United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with the Winston County Soil and Water Conservation District, the U.S. Forest Service, and the Mississippi Agricultural and Forestry Experiment Station

Soil Survey of Winston County, Mississippi

How To Use This Soil Survey

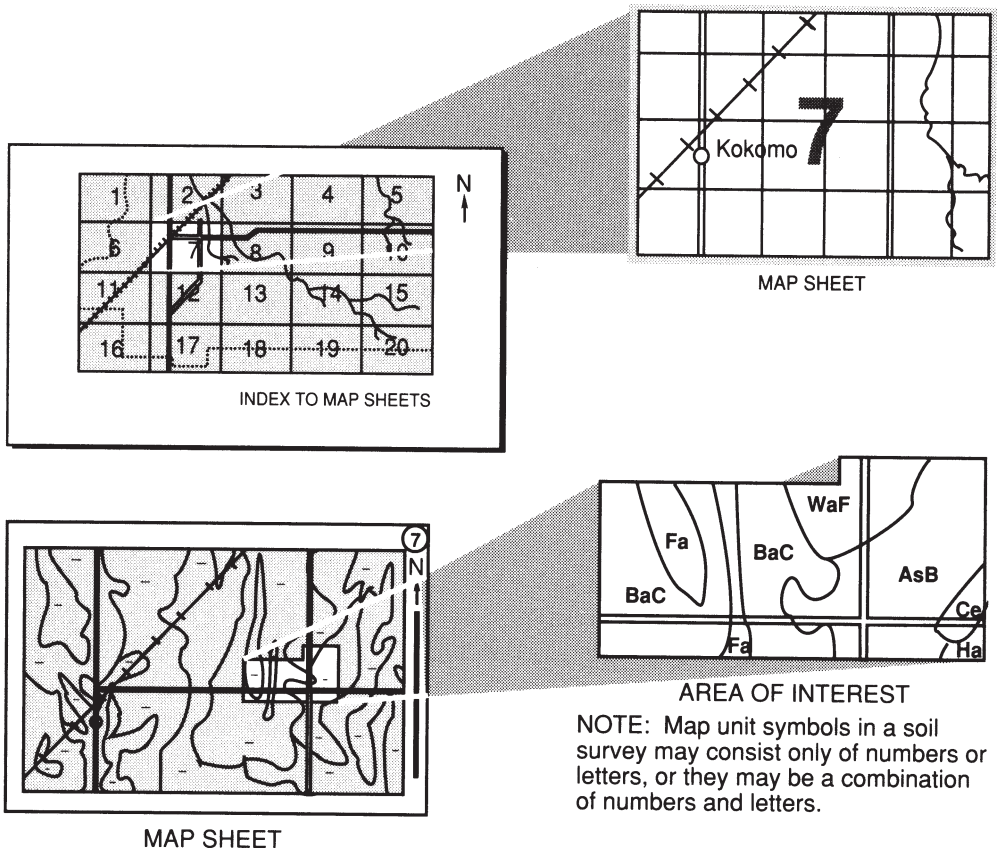
Detailed Soil Maps

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

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

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

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



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

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

Major fieldwork for this soil survey was completed in 1995. Soil names and descriptions were approved in 1997. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1996. This survey was made cooperatively by the Natural Resources Conservation Service, the U.S. Forest Service, and the Mississippi Agricultural and Forestry Experiment Station. The survey is part of the technical assistance furnished to the Winston County Soil and Water Conservation District.

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

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Cover: A constructed watershed lake in an area of Sweatman fine sandy loam, 5 to 8 percent slopes, eroded. The forestland in the background is an area of Kinston loam, frequently flooded.

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

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Foreword

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

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

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

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

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

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State Conservationist
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Soil Survey of
Winston County, Mississippi

By Willie L. Green

Fieldwork by Willie L. Green, Paul R. Brass, Karl H. Miller, and Mac H. Robards

United States Department of Agriculture,
Natural Resources Conservation Service,
in cooperation with
the Winston County Soil and Water Conservation District,
the U.S. Forest Service, and
the Mississippi Agricultural and Forestry Experiment Station

WINSTON COUNTY is in the east-central part of Mississippi (fig. 1). It has an area of about 610 square miles, or 390,500 acres. Included in this area are lakes smaller than 40 acres in size and streams less than 1/8 mile in width. In 1990, the county had a population of 19,433 and Louisville, the county seat, had a population of 7,169. Louisville is in the central part of the county.

From east to west, the county is about 18 miles wide on the northern border and about 31 miles wide in the south. From north to south, it is about 25 miles long on the east side and 12 miles long on the west side along the Attala County border. Winston County is bordered by Attala County to the west, Oktibbeha County to the north, Noxubee County to the east, Choctaw County to the north and west, Kemper and Neshoba Counties to the south, and Leake County to the southwest.

Winston County is drained by 11 main stream systems. Lobutcha Creek and its tributaries drain a small area along the northwest and west sides of the county. The creek flows southwest through Attala County into Leake County and empties into the Pearl River. Pinishook and Noxapater Creeks and their tributaries drain an area along the west side of Winston County. Pinishook Creek flows south into Neshoba County and empties into the Pearl River. Tallahaga Creek and its tributaries drain the northwestern and central parts of the county. The Noxubee River and its tributaries drain the northern part of the county. Jones, Lynn, Loakfoma, Little Yellow, and Yellow Creeks and their tributaries drain the northeastern part of the county. They flow eastward into Noxubee County and empty into the Noxubee River. Naniawaya Creek and its tributaries drain the east-central part of the county and some of the southeastern part. Hashuqua Creek drains the extreme southeastern part of the county. It flows eastward into Noxubee County and empties into the Noxubee River. Noxapater, Tallahaga, and Nanawaya Creeks are upper tributaries that come together and form the Pearl River System, which begins in Neshoba County just south of the Winston County line. The Noxubee River and its main tributaries flow eastward and empty into the Tombigbee River in Alabama.

The land area of Winston County is about 27 percent flood plains along rivers, creeks, and small streams; 7 percent stream terraces; and 66 percent uplands that

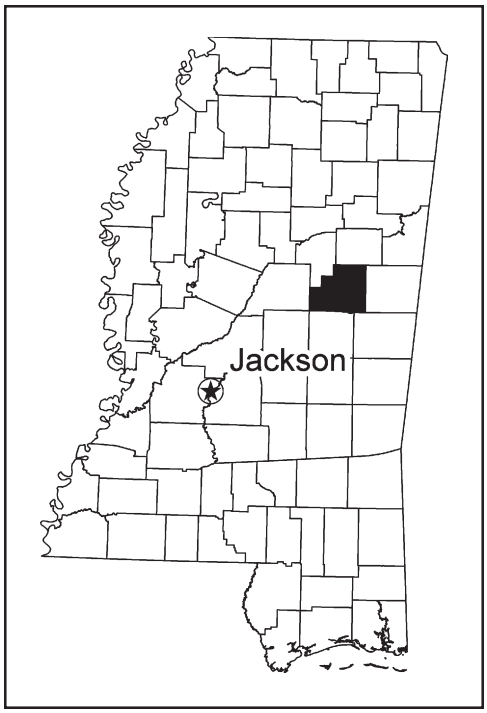

Figure 1.—Location of Winston County in Mississippi.

have a dendritic drainage pattern. The upland ridges are nearly level to moderately sloping. The hillsides are mainly strongly sloping to very steep.

In 1998, about 304,590 acres, or 78 percent of the county, was commercial timberland owned by private landowners, the federal government, or forestry companies. About 78,000 acres, or 20 percent of the county, was pasture or hayland. About 8,000 acres, or 2 percent of the county, was used for corn, cotton, grain sorghum, soybeans, or wheat.

This soil survey updates the survey of Winston County published in 1912.

General Nature of the County

In this section the agriculture, archeology, history and development, water resources, mineral resources, and climate of Winston County are described.

Agriculture

Farming is the main source of income in Winston County and has been for many years. In 1900, Winston County had 2,592 farms. The average farm size was 150 acres. In 1991, the county had 400 farms. The average farm size was 200 acres. By 1998, the acreage that was cultivated or used for forage crops had been reduced tremendously. The land that had been used for crop and forage production was converted back to forestland.

