1.9-4.5	1.4-3.4	3.6-6.5	0	0
	8-47	2.8-5.6	1.5-4.2	3.6-6.5	0	0
	47-85	0.2-4.9	0.2-3.7	4.5-6.0	0	0
Urban land.						
10:						
Bojac----------------	0-8	1.9-4.5	1.4-3.4	3.6-6.5	0	0
	8-47	2.8-5.6	1.5-4.2	3.6-6.5	0	0
	47-85	0.2-4.9	0.2-3.7	4.5-6.0	0	0
Urban land.						
Wando----------------	0-8	1.4-4.2	1.0-3.2	5.6-7.3	0	0
	8-79	0.2-3.6	0.2-2.7	5.6-7.3	0	0
11:						
Chapanoke------------	0-6	4.7-16	3.5-12	3.5-6.5	0	0
	6-50	6.3-15	4.7-11	3.5-6.5	0	0
	50-62	1.8-11	1.3-7.9	3.5-6.5	0	0
Yeopim---------------	0-8	2.1-9.5	1.6-7.1	3.5-6.0	0	0
	8-42	4.5-9.9	3.4-7.4	3.5-6.0	0	0
	42-62	0.5-6.1	0.4-4.6	3.5-6.0	0	0
12:						
Chesapeake-----------	0-7	1.6-4.2	1.2-3.2	3.6-5.5	0	0
	7-13	0.5-3.1	0.4-2.3	3.6-5.5	0	0
	13-42	4.5-9.6	3.4-7.2	3.6-5.5	0	0
	42-60	0.5-4.9	0.4-3.7	3.6-6.5	0	0
13:						
Chesapeake-----------	0-7	1.6-4.2	1.2-3.2	3.6-5.5	0	0
	7-13	0.5-3.1	0.4-2.3	3.6-5.5	0	0
	13-42	4.5-9.6	3.4-7.2	3.6-5.5	0	0
	42-60	0.5-4.9	0.4-3.7	3.6-6.5	0	0
Urban land.						
14E:						
Conetoe--------------	0-8	1.6-7.0	1.2-5.2	4.5-6.0	0	0
	8-25	0.5-3.6	0.4-2.7	4.5-6.0	0	0
	25-41	2.5-8.6	1.9-6.5	4.5-6.0	0	0
	41-79	0.5-7.4	0.4-5.5	4.5-6.0	0	0
Chesapeake-----------	0-7	1.6-4.2	1.2-3.2	3.6-5.5	0	0
	7-13	0.5-3.1	0.4-2.3	3.6-5.5	0	0
	13-42	4.5-9.6	3.4-7.2	3.6-5.5	0	0
	42-60	0.5-4.9	0.4-3.7	3.6-6.5	0	0
Tetotum--------------	0-9	2.4-8.2	1.8-6.2	3.6-5.5	0	0
	9-48	4.5-9.9	3.4-7.4	3.6-5.5	0	0
	48-72	0.5-6.1	0.4-4.6	3.6-5.5	0	0
15:						
Deloss---------------	0-13	3.5-50	2.6-38	4.5-6.5	0	0
	13-48	5.1-11	3.8-9.2	4.5-5.5	0	0
	48-79	0.2-6.1	0.2-4.6	4.5-6.0	0	0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
16:						
Deloss	0-13	3.5-50	2.6-38	4.5-6.5	0	0
	13-48	5.1-11	3.8-9.2	4.5-5.5	0	0
	48-79	0.2-6.1	0.2-4.6	4.5-6.0	0	0
Tomotley	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
Nimmo	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	2.0-5.6	1.5-4.2	4.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
17:						
Deloss	0-13	3.5-50	2.6-38	4.5-6.5	0	0
	13-48	5.1-11	3.8-9.2	4.5-5.5	0	0
	48-79	0.2-6.1	0.2-4.6	4.5-6.0	0	0
Urban land.						
18:						
Dorovan	0-3	45-180	34-135	3.5-6.5	0	0
	3-79	45-180	34-135	3.5-6.5	0	0
Belhaven	0-26	45-180	34-135	3.5-6.5	0	0
	26-79	2.8-16	2.1-12	4.0-6.5	0	0
19:						
Dragston	0-9	3.2-8.2	2.4-6.2	4.5-5.5	0	0
	9-37	2.0-5.6	1.5-4.2	4.5-5.5	0	0
	37-79	0.5-4.9	0.4-3.7	4.5-6.5	0	0
20:						
Dragston	0-9	3.2-8.2	2.4-6.2	4.5-5.5	0	0
	9-37	2.0-5.6	1.5-4.2	4.5-5.5	0	0
	37-79	0.5-4.9	0.4-3.7	4.5-6.5	0	0
Tomotley	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
21:						
Dragston	0-9	3.2-8.2	2.4-6.2	4.5-5.5	0	0
	9-37	2.0-5.6	1.5-4.2	4.5-5.5	0	0
	37-79	0.5-4.9	0.4-3.7	4.5-6.5	0	0
Urban land.						
22:						
Dragston	0-9	3.2-8.2	2.4-6.2	4.5-5.5	0	0
	9-37	2.0-5.6	1.5-4.2	4.5-5.5	0	0
	37-79	0.5-4.9	0.4-3.7	4.5-6.5	0	0
Urban land.						
Tomotley	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
23:						
Gertie	0-5	4.6-16	3.5-12	3.6-5.5	0	0
	5-42	10-19	7.9-14	3.6-5.5	0	0
	42-75	0.7-9.9	0.5-7.4	3.6-6.5	0	0
24:						
Hyde	0-15	4.8-50	3.6-38	3.5-5.5	0	0
	15-51	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	51-62	0.2-9.9	0.2-7.4	3.5-6.5	0	0
25:						
Munden	0-8	1.9-6.0	1.4-4.5	3.6-6.5	0	0
	8-32	2.0-6.8	1.5-5.1	4.5-6.0	0	0
	32-62	0.2-3.6	0.2-2.7	4.5-6.0	0	0
26C:						
Munden	0-8	1.9-6.0	1.4-4.5	3.6-6.5	0	0
	8-32	2.0-6.8	1.5-5.1	4.5-6.0	0	0
	32-62	0.2-3.6	0.2-2.7	4.5-6.0	0	0
27:						
Munden	0-8	1.9-6.0	1.4-4.5	3.6-6.5	0	0
	8-32	2.0-6.8	1.5-5.1	4.5-6.0	0	0