Today, the four main agricultural enterprises in the county are forestland, poultry, beef cattle, and swine. Forestland ranks number one, poultry ranks number two, beef cattle ranks number three, and swine ranks number four. The average yields per acre of the principal row crops in 1991 were 436 pounds (lint) per acre for cotton and 33 bushels per acre for wheat.

In 1998, the livestock in the county consisted of 18,000 beef cattle and calves (raised by several producers scattered throughout the county), 1,500 dairy cows (raised by 4 producers), 30,000 swine (raised by 2 producers), and 30,000,000 chickens (raised in 100 poultry houses by 34 producers). The poultry industry is located in the southern part of the county.

The county has several agriculture-related industries, including a chip mill, a wood-chemical plant, a particle-board plant, a hardwood plant, several small saw mills and pulpwood plants, and a large machine-works factory that makes machinery for harvesting timber. Also, there is a furniture factory and two large truck companies that are directly connected to the forestland industry.

Archeology

The Nanih Waiya (or Nunih Waya) sacred mound of the Choctaws is in Winston County. It is in the southern part of the county about 400 yards from the Neshoba County line. It is about 50 yards from the west side of Nanih Waiya Creek. The mound is one of the most important prehistoric monuments in the state. The mound is oblong and about 40 feet high. The base of the mound covers about 1 acre. The summit of the mound is flat and has an area of 1/4 acre. Around the mound once stood a circular rampart about 1 1/2 miles in circumference. The creation and migration legends of the Choctaws and others cluster around the mound. The evidence from several archeological studies shows that the Choctaw Native American tribe constructed the mound in 400 A.D. The evidence points to the mound as a great center of the Choctaw Nation during the prehistoric period.

History and Development

Winston County was established on December 23, 1833. It is one of the 16 counties carved from territory ceded by the Choctaw Nation to the United States in 1830 by the treaty of “Dancing Rabbit.” The county was named in honor of Colonel Louis Winston, an attorney-general for the Tennessee River Country.

Louisville is the county seat. It was also named in honor of Louis Winston. It was platted on a tract on the great early mail route from Nashville to New Orleans. It was incorporated in 1836 and had a population of 1,200 in 1900. Other small towns that sprang up in the county in the 1800s were Betheden, Fearns Springs, Hathorn, Naina Waya, Noxapeter, and Platsburg. Some of these towns do not exist today. Louisville, Naina Waya, and Noxapeter are currently the principal towns in the county.

Water Resources

Groundwater.—Historically, several springs scattered throughout the county were used by the rural population for household consumption and for livestock. A well known spring named “Chalybeate Springs” was near Louisville. In the old days, it was said to possess valuable medicinal properties.

Today, most of the water supply in the county comes from wells that are over 100 feet deep. The wells in the county range from 65 to 1,664 feet in depth. They were drilled into aquifers and supply a large amount of water for the municipal, industrial, and rural water systems and for household consumption and livestock. The wells were drilled into the Winona, Upper Wilcox, Middle Wilcox, and Lower Wilcox aquifers.

Surface Water.—The major river basin in the county is comprised of the Noxubee River and its tributaries. It drains the northern part of the county. Jones, Lynn, Loakfoma, Little Yellow, Yellow, and Hashuqua Creeks drain the eastern part of the county. Pinishook, Tallahager, and Naniawaya Creeks drain the southern part of the

county. Lobutcha Creek drains the western part of the county. The quantity and quality of the surface water are not sufficient to meet industrial and agricultural demands. The stream system is a limited water resource because of seasonal variations in flow. The supply from most of the streams is not dependable.

Many ponds have been constructed on farms throughout the county. The main purpose of these ponds is to provide water for livestock. The ponds are also used for recreation, fishing, and wildlife. The county has eight watershed lakes. They are used for flood control, recreation, and fishing.

Mineral Resources

The mineral resources in Winston County consist of lignite and clay. The lignite deposits have not been mined to much extent. The deposits are enormous and may be mined in the future as the demand for electricity increases. The clay deposits are large and have been mined for years. The clay has been used for ceramics, tile, and bricks. The clay pits operating today are directly east of Louisville and in the southeastern part of the county on the Noxubee County line. The clay is mostly used for building bricks. A major brick plant is in Louisville.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Louisville, Mississippi, 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 length of the growing season.

In winter, the average temperature is 43.6 degrees F and the average daily minimum temperature is 32.9 degrees. The lowest temperature on record, which occurred on December 23, 1989, is -3 degrees. In summer, the average temperature is 78 degrees and the average daily maximum temperature is 88.5 degrees. The highest recorded temperature, which occurred on August 27, 1943, is 107 degrees.

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

The total annual precipitation is about 58.8 inches. Of this, 31.2 inches, or 53 percent, usually falls in April through October. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through October is less than 13.5 inches. The heaviest 1-day rainfall during the period of record was 10.3 inches on April 13, 1979. Thunderstorms occur on about 63 days each year and are most common in July.

The average seasonal snowfall is about 0.7 inch. The greatest snow depth at any one time during the period of record was 15 inches. Typically, 0 days of the year have at least 1 inch of snow on the ground.

The average relative humidity in midafternoon is about 57 percent. Humidity is higher at night, and the average at dawn is about 90 percent. The sun shines 69 percent of the time possible in summer and 59 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 9.2 miles per hour, in March.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations,

and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

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

Detailed Soil Map Units

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

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, 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, Ruston fine sandy loam, 2 to 5 percent slopes, eroded, is a phase of the Ruston 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. Pits-Udorthents complex 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. Kinston, Mantachie, and Mooreville soils, frequently flooded, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. The Pits part of the Pits-Udorthents complex is an example

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

Ab—Ariel silt loam, occasionally flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Slightly convex slopes
Slope: 0 to 1 percent
Shape of areas: Long and narrow
Size of areas: 6 to 80 acres

Composition

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

Typical Profile

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

Subsoil:
7 to 28 inches—dark yellowish brown silt loam
28 to 37 inches—pale brown silt loam
37 to 48 inches—pale brown clay loam that has yellowish brown mottles
48 to 81 inches—pale brown silty clay loam that has light brownish gray mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High

Seasonal high water table: Apparent, at a depth of 2 1/2 to 4 feet from January through April
Shrink-swell potential: Low
Flooding: Occasional for brief periods, mainly in winter and early spring
Tilth: Good
Parent material: Silty alluvium

Minor Components

Dissimilar soils:
- Somewhat poorly drained Mantachie and poorly drained Kinston soils in flat or concave positions

Similar soils:
- Scattered areas of soils that have slightly more sand or clay in the subsoil than the Ariel soil

Land Use

Dominant uses: Cropland and pasture (fig. 2)
Other uses: Forestland and hayland

Cropland
Suitability: Suited
Commonly grown crops: Cotton, corn, and soybeans
Management concerns: Flooding
Management measures and considerations:
- Harvesting row crops as soon as possible reduces the risk of damage from the flooding.

Pasture and hayland
Suitability: Well suited to pasture; suited to hayland

Figure 2.—An area of Ariel silt loam, occasionally flooded, which can be used for livestock grazing when the soil has a favorable content of moisture.

Commonly grown crops: Bahiagrass, coastal bermudagrass, and white clover
Management concerns: Flooding
Management measures and considerations:
- Harvesting hay crops as soon as possible reduces the risk of damage from the flooding.
- Proper stocking rates, pasture rotation, weed and brush control, and restricted use during wet periods help to keep the pasture and soil in good condition.

Forestland
Suitability: Well suited to loblolly pine and hardwoods
Management concerns: Competition from undesirable plants
Management measures and considerations:
- Using equipment and harvesting timber during the drier seasons help to prevent the formation of ruts and minimize surface compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—good; wetland wildlife—poor
Management concerns: Flooding
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by prescribed burning every 3 years, rotated among several small tracts of land. Prescribed burning can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: Flooding
Management measures and considerations:
- This map unit is severely limited as a site for dwellings because of the flooding. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness and flooding
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields because of a seasonal high water table and the flooding.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Flooding
Management measures and considerations:
- Well-compacted fill material can be used as a road base to elevate roads above the flooding.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Flooding

Management measures and considerations:
- This map unit is difficult to manage because of the flooding, which severely limits use during periods of inundation.