	32-62	0.2-3.6	0.2-2.7	4.5-6.0	0	0
Urban land.						
28C:						
Munden	0-8	1.9-6.0	1.4-4.5	3.6-6.5	0	0
	8-32	2.0-6.8	1.5-5.1	4.5-6.0	0	0
	32-62	0.2-3.6	0.2-2.7	4.5-6.0	0	0
Urban land.						
29:						
Munden	0-8	1.9-6.0	1.4-4.5	3.6-6.5	0	0
	8-32	2.0-6.8	1.5-5.1	4.5-6.0	0	0
	32-62	0.2-3.6	0.2-2.7	4.5-6.0	0	0
Urban land.						
Pactolus	0-2	1.6-7.5	1.2-5.6	4.5-6.0	0	0
	2-79	0.5-3.0	0.4-2.2	4.5-5.5	0	0
30:						
Nawney	0-4	45-180	34-135	3.6-5.5	0	0
	4-9	4.8-52	3.6-39	3.6-5.5	0	0
	9-47	2.5-9.9	1.9-7.4	3.6-5.5	0	0
	47-60	0.2-15	0.2-11	3.6-5.5	0	0
31:						
Pactolus	0-2	1.6-7.5	1.2-5.6	4.5-6.0	0	0
	2-79	0.5-3.0	0.4-2.2	4.5-5.5	0	0
32:						
Pasquotank	0-6	3.5-11	2.6-8.4	4.5-6.0	0	0
	6-44	1.2-5.6	0.9-4.2	4.5-5.5	0	0
	44-60	0.5-9.9	0.4-7.4	4.5-5.5	0	0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
33:						
Pocaty	0-12	68-203	51-152	5.1-7.3	5.0-1270.0	2-190
	12-20	68-203	51-152	5.1-7.3	5.0-775.0	2-66
	20-60	68-203	51-152	5.1-7.3	4.0-113.0	2-56
	60-80	1.2-12	0.9-9.4	5.1-7.3	2.0-90.0	2-50
34:						
Portsmouth	0-19	5.8-50	4.3-38	3.5-5.5	0	0
	19-38	5.1-11	3.8-8.2	3.5-5.5	0	0
	38-72	0.8-4.8	0.6-3.6	5.6-7.8	0	0
35C:						
Psamments	0-6	1.4-9.2	1.0-6.9	3.6-6.0	0	0
	6-60	0.2-3.6	0.2-2.7	4.5-6.5	0	0
36:						
Pungo	0-3	45-180	34-135	3.5-6.5	0	0
	3-79	45-180	34-135	3.5-6.5	0	0
Belhaven	0-26	45-180	34-135	3.5-6.5	0	0
	26-79	2.8-16	2.1-12	4.0-6.5	0	0
37:						
Rappahannock	0-41	50-214	37-160	6.5-8.5	5.0-1270.0	2-190
	41-79	1.9-20	1.4-15	6.5-8.5	2.0-90.0	2-50
38:						
Tetotum	0-9	2.4-8.2	1.8-6.2	3.6-5.5	0	0
	9-48	4.5-9.9	3.4-7.4	3.6-5.5	0	0
	48-72	0.5-6.1	0.4-4.6	3.6-5.5	0	0
39:						
Tetotum	0-9	2.4-8.2	1.8-6.2	3.6-5.5	0	0
	9-48	4.5-9.9	3.4-7.4	3.6-5.5	0	0
	48-72	0.5-6.1	0.4-4.6	3.6-5.5	0	0
Urban land.						
40:						
Tetotum	0-9	2.4-8.2	1.8-6.2	3.6-5.5	0	0
	9-48	4.5-9.9	3.4-7.4	3.6-5.5	0	0
	48-72	0.5-6.1	0.4-4.6	3.6-5.5	0	0
Urban land.						
Chesapeake	0-7	1.6-4.2	1.2-3.2	3.6-5.5	0	0
	7-13	0.5-3.1	0.4-2.3	3.6-5.5	0	0
	13-42	4.5-9.6	3.4-7.2	3.6-5.5	0	0
	42-60	0.5-4.9	0.4-3.7	3.6-6.5	0	0
41:						
Tomotley	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
42:						
Tomotley	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
42:						
Bertie---------------	0-5	2.4-9.5	1.8-7.1	4.5-6.0	0	0
	5-31	4.5-9.9	3.4-7.4	4.5-6.0	0	0
	31-60	0.5-4.9	0.4-3.1	4.5-6.0	0	0
43:						
Tomotley-------------	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
Deloss---------------	0-13	3.5-50	2.6-38	4.5-6.5	0	0
	13-48	5.1-11	3.8-9.2	4.5-5.5	0	0
	48-79	0.2-6.1	0.2-4.6	4.5-6.0	0	0
44:						
Tomotley-------------	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
Deloss---------------	0-13	3.5-50	2.6-38	4.5-6.5	0	0
	13-48	5.1-11	3.8-9.2	4.5-5.5	0	0
	48-79	0.2-6.1	0.2-4.6	4.5-6.0	0	0
Urban land.						
45:						
Tomotley-------------	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
Nimmo----------------	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	2.0-5.6	1.5-4.2	4.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
46:						
Tomotley-------------	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
Urban land.						
47:						
Tomotley-------------	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
Urban land.						
Bertie---------------	0-5	2.4-9.5	1.8-7.1	4.5-6.0	0	0
	5-31	4.5-9.9	3.4-7.4	4.5-6.0	0	0
	31-60	0.5-4.9	0.4-3.1	4.5-6.0	0	0
48:						
Tomotley-------------	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
Urban land.						