Interpretive Groups

Land capability classification: 2w
Forestland ordination symbol: 10A for loblolly pine

Ar—Arkabutla silt loam, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Flat or slightly concave slopes
Slope: 0 to 1 percent
Shape of areas: Long and narrow
Size of areas: 5 to 120 acres

Composition

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

Typical Profile

Surface layer:
0 to 5 inches—brown silt loam

Subsoil:
5 to 18 inches—dark yellowish brown silt loam that has light brownish gray and grayish brown mottles
18 to 40 inches—light brownish gray silt loam that has dark yellowish brown and yellowish brown mottles
40 to 60 inches—light brownish gray silty clay loam that has yellowish brown and brown mottles
60 to 82 inches—light brownish gray silty clay loam that has brown mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 1 to $1^1/_2$ feet from January through April
Shrink-swell potential: Low
Flooding: Frequent for brief periods, mainly in winter and spring
Tilth: Good
Parent material: Silty alluvium

Minor Components

Dissimilar soils:
- Poorly drained Rosebloom soils in slight depressions
- Clayey Urbo soils in the slightly lower positions

Similar soils:
- Scattered areas of soils that have slightly more sand or clay in the subsoil than the Arkabutla soil

Land Use

Dominant uses: Pasture and forestland
Other uses: Cropland and hayland

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn and soybeans
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is difficult to manage for cropland because of the hazard of flooding during the growing season.
- Open ditches and water diversions improve the productivity of the soil.
- Restricting tillage to periods when the soil is not wet minimizes clodding and crusting.

Pasture and hayland
Suitability: Poorly suited
Commonly grown crops: Bahiagrass, common bermudagrass, and white clover
Management concerns: Flooding and wetness
Management measures and considerations:
- Although most of the flooding occurs during the winter, livestock and hay crops can be damaged any time of the year.
- Preventing overgrazing and restricting grazing to periods when the soil is not wet minimize compaction and help to maintain productivity and tilth.

Forestland
Suitability: Suited to loblolly pine and hardwood
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Harvesting timber during the summer reduces the risk of damage from the flooding.
- Restricting the use of standard wheeled and tracked equipment to dry periods minimizes rutting and soil compaction.
- Planting seedlings on raised beds helps to establish the seedlings and increases the seedling survival rate.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.

Wildlife habitat
Potential to support habitat for: Openland wildlife and wetland wildlife—fair; forestland wildlife—good
Management concerns: Flooding and wetness
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for squirrel and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: Wetness and shrink-swell potential

Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and slow percolation
Management measures and considerations:
- This map unit is difficult to manage for septic tank absorption fields because the dominant soils have a seasonal high water table at a depth of 1 1/2 to 2 1/2 feet.
- Increasing the size of septic tank absorption fields improves the performance of the field, and installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell potential and low strength
Management measures and considerations:
- Well-compacted fill material can be used as a road base to elevate roads above the flooding and to help overcome the wetness.
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Well suited
Management concerns: Wetness
Management measures and considerations:
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- A surface or subsurface drainage system is needed in some areas.

Interpretive Groups

Land capability classification: 4w
Forestland ordination symbol: 9W for loblolly pine

FaA—Falkner silt loam, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Stream terraces and broad flats on uplands
Shape of areas: Broad and irregular
Size of areas: 160 to 2,000 acres

Composition

Falkner and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
4 to 15 inches—brownish yellow silt loam
15 to 22 inches—gray silty clay loam that has yellowish red mottles
22 to 45 inches—light brownish gray silty clay that has yellowish red and strong brown mottles
45 to 60 inches—light brownish gray silty clay that has yellowish red mottles
60 to 80 inches—light brownish gray silty clay loam that has yellowish brown mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Somewhat poorly drained
Permeability: Slow
Available water capacity: High
Seasonal high water table: Perched, at a depth of 1 1/2 to 2 1/2 feet from January through March
Shrink-swell potential: Moderate
Flooding: None
Tilth: Good
Parent material: Thin layers of loess and the underlying clayey sediments

Minor Components

Dissimilar soils:
- Poorly drained Rosebloom soils in depressions and drainageways
- Moderately well drained Savannah soils on high knolls
- Clayey Wilcox soils on side slopes

Similar soils:
- Scattered areas of soils that have less clay in the subsoil than the Falkner soil

Land Use

Dominant uses: Forestland
Other uses: Pasture and hayland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, and soybeans
Management concerns: Wetness
Management measures and considerations:
- Installing and maintaining an artificial drainage system reduces wetness and improves productivity.
- Delaying spring planting minimizes the clodding and rutting that occurs if equipment is used when the soil is wet.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, coastal bermudagrass, tall fescue, and white clover
Management concerns: Wetness
Management measures and considerations:
- Preventing overgrazing and restricting grazing to periods when the soil is not wet minimizes compaction and helps to maintain productivity and tilth.
- Open ditches and water diversions improve productivity.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use and competition from undesirable plants
Management measures and considerations:
- Restricting logging to periods when the soil is not saturated minimizes rutting and the damage caused to tree roots by compaction.

- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—good; wetland wildlife—fair
Management concerns: Wetness
Management measures and considerations:
- Habitat for forestland wildlife, including deer, turkey, and squirrel, can be improved by planting appropriate vegetation, maintaining the existing cover, or promoting the natural establishment of desirable plants.
- Openland wildlife habitat can be improved by planting grasses and other seed-producing plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell potential
Management measures and considerations:
- This map unit is severely limited as a site for dwellings. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness and slow percolation
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Unsuited
Management concerns: Shrink-swell potential and low strength
Management measures and considerations:
- This map unit is severely limited for roads and streets. A site that has better suited soils should be selected.

Lawns and landscaping
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- This map unit is severely limited as a site for lawns and landscaping. A site that has better suited soils should be selected.

Interpretive Groups

Land capability classification: 2w
Forestland ordination symbol: 8W

Gu—Guyton silt loam, occasionally flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Depressional areas along streams
Slope: 0 to 1 percent

Shape of areas: Long and narrow
Size of areas: 5 to 50 acres

Composition

Guyton and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsurface layer:
7 to 31 inches—light gray loam that has yellowish brown mottles
31 to 41 inches—gray clay loam that has yellowish brown mottles
41 to 55 inches—light brownish gray clay loam that has yellowish brown and strong brown mottles
55 to 70 inches—light brownish gray clay loam that has yellowish brown mottles

Substratum:
70 to 81 inches—gray sandy clay loam that has strong brown mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Poorly drained
Permeability: Slow
Available water capacity: High
Seasonal high water table: Apparent, at the surface to a depth of 1 1/2 feet from December through April
Shrink-swell potential: Low
Flooding: Occasional for brief periods, mainly in winter and spring
Tilth: Good
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
- Somewhat poorly drained Stough soils in the slightly higher positions

Similar soils:
- Finer textured soils on flood plains

Land Use

Dominant uses: Pasture and hayland
Other uses: Forestland

Cropland
Suitability: Poorly suited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is difficult to manage for cropland because of the hazard of flooding during the growing season.
- Open ditches and water diversions improve the productivity of the soil.
- Restricting tillage to periods when the soil is not wet minimizes clodding and crusting.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Common bermudagrass
Management concerns: Flooding and wetness

Management measures and considerations:
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.

Forestland
Suitability: Suited to loblolly pine and hardwoods
Management concerns: Equipment use
Management measures and considerations:
- Harvesting timber during the summer reduces the risk of damage from the flooding and wetness.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—fair; wetland wildlife—good
Management concerns: Flooding and wetness
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for squirrel and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Flooding, wetness, and slow percolation
Management measures and considerations:
- This map unit is difficult to manage for septic tank absorption fields because the dominant soil has a seasonal high water table at a depth of $1^1/_2$ to $2^1/_2$ feet.
- Increasing the size of septic tank absorption fields improves the performance of the field, and installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength, wetness, and flooding
Management measures and considerations:
- Well-compacted fill material can be used as a road base to elevate roads above the flooding and to help overcome the wetness.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Wetness

Management measures and considerations:
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- A surface or subsurface drainage system is needed in some areas.