Table 18.—Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
48:						
Nimmo----------------	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	2.0-5.6	1.5-4.2	4.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
49.						
Udorthents-Urban land						
50.						
Urban land						
51E:						
Urban land.						
Conetoe--------------	0-8	1.6-7.0	1.2-5.2	4.5-6.0	0	0
	8-25	0.5-3.6	0.4-2.7	4.5-6.0	0	0
	25-41	2.5-8.6	1.9-6.5	4.5-6.0	0	0
	41-79	0.5-7.4	0.4-5.5	4.5-6.0	0	0
Chesapeake-----------	0-7	1.6-4.2	1.2-3.2	3.6-5.5	0	0
	7-13	0.5-3.1	0.4-2.3	3.6-5.5	0	0
	13-42	4.5-9.6	3.4-7.2	3.6-5.5	0	0
	42-60	0.5-4.9	0.4-3.7	3.6-6.5	0	0
Tetotum--------------	0-9	2.4-8.2	1.8-6.2	3.6-5.5	0	0
	9-48	4.5-9.9	3.4-7.4	3.6-5.5	0	0
	48-72	0.5-6.1	0.4-4.6	3.6-5.5	0	0
52:						
Urban land.						
Deloss---------------	0-13	3.5-50	2.6-38	4.5-6.5	0	0
	13-48	5.1-11	3.8-9.2	4.5-5.5	0	0
	48-79	0.2-6.1	0.2-4.6	4.5-6.0	0	0
Tomotley-------------	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	4.5-9.9	3.4-7.4	3.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
Nimmo----------------	0-7	3.5-14	2.6-10	3.5-5.5	0	0
	7-42	2.0-5.6	1.5-4.2	4.5-5.5	0	0
	42-79	0.5-4.8	0.4-3.6	4.5-6.0	0	0
53:						
Wando----------------	0-8	1.4-4.2	1.0-3.2	5.6-7.3	0	0
	8-79	0.2-3.6	0.2-2.7	5.6-7.3	0	0
54:						
Weeksville-----------	0-22	8.0-22	6.0-17	4.5-5.5	0	0
	22-50	2.4-9.0	1.8-6.8	4.5-5.5	0	0
	50-72	0.8-11	0.6-8.3	4.5-5.5	0	0
W.						
Water						