Interpretive Groups

Land capability classification: 4w
Forestland ordination symbol: 8W for loblolly pine

Jk—Jena-Kirkville complex, occasionally flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Slope: 0 to 2 percent
Shape of areas: Long and narrow
Size of areas: 5 to 600 acres

Composition

Jena and Kirkville soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Jena
Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 14 inches—dark yellowish brown silt loam
14 to 21 inches—yellowish brown fine sandy loam
21 to 30 inches—light yellowish brown fine sandy loam that has yellowish brown mottles
30 to 52 inches—yellowish brown fine sandy loam that has pale brown and light brownish gray mottles

Substratum:
52 to 65 inches—light brownish gray fine sandy loam that has strong brown mottles
65 to 80 inches—yellowish brown fine sandy loam

Kirkville
Surface layer:
0 to 10 inches—dark grayish brown and dark yellowish brown loam

Subsoil:
10 to 28 inches—dark yellowish brown sandy loam that has light brownish gray and grayish brown mottles
28 to 50 inches—light brownish gray sandy loam that has yellowish brown, dark yellowish brown, and strong brown mottles
50 to 80 inches—gray fine sandy loam that has strong brown mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Jena—well drained; Kirkville—moderately well drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: Jena—more than 6 feet below the surface; Kirkville—apparent, at a depth of $1^1/_2$ to $2^1/_2$ feet from January through April

Shrink-swell potential: Low
Flooding: Occasional for brief periods, November through June
Reaction: Very strongly acid or strongly acid
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
- Somewhat poorly drained Mantachie soils on flood plains adjacent to the Jena and Kirkville soils

Similar soils:
- Moderately well drained soils on flood plains

Land Use

Dominant uses: Pasture, hayland, and forestland
Other uses: Cropland

Cropland
Suitability: Suited
Commonly grown crops: Corn and soybeans
Management concerns: Flooding
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, crop loss may occur during the growing season.
- Using well maintained drainageways and ditches to remove excess water improves productivity.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited to pasture; suited to hayland
Commonly grown crops: Improved bermudagrass and wheat
Management concerns: Flooding
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, livestock and hay can be damaged during any time of the year.
- Harvesting hay as soon as possible reduces the risk of damage from the flooding.
- Proper stocking rates, pasture rotation, timely deferment of grazing, and restricted use during wet periods help to prevent compaction, maintain productivity, and keep the pasture in good condition.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use and competition from undesirable plants
Management measures and considerations:
- Restricting logging to periods when the soils are not saturated minimizes rutting and the damage caused to tree roots by compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.
- Harvesting timber during the summer or fall reduces the risk of damage from the flooding.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; forestland wildlife—good; wetland wildlife—poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Flooding
Management measures and considerations:
- This map unit is severely limited as a site for dwellings. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Flooding
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Flooding
Management measures and considerations:
- This map unit is severely limited for local roads and streets.
- Well-compacted fill material can be used as a road base to elevate roads above the flooding.

Lawns and landscaping
Suitability: Suited
Management concerns: Flooding
Management measures and considerations:
- This map unit is difficult to manage because of the flooding, which severely limits use during periods of inundation.

Interpretive Groups

Land capability classification: 3w
Forestland ordination symbol: 11A for loblolly pine

Ke—Kinston loam, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains

Slope: 0 to 1 percent
Shape of areas: Long and narrow
Size of areas: 5 to 1,000 acres

Composition

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

Typical Profile

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

Substratum:
3 to 38 inches—light brownish gray loam that has yellowish brown mottles
38 to 60 inches—gray loam that has yellowish brown mottles
60 to 84 inches—gray loam

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: Apparent, at the surface to a depth of 1 foot from November through June
Shrink-swell potential: Low
Flooding: Frequent for brief periods, mainly in winter and spring
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
- Somewhat poorly drained Mantachie and moderately well drained Kirkville soils in the slightly higher positions

Similar soils:
- Scattered areas of poorly drained soils that have less clay or less sand in the substratum than the Kinston soil

Land Use

Dominant uses: Forestland and pasture
Other uses: Hayland

Cropland
Suitability: Poorly suited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited for crop production. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Poorly suited
Commonly grown crops: None
Management concerns: Flooding and wetness
Management measures and considerations:
- Harvesting hay crops as soon as possible reduces the risk of damage from the flooding.

- Proper stocking rates, controlled grazing, and weed and brush control help to keep the pasture in good condition.

Forestland
Suitability: Suited to cherrybark oak
Management concerns: Equipment use and seedling mortality
Management measures and considerations:
- Harvesting timber during the summer reduces the risk of damage from the flooding.
- Planting seedlings on raised beds helps to establish the seedlings and increases the seedling survival rate.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—poor; wetland wildlife—fair
Management concerns: Equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited as a site for dwellings. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Wetness, flooding, and low strength
Management measures and considerations:
- This map unit is severely limited for roads and streets. A site that has better suited soils should be selected.

Lawns and landscaping
Suitability: Unsuited
Management concerns: Wetness and flooding
Management measures and considerations:
- This map unit is severely limited as a site for lawns and landscaping. A site that has better suited soils should be selected.

Interpretive Groups

Land capability classification: 6w
Forestland ordination symbol: 8W for cherrybark oak

KM—Kinston, Mantachie, and Mooreville soils, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Slope: 0 to 1 percent
Shape of areas: Long and narrow
Size of areas: 160 to 3,000 acres

Composition

The composition of this map unit is variable. Some areas consists mainly of one or two of the soils, and other areas contain all three soils in variable proportions. The composition of a representative area is:

Kinston and similar soils: 35 percent
Mantachie and similar soils: 30 percent
Mooreville and similar soils: 20 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
3 to 38 inches—light brownish gray loam that has yellowish brown mottles
38 to 60 inches—gray loam that has yellowish brown mottles
60 to 84 inches—gray loam

Mantachie
Surface layer:
0 to 7 inches—brown loam

Subsoil:
7 to 16 inches—brown loam that has brown and light brownish gray mottles throughout
16 to 22 inches—light brownish gray loam that has dark brown and yellowish brown mottles throughout
22 to 33 inches—gray loam that has yellowish brown and strong brown mottles
33 to 38 inches—gray loam that has strong brown mottles
38 to 61 inches—gray loam that has light brownish gray mottles
61 to 81 inches—gray loam

Mooreville
Surface layer:
0 to 5 inches—brown loam

Subsoil:
5 to 25 inches—yellowish brown loam that has yellowish brown mottles
25 to 60 inches—mottled yellowish brown and light brownish gray loam

Soil Properties and Qualities

Potential rooting depth: Very deep
Permeability: Moderate
Drainage class: Kinston—poorly drained; Mantachie—somewhat poorly drained; Mooreville—moderately well drained
Available water capacity: High

Seasonal high water table: Kinston—at the surface to a depth of to 1 foot; Mantachie—at a depth of 1 to 1½ feet; Mooreville—at a depth of 1½ to 3 feet
Shrink-swell potential: Low
Flooding: Frequent
Tilth: Good
Reaction: Very strongly acid or strongly acid
Parent material: Kinston—stratified loamy sediments; Mantachie and Mooreville—loamy alluvium

Minor Components

Dissimilar soils:
- Poorly drained Rosebloom and somewhat poorly drained Mathiston soils on flood plains

Similar soils:
- Poorly drained soils that are redder in the upper part than the major soils

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: Flooding
Management measures and considerations:
- This map unit is severely limited for crop production. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: Bahiagrass and common bermudagrass
Management concerns: Flooding
Management measures and considerations:
- Harvesting hay as soon as possible reduces the risk of damage from the flooding.

Forestland
Suitability: Suited to loblolly pine and hardwoods
Management concerns: Equipment use
Management measures and considerations:
- Harvesting timber during the summer reduces the risk of damage from flooding.

Wildlife habitat
Potential of the Kinston soil to support habitat for: Openland wildlife and forestland wildlife—poor; wetland wildlife—fair
Potential of the Mantachie soil to support habitat for: Openland wildlife and wetland wildlife—fair; forestland wildlife—good
Potential of the Mooreville soil to support habitat for: Openland wildlife and forestland wildlife—good; wetland wildlife—poor
Management concerns: None
Management measures and considerations:
- The existing habitat should be maintained.

Dwellings
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited as a site for dwellings. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Unsuited
Management concerns: Flooding, wetness, and low strength
Management measures and considerations:
- This map unit is severely limited for roads and streets. A site that has better suited soils should be selected.

Lawns and landscaping
Suitability: Unsuited
Management concerns: Wetness and flooding
Management measures and considerations:
- This map unit is severely limited as a site for lawns and landscaping. A site that has better suited soils should be selected.

Interpretive Groups

Land capability classification: 5w
Forestland ordination symbol: Kinston—9W; Mantachie—10W; Mooreville—10A

LaF—Lauderdale fine sandy loam, 15 to 30 percent slopes

Setting

Landscape: Coastal Plain
Landform: Hillslopes
Shape of areas: Irregular
Size of areas: 160 to 2,500 acres

Composition

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

Typical Profile

Surface layer:
0 to 4 inches—very dark grayish brown fine sandy loam

Subsoil:
4 to 10 inches—dark yellowish brown sandy clay loam
10 to 15 inches—strong brown clay loam

Substratum:
15 to 20 inches—alternating layers of sandstone and shale

Soil Properties and Qualities

Potential rooting depth: Shallow
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Low
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Low

Flooding: None
Parent material: Horizontally bedded siltstone
Depth to bedrock: 12 to 20 inches

Minor Components

Dissimilar soils:
- Well drained Smithdale soils on uplands

Similar soils:
- Well drained soils on the longer side slopes

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: Rooting depth
Management measures and considerations:
- This map unit is severely limited for crop production. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Poorly suited to pasture; unsuited to hayland
Commonly grown crops: None
Management concerns: Rooting depth and slope
Management measures and considerations:
- The slope can limit equipment use in the steeper areas.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use and slope
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to control erosion and the siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Wildlife habitat
Potential to support habitat for: Openland wildlife—poor; forestland wildlife—fair; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- The existing habitat should be maintained.

Dwellings
Suitability: Unsuited
Management concerns: Depth to rock; slope

Management measures and considerations:
- This map unit is severely limited as a site for dwellings. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Depth to rock; slope
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Unsuited
Management concerns: Depth to rock; severe slope
Management measures and considerations:
- This map unit is severely limited for roads and streets. A site that has better suited soils should be selected.

Lawns and landscaping
Suitability: Unsuited
Management concerns: Depth to rock; slope
Management measures and considerations:
- This map unit is severely limited as a site for lawns and landscaping. A site that has better suited soils should be selected.

Interpretive Groups

Land capability classification: 7e
Forestland ordination symbol: 6D

MaC—Maben silt loam, 2 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Narrow ridges
Landform position: Summits and upper side slopes
Shape of areas: Rounded or irregular
Size of areas: 5 to 250 acres

Composition

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

Typical Profile

Surface layer:
0 to 3 inches—brown silt loam

Subsurface layer:
3 to 5 inches—pale brown silt loam
5 to 19 inches—red clay that has yellowish red mottles
19 to 34 inches—red clay that has yellowish red and yellowish brown mottles
34 to 40 inches—red silty clay loam that has light brownish gray and yellowish brown mottles

Substratum:
40 to 60 inches—mottled red, light brownish gray, and yellowish brown clay
60 to 80 inches—stratified layers of reddish yellow, soft, weathered clayey shale

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: High
Flooding: None
Tilth: Good
Parent material: Stratified clayey sediments and soft shale

Minor Components

Dissimilar soils:
- Areas of well drained Ruston soils on broad ridgetops

Similar soils:
- Well drained soils on the smoother side slopes

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Suited
Commonly grown crops: Soybeans
Management concerns: Erosion
Management measures and considerations:
- Using a resource management system that includes contour farming, conservation tillage, crop residue management, stripcropping, and sod-based rotations reduces the hazard of erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, wheat, tall fescue, and bahiagrass
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Chisel plowing and subsoiling when seedbeds are prepared help to break through hardpans, increasing root penetration and the rate of water infiltration.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Erosion
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to control erosion and the siltation of streams.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- The existing habitat should be maintained.

Dwellings
Suitability: Fair
Management concerns: Shrink-swell potential
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Slow percolation
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Unsuited
Management concerns: Low strength
Management measures and considerations:
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of erosion.

Lawns and landscaping
Suitability: Well suited
Management concerns: No significant limitations affect lawns and landscaping.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 8C

MaF—Maben silt loam, 15 to 35 percent slopes

Setting

Landscape: Coastal Plain
Landform: Hillslopes
Landform position: Side slopes
Shape of areas: Rounded or irregular
Size of areas: 5 to 250 acres

Composition

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

Typical Profile

Surface layer:
0 to 3 inches—brown silt loam

Subsurface layer:
3 to 5 inches—pale brown silt loam

Subsoil:
5 to 19 inches—red clay that has yellowish red mottles
19 to 34 inches—red clay that has yellowish red and yellowish brown mottles
34 to 40 inches—red silty clay loam that has light brownish gray and yellowish brown mottles

Substratum:
40 to 60 inches—mottled red, light brownish gray, and yellowish brown clay
60 to 80 inches—stratified layers of reddish yellow, soft, weathered clayey shale

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: High
Flooding: None
Tilth: Good
Parent material: Stratified clayey sediments and soft shale

Minor Components

Dissimilar soils:
- Well drained Smithdale soils on the steeper side slopes

Similar soils:
- Well drained soils on the smoother slopes

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: This map unit is severely limited for crop production because of the hazard of erosion. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: None
Management concerns: Equipment use and erodibility
Management measures and considerations:
- The slope can limit equipment use in the steeper areas.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Waterbars are needed to prevent erosion on roads.
- Grass should be established following completion of harvesting.

- Establishing a permanent plant cover on roads and landings after logging reduces the hazard of erosion and the siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water.

Wildlife habitat
Potential to support habitat for: Openland wildlife—poor; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- The existing habitat should be maintained.
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of trees and adapted understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings
Suitability: Poorly suited
Management concerns: Slope and slippage
Management measures and considerations:
- This map unit is severely limited as a site for dwellings.
- Designing structures to conform to the natural slope helps to overcome the slope limitation. (ASTM, 2001)
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of erosion.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Slow percolation; slope
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength, slope, and slippage
Management measures and considerations:
- This map unit is severely limited for roads and streets. A site that has better suited soils should be selected.
- Designing roads to conform to the natural contour helps to overcome the slope.
- Using well-compacted, high-strength roadfill as a base helps to overcome the high shrink-swell potential in the Maben soil.

Lawns and landscaping
Suitability: Unsuited
Management concerns: Slope
Management measures and considerations:
- This map unit is severely limited as a site for lawns and landscaping. A site that has better suited soils should be selected.

Interpretive Groups

Land capability classification: 7e
Forestland ordination symbol: 8R

Mn—Mantachie loam, occasionally flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Interstream divides
Slope: 0 to 2 percent
Shape of areas: Long and narrow
Size of areas: 5 to 600 acres

Composition

Mantachie and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 7 inches—brown loam

Subsoil:
7 to 16 inches—brown loam that has brown and light brownish gray mottles
16 to 22 inches—light brownish gray loam that has brown and yellowish brown mottles
22 to 33 inches—gray loam that has yellowish brown and strong brown mottles
33 to 38 inches—gray loam that has strong brown mottles
38 to 61 inches—light brownish gray loam that has brown mottles

Substratum:
61 to 81 inches—gray loam

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: At a depth of 1 to $1^1/_2$ feet
Shrink-swell potential: Low
Flooding: Occasional
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
- Somewhat poorly drained Mathiston soils on flood plains

Similar soils:
- Moderately well drained soils on flood plains

Land Use

Dominant uses: Pasture
Other uses: Forestland

Cropland
Suitability: Suited

Commonly grown crops: Corn, cotton, and soybeans
Management concerns: Flooding and wetness
Management measures and considerations:
- Harvesting row crops as soon as possible reduces the risk of damage from the flooding.