Table 19.—Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1:										
Acredale--------------	D	Medium	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			Jul-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
2:										
Acredale--------------	D	Medium	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			Jul-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Chapanoke-------------	C	Medium	Jan-March	1.0-2.0	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			May	2.0-3.0	>6.0	---	---	None	---	None
			Jun-Aug	---	---	---	---	None	---	None
			Sept-Oct	2.0-3.0	>6.0	---	---	None	---	None
			Nov-Dec	1.0-2.0	>6.0	---	---	None	---	None
3:										
Acredale--------------	D	Medium	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			Jul-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Urban land.										

Table 19.—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				
4:										
Acredale-------------	D	Medium	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			Jul-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Urban land.										
Chapanoke-------------	C	Medium	Jan-March	1.0-2.0	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			May	2.0-3.0	>6.0	---	---	None	---	None
			Jun-Aug	---	---	---	---	None	---	None
			Sept-Oct	2.0-3.0	>6.0	---	---	None	---	None
			Nov-Dec	1.0-2.0	>6.0	---	---	None	---	None
5:										
Aquents---------------	A	Negligible	Jan-April	0.0-0.3	>6.0	0.0-0.8	Long	Frequent	---	None
			May-Oct	0.0-0.3	>6.0	0.0-0.8	Brief	Frequent	---	None
			Nov-Dec	0.0-0.3	>6.0	0.0-0.8	Long	Frequent	---	None
6:										
Arapahoe--------------	B/D	Very low	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			Jul-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
7:										
Arapahoe--------------	B/D	Very low	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			Jul-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Urban land.										

Table 19.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
8:										
Bojac------------------	B	Very low	Jan-March	4.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May-Sept	---	---	---	---	None	---	None
			October	5.0-6.0	>6.0	---	---	None	---	None
			Nov-Dec	4.0-6.0	>6.0	---	---	None	---	None
9:										
Bojac------------------	B	Very low	Jan-March	4.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May-Sept	---	---	---	---	None	---	None
			October	5.0-6.0	>6.0	---	---	None	---	None
			Nov-Dec	4.0-6.0	>6.0	---	---	None	---	None
Urban land.										
10:										
Bojac------------------	B	Very low	Jan-March	4.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May-Sept	---	---	---	---	None	---	None
			October	5.0-6.0	>6.0	---	---	None	---	None
			Nov-Dec	4.0-6.0	>6.0	---	---	None	---	None
Urban land.										
Wando------------------	A	Very low								
			Jan-March	4.0-6.6	>6.0	---	---	None	---	None
			April-Oct	---	---	---	---	None	---	None
			Nov-Dec	4.0-6.6	>6.0	---	---	None	---	None
11:										
Chapanoke--------------	C	Medium	Jan-March	1.0-2.0	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			May	2.0-3.0	>6.0	---	---	None	---	None
			June-Aug	---	---	---	---	None	---	None
			Sept-Oct	2.0-3.0	>6.0	---	---	None	---	None
			Nov-Dec	1.0-2.0	>6.0	---	---	None	---	None
Yeopim-----------------	B	Medium	Jan-March	1.5-3.0	>6.0	---	---	None	---	None
			April	2.0-3.0	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-3.0	>6.0	---	---	None	---	None
			December	1.5-3.0	>6.0	---	---	None	---	None