Pasture and hayland
Suitability: Well suited to pasture; suited to hayland
Commonly grown crops: Wheat, tall fescue, and bahiagrass
Management concerns: Flooding and wetness
Management measures and considerations:
- Harvesting hay as soon as possible reduces the risk of damage from the flooding.

Forestland
Suitability: Well suited to loblolly pine and hardwoods
Management concerns: Equipment use
Management measures and considerations:
- Harvesting timber during the summer reduces the risk of soil compaction and rutting due to the flooding and wetness.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—fair
Management concerns: None
Management measures and considerations:
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited as a site for dwellings. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Flooding and wetness
Management measures and considerations:
- Well-compacted, high-strength fill material can be used as a road base to elevate roads above the flooding and ponding.

Lawns and landscaping
Suitability: Suited
Management concerns: Wetness and flooding
Management measures and considerations:
- This map unit is difficult to manage because of the flooding, which severely limits use during periods of inundation.

Interpretive Groups

Land capability classification: 3w
Forestland ordination symbol: 10W

Mo—Mantachie loam, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Drainageways
Slope: 0 to 2 percent
Shape of areas: Long and narrow
Size of areas: 160 to 3,000 acres

Composition

Mantachie and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 7 inches—brown loam

Subsoil:
7 to 16 inches—brown loam that has brown and light brownish gray mottles
16 to 22 inches—light brownish gray loam that has dark brown and yellowish brown mottles
22 to 33 inches—gray loam that has yellowish brown and strong brown mottles
33 to 38 inches—gray loam that has strong brown mottles
38 to 61 inches—light brownish gray loam that has dark brown mottles

Substratum:
61 to 81 inches—gray loam

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: At a depth of 1 to 1$^{1}/_{2}$ feet
Shrink-swell potential: High
Flooding: Frequent
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
- Somewhat poorly drained Mathiston soils on flood plains

Similar soils:
- Moderately well drained soils on flood plains

Land Use

Dominant uses: Pasture
Other uses: Forestland

Cropland
Suitability: Poorly suited

Management concerns: Flooding and wetness
Management measures and considerations:
- A major flood-control project and a planned surface drainage system would be needed to overcome the flooding and wetness.
- A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: Bahiagrass and tall fescue
Management concerns: Flooding
Management measures and considerations:
- Proper stocking rates, controlled grazing, and weed and brush control help to maintain the condition of the pasture.
- Harvesting hay as soon as possible reduces the risk of damage from the flooding.

Forestland
Suitability: Suited for loblolly pine and hardwoods
Management concerns: Equipment use
Management measures and considerations:
- Harvesting timber during the summer reduces the risk of damage from the flooding.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; forestland wildlife—good; wetland wildlife—fair
Management concerns: None
Management measures and considerations:
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited as a site for dwellings. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited for roads and streets. A site that has better suited soils should be selected.

Lawns and landscaping
Suitability: Suited
Management concerns: Wetness and flooding
Management measures and considerations:
- This map unit is difficult to manage because of the flooding, which severely limits use during periods of inundation.

Interpretive Groups

Land capability classification: 5w
Forestland ordination symbol: 10W

Mt—Mathiston silt loam, occasionally flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Stream banks
Slope: 0 to 2 percent
Shape of areas: Long and narrow
Size of areas: 5 to 300 acres

Composition

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

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown silt loam that has grayish brown mottles

Subsurface layer:
4 to 8 inches—brown silt loam that has grayish brown mottles
8 to 19 inches—grayish brown silt loam
19 to 34 inches—grayish brown silty clay loam that has yellowish brown mottles
34 to 42 inches—grayish brown silty clay loam that has yellowish brown mottles
42 to 55 inches—mottled grayish brown and yellowish brown silty clay loam
55 to 80 inches—mottled gray and yellowish brown silty clay loam

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: Apparent, at a depth of $1^1/_2$ to $2^1/_2$ feet from January through April
Shrink-swell potential: Low
Flooding: Occasional for brief periods, mainly in winter and spring
Parent material: Silty alluvium

Minor Components

Dissimilar soils:
- Somewhat poorly drained Mantachie soils on flood plains

Similar soils:
- Soils that are browner in the upper part than the Mathiston soil; on flood plains

Land Use

Dominant uses: Pasture
Other uses: Forestland

Cropland
Suitability: Suited
Commonly grown crops: Corn, soybeans, and cotton

Management concerns: Flooding and wetness
Management measures and considerations:
- Harvesting row crops as soon as possible reduces the risk of damage from the flooding.

Pasture and hayland
Suitability: Well suited to pasture; suited to hayland
Commonly grown crops: Improved bermudagrass, tall fescue, and bahiagrass
Management concerns: Flooding and wetness
Management measures and considerations:
- Harvesting hay as soon as possible reduces the risk of damage from the flooding.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Harvesting timber during the summer reduces the risk of damage from the flooding.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—fair
Management concerns: None
Management measures and considerations:
- The existing habitat should be maintained.

Dwellings
Suitability: Poorly suited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited as a site for dwellings. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength; flooding
Management measures and considerations:
- This map unit is severely limited for roads and streets. A site that has better suited soils should be selected.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Wetness and flooding
Management measures and considerations:
- This map unit is difficult to manage because of the flooding, which severely limits use during periods of inundation.

Interpretive Groups

Land capability classification: 4w
Forestland ordination symbol: 10W

OrB2—Ora fine sandy loam, 2 to 5 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Stream terraces and broad ridges
Landform position: Ridgetops
Shape of areas: Irregular
Size of areas: 5 to 600 acres

Composition

Ora and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsurface layer:
3 to 6 inches—yellowish brown fine sandy loam

Subsoil:
6 to 18 inches—yellowish red loam
18 to 28 inches—mottled yellowish red and light gray loam
28 to 56 inches—mottled yellowish red, yellowish brown, and light gray sandy clay loam

Substratum:
56 to 80 inches—mottled yellowish red, yellowish brown, and light gray sandy loam

Soil Properties and Qualities

Potential rooting depth: Moderately deep to a root restricting fragipan
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 2 to 3$^{1}/_{2}$ feet from January through April
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy fluvial marine deposits

Minor Components

Dissimilar soils:
- Somewhat poorly drained Stough soils on the slightly lower ridgetops

Similar soils:
- Moderately well drained soils that are more yellow than the Ora soil; on uplands

Land Use

Dominant uses: Pasture (fig. 3)
Other uses: Cropland

Cropland
Suitability: Well suited
Commonly grown crops: Corn, soybeans, and cotton
Management concerns: Erosion
Management measures and considerations:
- Using a resource management system that includes terraces and diversions,

Figure 3.—An area of Ora fine sandy loam, 2 to 5 percent slopes, eroded, on which a good green cover is maintained year-round for horse grazing.

stripcropping, contour tillage, no-till cropping, and crop residue management reduces the hazard of further erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, tall fescue, and wheat
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Erosion
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to control further erosion and the siltation of streams.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of

vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength; wetness
Management measures and considerations:
- Incorporating sand and gravel into the roadbed, compacting the roadbed, and designing roads to conform to the natural slope help to overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Well suited
Management concerns: No significant limitations affect lawns and landscaping.