Table 19.—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				
12:										
Chesapeake------------	B	Low	Jan-March	4.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May-Sept	---	---	---	---	None	---	None
			October	5.0-6.0	>6.0	---	---	None	---	None
			Nov-Dec	4.0-6.0	>6.0	---	---	None	---	None
13:										
Chesapeake------------	B	Low	Jan-March	4.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May-Sept	---	---	---	---	None	---	None
			October	5.0-6.0	>6.0	---	---	None	---	None
			Nov-Dec	4.0-6.0	>6.0	---	---	None	---	None
Urban land.										
14E:										
Conetoe---------------	A	Low	Jan-Dec	---	---	---	---	None	---	None
Chesapeake------------	B	Low	Jan-March	4.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May-Sept	---	---	---	---	None	---	None
			October	5.0-6.0	>6.0	---	---	None	---	None
			Nov-Dec	4.0-6.0	>6.0	---	---	None	---	None
Tetotum---------------	C	Medium	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
15:										
Deloss----------------	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.0-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—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				
16:										
Deloss	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.0-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Tomotley	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Nimmo	D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
17:										
Deloss	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.0-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Urban land.										

Table 19.—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				
18:										
Dorovan---------------	D	Negligible	Jan-March	0.0-0.5	>6.0	---	---	None	Very long	Frequent
			April-May	0.0-1.0	>6.0	---	---	None	Very long	Frequent
			June	0.0-1.0	>6.0	---	---	None	Long	Occasional
			July-Sept	0.0-1.5	>6.0	---	---	None	Long	Occasional
			October	0.0-1.0	>6.0	---	---	None	Very long	Frequent
			Nov-Dec	0.0-0.5	>6.0	---	---	None	Very long	Frequent
Belhaven--------------	D	Negligible	Jan-March	0.0-0.5	>6.0	---	---	None	Very long	Frequent
			April-May	0.0-1.0	>6.0	---	---	None	Very long	Frequent
			June	0.0-1.0	>6.0	---	---	None	Long	Occasional
			July-Sept	0.0-1.5	>6.0	---	---	None	Long	Occasional
			October	0.0-1.0	>6.0	---	---	None	Very long	Frequent
			Nov-Dec	0.0-0.5	>6.0	---	---	None	Very long	Frequent
19:										
Dragston--------------	C	Very low	Jan-March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.6-3.0	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	1.6-3.0	>6.0	---	---	None	---	None
			December	1.0-2.5	>6.0	---	---	None	---	None
20:										
Dragston--------------	C	Very low	Jan-March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.6-3.0	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	1.6-3.0	>6.0	---	---	None	---	None
			December	1.0-2.5	>6.0	---	---	None	---	None
Tomotley--------------	B/D	Very low	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—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				
21:										
Dragston---------------	C	Very low	Jan-March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.6-3.0	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	1.6-3.0	>6.0	---	---	None	---	None
			December	1.0-2.5	>6.0	---	---	None	---	None
Urban land.										
22:										
Dragston---------------	C	Very low	Jan-March	1.0-2.5	>6.0	---	---	None	---	None
			April	1.6-3.0	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	1.6-3.0	>6.0	---	---	None	---	None
			December	1.0-2.5	>6.0	---	---	None	---	None
Urban land.										
Tomotley---------------	B/D	Very low	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
23:										
Gertie-----------------	D	Medium	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—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				
24:										
Hyde------------------	B/D	Low	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
25:										
Munden----------------	B	Very low	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
26C:										
Munden----------------	B	Very low	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
27:										
Munden----------------	B	Very low	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
Urban land.										