Interpretive Groups

Land capability classification: 2e
Forestland ordination symbol: 8W

OrC—Ora fine sandy loam, 0 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Narrow ridges
Landform position: Dissected slopes
Shape of areas: Irregular
Size of areas: 5 to 300 acres

Composition

Ora and similar soils: 88 percent
Dissimilar soils: 12 percent

Typical Profile

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

Subsoil:
8 to 22 inches—yellowish red clay loam
22 to 80 inches—fragipan mottled in shades of red, brown, and gray; loam in the upper part and sandy clay loam in the lower part

Soil Properties and Qualities

Potential rooting depth: Moderately deep to a root restricting fragipan
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 2 to 3$^{1}/_{2}$ feet from January through April
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy and fluvial marine deposits

Minor Components

Dissimilar soils:
- Somewhat poorly drained Stough soils on toeslopes

Similar soils:
- Moderately well drained soils that have a subsoil that is more yellow than the subsoil of the Ora soil; on uplands

Land Use

Dominant uses: Forestland
Other uses: Pasture (fig. 4)

Cropland
Suitability: Suited
Commonly grown crops: Corn, soybeans, and cotton
Management concerns: Root penetration
Management measures and considerations:
- Chisel plowing and subsoiling help to break through hardpans, increasing root penetration and the rate of water infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, tall fescue, and bahiagrass
Management concerns: Root penetration
Management measures and considerations:
- Chisel plowing and subsoiling when seedbeds are prepared help to break through hardpans, increasing root penetration and the rate of water infiltration.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Restricting logging to periods when the soil is not saturated minimizes rutting and the damage caused to tree roots by compaction.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor

Figure 4.—An of Ora fine sandy loam, 0 to 8 percent slopes, which is highly favorable for hayland.

Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength; wetness
Management measures and considerations:
- Incorporating sand and gravel into the roadbed, compacting the roadbed, and designing roads to conform to the natural slope help to overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Well suited
Management concerns: Erosion and root penetration
Management measures and considerations:
- Because of the restricted rooting depth, lawns and landscaping are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.
- Applying supplemental irrigation and seeding or planting varieties that are adapted to droughty conditions increase the survival rate of grasses and landscaping plants.
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 8W

OrC2—Ora fine sandy loam, 5 to 8 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Stream terraces and broad ridges
Landform position: Dissected ridgetops
Shape of areas: Irregular
Size of areas: 5 to 300 acres

Composition

Ora and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsurface layer:
3 to 6 inches—yellowish brown fine sandy loam

Subsoil:
6 to 18 inches—yellowish red loam
18 to 28 inches—mottled yellowish red and light gray loam
28 to 56 inches—mottled yellowish red, yellowish brown, and light gray sandy clay loam

Substratum:
56 to 80 inches—mottled yellowish red, yellowish brown, and light gray sandy loam

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: Perched, at a depth of 2 to 3$^1/_2$ feet from January through April
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy and fluvial marine deposits

Minor Components

Dissimilar soils:
- Moderately well drained Providence soils on narrow ridgetops

Similar soils:
- Moderately well drained soils that have a subsoil that is more yellow than the subsoil of the Ora soil; on uplands

Land Use

Dominant uses: Pasture
Other uses: Cropland

Cropland
Suitability: Suited
Commonly grown crops: Corn, soybeans, and cotton
Management concerns: Erosion
Management measures and considerations:
- Using a resource management system that includes contour farming, conservation tillage, crop residue management, stripcropping, and sod-based rotations reduces the hazard of further erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, tall fescue, and bahiagrass
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Erosion
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to control further erosion and the siltation of streams.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of

vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and slow percolation
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength; wetness
Management measures and considerations:
- Incorporating sand and gravel into the roadbed, compacting the roadbed, and designing roads to conform to the natural slope help to overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Well suited
Management concerns:
Management measures and considerations:
- Because of the restricted rooting depth, lawns and landscaping are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.
- Applying supplemental irrigation and seeding or planting varieties that are adapted to droughty conditions increase the survival rate of grasses and landscaping plants.
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 8W

OrD2—Ora fine sandy loam, 8 to 12 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Hillslopes
Landform position: Side slopes
Shape of areas: Irregular
Size of areas: 5 to 500 acres

Composition

Ora and similar soils: 88 percent
Dissimilar soils: 12 percent

Typical Profile

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsurface layer:
3 to 6 inches—yellowish brown fine sandy loam

Subsoil:
6 to 18 inches—yellowish red loam
18 to 28 inches—mottled yellowish red and light gray loam
28 to 56 inches—mottled yellowish red, yellowish brown, and light gray sandy clay loam

Substratum:
56 to 80 inches—mottled yellowish red, yellowish brown, and light gray sandy loam

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: At a depth of 2 to 3$^{1}/_{2}$ feet
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy fluvial and marine deposits

Minor Components

Dissimilar soils:
- Moderately well drained Providence soils on narrow ridgetops

Similar soils:
- Moderately well drained soils that have a subsoil that is more yellow than the subsoil of the Ora soil; on uplands

Land Use

Dominant uses: Pasture
Other uses: Cropland

Cropland
Suitability: Poorly suited
Commonly grown crops: None
Management concerns: Erosion
Management measures and considerations:
- Using a resource management system that includes contour farming, conservation tillage, crop residue management, strip cropping, and sod-based rotations reduces

the hazard of further erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited to pasture; suited to hayland
Commonly grown crops: Improved bermudagrass, tall fescue, and bahiagrass
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Erosion
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to control further erosion and the siltation of streams.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Suited
Management concerns: Wetness and slope
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and slow percolation
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited

Management concerns: Low strength, wetness, and slope
Management measures and considerations:
- Incorporating sand and gravel into the roadbed, compacting the roadbed, and designing roads to conform to the natural slope help to overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Suited
Management concerns: Droughtiness and slope
Management measures and considerations:
- Because of the restricted rooting depth, lawns and landscaping are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.
- Applying supplemental irrigation and seeding or planting varieties that are adapted to droughty conditions increase the survival rate of grasses and landscaping plants.
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.

Interpretive Groups

Land capability classification: 4e
Forestland ordination symbol: 8W

Pc—Pits-Udorthents complex

Setting

Landscape: Coastal Plain
Landform: Variable
Landform position: Convex summits, shoulders, side slopes, and interfluves
Slope: 8 to 45 percent
Shape of areas: Irregular
Size of areas: 5 to 50 acres

Composition

Pits-Udorthents and similar areas: 55 percent
Dissimilar soils: 35 percent
Reclaimed areas: 10 percent

Pits
The Pits part of this map unit is a miscellaneous land type consisting of open excavations from which the soil and underlying material have been removed for use at another location. The materials are excavated to a depth of as much as 75 feet.

Udorthents
The Udorthents part of this map unit consists dominantly of piles of soil and nonsoil materials that were mixed during mining and areas of soil that have been so severely eroded by water that the soil horizons are no longer recognizable. It also includes old bentonite pits that have been reshaped and reclaimed.

Soil Properties and Qualities

Potential rooting depth: Variable
Permeability: Variable
Available water capacity: Variable

Seasonal high water table: Variable
Shrink-swell potential: Variable
Flooding: None to rare
Parent material: Unidentifiable

Minor Components

Dissimilar soils:
- Ora, Ruston, Savannah, Smithdale, and Sweatman soils on ridges and side slopes near the edges of the mapped areas
- Small depressions that are intermittently ponded
- Abandoned pits that support low-quality trees and sparse grasses

Land Use

Dominant uses: Source of sand, gravelly clay, or fill material
Other uses: Wildlife habitat and recreation; unsuited to most uses

- Extensive reclamation efforts are required to make areas suitable for use as cropland, pasture, or forestland or for urban uses. Onsite investigation and testing are needed to determine the suitability of areas of this unit for any use.