Table 19.—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				
28C:										
Munden----------------	B	Very low	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
Urban land.										
29:										
Munden----------------	B	Very low	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
Urban land.										
Pactolus--------------	A	Negligible	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April-Dec	---	---	---	---	None	---	None
30:										
Nawney----------------	D	Negligible	Jan-March	0.0-0.5	>6.0	---	---	None	Very long	Frequent
			April	0.0-1.0	>6.0	---	---	None	Very long	Frequent
			May-June	0.0-1.0	>6.0	---	---	None	Long	Frequent
			July-Sept	0.0-1.5	>6.0	---	---	None	Long	Frequent
			October	0.0-1.0	>6.0	---	---	None	Long	Frequent
			Nov-Dec	0.0-0.5	>6.0	---	---	None	Very long	Frequent
31:										
Pactolus--------------	A	Negligible	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April-Dec	---	---	---	---	None	---	None

Table 19.—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				
32:										
Pasquotank	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-0.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
33:										
Pocaty	D	Negligible	Jan-Dec	0.0-1.0	>6.0	---	---	None	Long	Very frequent
34:										
Portsmouth	B/D	Low	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
35C:										
Psamments	A	Very low	Jan-May	2.5-5.0	>6.0	---	---	None	---	None
			June-Oct	---	---	---	---	None	---	None
			Nov-Dec	2.5-5.0	>6.0	---	---	None	---	None
36:										
Pungo	D	Negligible	Jan-March	0.0-0.5	>6.0	0.0-3.0	Long	Frequent	---	None
			April-May	0.0-1.0	>6.0	0.0-3.0	Brief	Occasional	---	None
			June	0.0-1.0	>6.0	0.0-3.0	Brief	Rare	---	None
			July-Sept	0.0-1.5	>6.0	0.0-3.0	Brief	Rare	---	None
			October	0.0-1.0	>6.0	0.0-3.0	Brief	Rare	---	None
			November	0.0-0.5	>6.0	0.0-3.0	Brief	Occasional	---	None
			December	0.0-0.5	>6.0	0.0-3.0	Long	Frequent	---	None
Belhaven	D	Negligible	Jan-March	0.0-0.5	>6.0	0.0-3.0	Long	Frequent	---	None
			April-May	0.0-1.0	>6.0	0.0-3.0	Brief	Occasional	---	None
			June	0.0-1.0	>6.0	0.0-3.0	Brief	Rare	---	None
			July-Sept	0.0-1.5	>6.0	0.0-3.0	Brief	Rare	---	None
			October	0.0-1.0	>6.0	0.0-3.0	Brief	Rare	---	None
			November	0.0-0.5	>6.0	0.0-3.0	Brief	Occasional	---	None
			December	0.0-0.5	>6.0	0.0-3.0	Long	Frequent	---	None

Table 19.—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				
37:										
Rappahannock----------	D	Negligible	Jan-Dec	0.0-1.0	>6.0	---	---	None	Long	Very frequent
38:										
Tetotum---------------	C	Very low	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
39:										
Tetotum---------------	C	Very low	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
Urban land.										
40:										
Tetotum---------------	C	Very low	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None
Urban land.										
Chesapeake------------	B	Low	Jan-March	4.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May-Sept	---	---	---	---	None	---	None
			October	5.0-6.0	>6.0	---	---	None	---	None
			Nov-Dec	4.0-6.0	>6.0	---	---	None	---	None

Table 19.—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				
41:										
Tomotley----------------	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
42:										
Tomotley----------------	B/D	Very low	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Bertie------------------	C	Low	Jan-March	1.0-2.0	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			May	2.0-3.0	>6.0	---	---	None	---	None
			June-Aug	---	---	---	---	None	---	None
			Sept-Oct	2.0-3.0	>6.0	---	---	None	---	None
			Nov-Dec	1.0-2.0	>6.0	---	---	None	---	None
43:										
Tomotley----------------	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—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				
43:										
Deloss----------------	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.0-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
44:										
Tomotley--------------	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Deloss----------------	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.0-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Urban land.										
45:										
Tomotley--------------	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None

Table 19.—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				
45:										
Nimmo-----------------	D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
46:										
Tomotley--------------	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Urban land.										
47:										
Tomotley--------------	B/D	Very low	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Urban land.										
Bertie----------------	C	Low	Jan-March	1.0-2.0	>6.0	---	---	None	---	None
			April	1.5-2.5	>6.0	---	---	None	---	None
			May	2.0-3.0	>6.0	---	---	None	---	None
			June-Aug	---	---	---	---	None	---	None
			Sept-Oct	2.0-3.0	>6.0	---	---	None	---	None
			Nov-Dec	1.0-2.0	>6.0	---	---	None	---	None

Table 19.—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				
48:										
Tomotley----------------	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Urban land.										
Nimmo-------------------	D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
49.										
Udorthents-Urban land										
50.										
Urban land										
51E:										
Urban land.										
Conetoe-----------------	A	Low	Jan-Dec	---	---	---	---	None	---	---
Chesapeake--------------	B	Low	Jan-March	4.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May-Sept	---	---	---	---	None	---	None
			October	5.0-6.0	>6.0	---	---	None	---	None
			Nov-Dec	4.0-6.0	>6.0	---	---	None	---	None
Tetotum-----------------	C	Medium	Jan-March	1.5-2.5	>6.0	---	---	None	---	None
			April	2.0-2.5	>6.0	---	---	None	---	None
			May	2.5-3.0	>6.0	---	---	None	---	None
			June	4.0-6.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	>6.0	---	---	None	---	None
			December	1.5-2.5	>6.0	---	---	None	---	None

Table 19.—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				
52:										
Urban land.										
Deloss	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.0-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Tomotley	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Nimmo	D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
53:										
Wando	A	Very low	Jan-March	4.0-6.6	>6.0	---	---	None	---	None
			April-Oct	---	---	---	---	None	---	None
			Nov-Dec	4.0-6.6	>6.0	---	---	None	---	None

Table 19.—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				
54:										
Weeksville------------	B/D	Negligible	Jan-Feb	0.0-1.0	>6.0	---	---	None	---	None
			March	0.5-1.5	>6.0	---	---	None	---	None
			April	1.0-2.7	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	4.0-5.0	>6.0	---	---	None	---	None
			July-Sept	---	---	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	0.5-1.5	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
W.										
Water										

Table 20.—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	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
1:					
Acredale	---	---	None	High	High
2:					
Acredale	---	---	None	High	High
Chapanoke	---	---	None	High	High
3:					
Acredale	---	---	None	High	High
Urban land.					
4:					
Acredale	---	---	None	High	High
Urban land.					
Chapanoke	---	---	None	High	High
5.					
Aquents					
6:					
Arapahoe	---	---	None	High	High
7:					
Arapahoe	---	---	None	High	High
Urban land.					
8:					
Bojac	---	---	None	Low	High
9:					
Bojac	---	---	None	Low	High
Urban land.					
10:					
Bojac	---	---	None	Low	High
Urban land.					
Wando	---	---	None	Low	Moderate
11:					
Chapanoke	---	---	None	High	High
Yeopim	---	---	None	Moderate	High
12:					
Chesapeake	---	---	None	Moderate	High

Table 20.—Soil Features—Continued

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
13:					
Chesapeake	---	---	None	Moderate	High
Urban land.					
14E:					
Conetoe	---	---	None	Low	High
Chesapeake	---	---	None	Moderate	High
Tetotum	---	---	None	High	High
15:					
Deloss	---	---	None	High	High
16:					
Deloss	---	---	None	High	High
Tomotley	---	---	None	High	High
Nimmo	---	---	None	Low	High
17:					
Deloss	---	---	None	High	High
Urban land.					
18:					
Dorovan	6-12	51-80	None	High	High
Belhaven	6-12	51-80	None	High	High
19:					
Dragston	---	---	None	Low	High
20:					
Dragston	---	---	None	Low	High
Tomotley	---	---	None	High	High
21:					
Dragston	---	---	None	Low	High
Urban land.					
22:					
Dragston	---	---	None	Low	High
Urban land.					
Tomotley	---	---	None	High	High
23:					
Gertie	---	---	None	High	High
24:					
Hyde	---	---	None	High	High

Table 20.—Soil Features—Continued

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
25:					
Munden-----------------	---	---	None	Low	High
26C:					
Munden-----------------	---	---	None	Low	High
27:					
Munden-----------------	---	---	None	Low	High
Urban land.					
28C:					
Munden-----------------	---	---	None	Low	High
Urban land.					
29:					
Munden-----------------	---	---	None	Low	High
Urban land.					
Pactolus---------------	---	---	None	Low	High
30:					
Nawney-----------------	---	---	None	High	High
31:					
Pactolus---------------	---	---	None	Low	High
32:					
Pasquotank-------------	---	---	None	High	Moderate
33:					
Pocaty-----------------	6-12	20-30	None	High	High
34:					
Portsmouth-------------	---	---	None	High	High
35C.					
Psamments					
36:					
Pungo------------------	6-12	20-30	None	High	High
Belhaven---------------	6-12	20-30	None	High	High
37:					
Rappahannock-----------	16-20	16-38	None	High	High
38:					
Tetotum----------------	---	---	None	High	High
39:					
Tetotum----------------	---	---	None	High	High
Urban land.					

Table 20.—Soil Features—Continued

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
40:					
Tetotum----------------	---	---	None	High	High
Urban land.					
Chesapeake-------------	---	---	None	Moderate	High
41:					
Tomotley---------------	---	---	None	High	High
42:					
Tomotley---------------	---	---	None	High	High
Bertie-----------------	---	---	None	High	Moderate
43:					
Tomotley---------------	---	---	None	High	High
Deloss-----------------	---	---	None	High	High
44:					
Tomotley---------------	---	---	None	High	High
Deloss-----------------	---	---	None	High	High
Urban land.					
45:					
Tomotley---------------	---	---	None	High	High
Nimmo------------------	---	---	None	Low	High
46:					
Tomotley---------------	---	---	None	High	High
Urban land.					
47:					
Tomotley---------------	---	---	None	High	High
Urban land.					
Bertie-----------------	---	---	None	High	Moderate
48:					
Tomotley---------------	---	---	None	High	High
Urban land.					
Nimmo------------------	---	---	None	Low	High
49.					
Udorthents-Urban land					
50.					
Urban land					

Table 20.—Soil Features—Continued

Map symbol and soil name	Subsidence		Potential for frost action	Risk of corrosion	
	Initial	Total		Uncoated steel	Concrete
	In	In			
51E:					
Urban land.					
Conetoe	---	---	None	Low	High
Chesapeake	---	---	None	Moderate	High
Tetotum	---	---	None	High	High
52:					
Urban land.					
Deloss	---	---	None	High	High
Tomotley	---	---	None	High	High
Nimmo	---	---	None	Low	High
53:					
Wando	---	---	None	Low	Moderate
54:					
Weeksville	---	---	None	High	Moderate
W.					
Water					

Table 21.—Classification of the Soils

Soil name	Family or higher taxonomic class
Acredale	Fine-silty, mixed, active, thermic Typic Endoaqualfs
Aquents	Aquents
Arapahoe	Coarse-loamy, mixed, semiactive, nonacid, thermic Typic Humaquepts
Belhaven	Loamy, mixed, dysic, thermic Terric Haplosaprists
Bertie	Fine-loamy, mixed, semiactive, thermic Aeric Endoaquults
Bojac	Coarse-loamy, mixed, semiactive, thermic Typic Hapludults
Chapanoke	Fine-silty, mixed, semiactive, thermic Aeric Endoaquults
Chesapeake	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Conetoe	Loamy, mixed, semiactive, thermic Arenic Hapludults
Deloss	Fine-loamy, mixed, semiactive, thermic Typic Umbraquults
Dorovan	Dysic, thermic Typic Haplosaprists
Dragston	Coarse-loamy, mixed, semiactive, thermic Aeric Endoaquults
Gertie	Fine, mixed, semiactive, thermic Typic Endoaquults
Hyde	Fine-silty, mixed, active, thermic Typic Umbraquults
Munden	Coarse-loamy, mixed, semiactive, thermic Aquic Hapludults
Nawney	Fine-loamy, mixed, active, acid, thermic Typic Fluvaquents
Nimmo	Coarse-loamy, mixed, semiactive, thermic Typic Endoaquults
Pactolus	Thermic, coated Aquic Quartzipsamments
Pasquotank	Coarse-silty, mixed, semiactive, thermic Typic Endoaquults
Pocaty	Euic, thermic Typic Sulfisaprists
Portsmouth	Fine-loamy over sandy or sandy-skeletal, mixed, semiactive, thermic Typic Umbraquults
Psamments	Psamments
Pungo	Dysic, thermic Typic Haplosaprists
Rappahannock	Loamy, mixed, euic, thermic Terric Sulfisaprists
Tetotum	Fine-loamy, mixed, semiactive, thermic Aquic Hapludults
Tomotley	Fine-loamy, mixed, semiactive, thermic Typic Endoaquults
Udorthents	Udorthents
Wando	Thermic, coated Typic Quartzipsamments
Weeksville	Coarse-silty, mixed, semiactive, acid, thermic Typic Humaquepts
Yeopim	Fine-silty, mixed, semiactive, thermic Aquic Hapludults

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