Interpretive Groups

Land capability classification: 8s
Forestland ordination symbol: None assigned

PrB2—Providence silt loam, 2 to 5 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Narrow ridges
Landform position: Gently sloping ridgetops
Shape of areas: Irregular
Size of areas: 5 to 150 acres

Composition

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

Typical Profile

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

Subsoil:
6 to 29 inches—yellowish brown silt loam that has strong brown and pale brown mottles
29 to 37 inches—strong brown silt loam that has yellowish brown and pale brown mottles
37 to 54 inches—strong brown silty clay loam that has light brownish gray and light yellowish brown mottles
54 to 60 inches—strong brown loam that has yellowish red mottles
60 to 80 inches—strong brown clay loam that has yellowish red mottles

Soil Properties and Qualities

Potential rooting depth: Moderately deep to a root restricting fragipan
Drainage class: Moderately well drained
Permeability: Moderately slow

Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 1/2 to 3 feet from January through March
Shrink-swell potential: Low
Flooding: None
Parent material: Loess and underlying loamy sediments

Minor Components

Dissimilar soils:
- Moderately well drained Ora soils on narrow ridgetops

Similar soils:
- Somewhat poorly drained soils on uplands

Land Use

Dominant uses: Pasture
Other uses: Cropland

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, and soybeans
Management concerns: Erosion
Management measures and considerations:
- Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till cropping, and crop residue management reduces the hazard of further erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, tall fescue, and bahiagrass
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Chisel plowing and subsoiling when seedbeds are prepared help to break through hardpans, increasing root penetration and the rate of water infiltration.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine (fig. 5)
Management concerns: Erosion
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to control further erosion and the siltation of streams.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of

Figure 5.—An even-aged stand of planted pine in a well managed area of Providence silt loam, 2 to 5 percent slopes, eroded.

vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.

- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings

Suitability: Suited

Management concerns: Wetness

Management measures and considerations:

- Installing a subsurface drainage system helps to lower the seasonal high water table.
- Care should be taken to prevent further erosion during construction, and vegetation should be reestablished as soon as possible after construction.

Septic tank absorption fields

Suitability: Poorly suited

Management concerns: Wetness and restricted permeability

Management measures and considerations:

- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Suited

Management concerns: Low strength

Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of further erosion.

Lawns and landscaping
Suitability: Suited
Management concerns: Depth to root restricting layer
Management measures and considerations:
- Because of the restricted rooting depth, lawns and landscaping are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.
- Applying supplemental irrigation and seeding or planting varieties that are adapted to droughty conditions increase the survival rate of grasses and landscaping plants.
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.

Interpretive Groups

Land capability classification: 2e
Forestland ordination symbol: 8W

Ro—Rosebloom silt loam, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Narrow flats in stream systems
Slope: 0 to 2 percent
Shape of areas: Long and narrow
Size of areas: 160 to 300 acres

Composition

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

Typical Profile

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

Subsoil:
9 to 20 inches—gray silt loam that has dark yellowish brown mottles
20 to 36 inches—gray silt loam that has yellowish brown mottles
36 to 58 inches—gray silty clay loam that has yellowish brown mottles

Substratum:
58 to 80 inches—gray silty clay loam that has yellowish brown mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Poorly drained

Permeability: Moderate
Available water capacity: High
Seasonal high water table: Apparent, at the surface to a depth of 1 foot from December through April
Shrink-swell potential: Low
Flooding: Frequent for brief periods, mainly in winter and spring
Parent material: Silty alluvium

Minor Components

Dissimilar soils:
- Poorly drained Kinston soils on flood plains

Similar soils:
- Somewhat poorly drained soils on flood plains adjacent to the Rosebloom soil

Land Use

Dominant uses: Pasture
Other uses: Cropland

Cropland
Suitability: Unsuited
Management concerns: Flooding
Management measures and considerations:
- This map unit is severely limited for crop production. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: Improved bermudagrass and tall fescue
Management concerns: Flooding
Management measures and considerations:
- Harvesting hay as soon as possible reduces the risk of damage from the flooding.

Forestland
Suitability: Poorly suited
Management concerns: Flooding, wetness, and equipment use
Management measures and considerations:
- Using low-pressure ground equipment minimizes rutting and the damage caused to tree roots by compaction.
- Planting seedlings on raised beds helps to establish the seedlings and increases the seedlings survival rate.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; forestland wildlife—fair; wetland wildlife—good (Cowardin and others, 1979) (fig. 6)
Management concerns: None
Management measures and considerations:
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: Flooding
Management measures and considerations:
- This map unit is severely limited as a site for dwellings. A site that has better suited soils should be selected.

Figure 6.—A wetland site of Rosebloom silt loam, frequently flooded. Such sites are common throughout the county.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength, wetness, and flooding
Management measures and considerations:
- Well-compacted, high-strength fill material can be used as a road base to elevate roads above the flooding and ponding.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Wetness and flooding
Management measures and considerations:
- This map unit is severely limited as a site for lawns and landscaping. A site that has better suited soils should be selected.

Interpretive Groups

Land capability classification: 5w
Forestland ordination symbol: 9W

RuB2—Ruston fine sandy loam, 2 to 5 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Narrow ridges
Landform position: Gently sloping ridgetops
Shape of areas: Irregular
Size of areas: 5 to 150 acres

Composition

Ruston and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
5 to 18 inches—red clay loam
18 to 37 inches—red clay loam that has yellowish brown mottles
37 to 50 inches—red loam that has yellowish brown mottles
50 to 80 inches—red sandy clay loam that has light yellowish brown and light brownish gray mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy marine sediments

Minor Components

Dissimilar soils:
- Well drained Sweatman soils on uplands

Similar soils:
- Soils on the steeper slopes

Land Use

Dominant uses: Pasture
Other uses: Cropland

Cropland
Suitability: Suited
Commonly grown crops: Cotton, corn, and soybeans
Management concerns: Erosion
Management measures and considerations:
- Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till cropping, and crop residue management reduces the hazard of further erosion.

Pasture and hayland
Suitability: Well suited

Commonly grown crops: Wheat, improved bermudagrass, and bahiagrass
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Chisel plowing and subsoiling when seedbeds are prepared help to break through hardpans, increasing root penetration and the rate of water infiltration.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management measures and considerations:
- Planting recommended tree species immediately after harvest and using site preparation practices, such as chopping, burning, and applying herbicides, help to reduce the hazard of further erosion and siltation of streams. The soil should be disturbed as little as possible.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Structures can be designed to conform to the natural slope.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of further erosion.

Septic tank absorption fields
Suitability: Suited
Management concerns: Restricted permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: None

Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of further erosion.

Lawns and landscaping
Suitability: Well suited
Management concerns: Restricted rooting depth
Management measures and considerations:
- Because of the restricted rooting depth, lawns and landscaping are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.
- Applying supplemental irrigation and seeding or planting varieties that are adapted to droughty conditions increase the survival rate of grasses and landscaping plants.
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.

Interpretive Groups

Land capability classification: 2e
Forestland ordination symbol: 9A for loblolly pine

RuC—Ruston fine sandy loam, 0 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Narrow ridges
Landform position: Ridgetops and upper side slopes
Shape of areas: Irregular
Size of areas: 10 to 50 acres

Composition

Ruston and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
6 to 13 inches—brown fine sandy loam
13 to 23 inches—yellowish red sandy clay loam
23 to 29 inches—yellowish sandy clay loam that has light yellowish brown mottles
29 to 80 inches—red fine sandy loam that has reddish brown mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High

Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy marine sediments

Minor Components

Dissimilar soils:
- Well drained Sweatman soils on uplands

Similar soils:
- Soils on the steeper slopes

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Suited (fig. 7)
Commonly grown crops: Corn, cotton, and soybeans
Management concerns: Erosion
Management measures and considerations:
- Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till cropping, and crop residue management reduces the hazard of erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, wheat, and bahiagrass
Management concerns: Erosion

Figure 7.—An area of Ruston fine sandy loam, 0 to 8 percent slopes, which is good cropland if conservation practices, such as terraces, are applied.

Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Chisel plowing and subsoiling when seedbeds are prepared help to break through hardpans, increasing root penetration and the rate of water infiltration.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management measures and considerations:
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings
Suitability: Well suited
Management concerns: Erosion
Management measures and considerations:
- Installing a subsurface drainage system helps to lower the seasonal high water table.
- Care should be taken to prevent erosion during construction, and vegetation should be reestablished as soon as possible after construction.

Septic tank absorption fields
Suitability: Suited
Management concerns: Restricted permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns:
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.

- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of erosion.

Lawns and landscaping
Suitability: Well suited
Management concerns: Restricted rooting depth
Management measures and considerations:
- Because of the restricted rooting depth, lawns and landscaping are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.
- Applying supplemental irrigation and seeding or planting varieties that are adapted to droughty conditions increase the survival rate of grasses and landscaping plants.
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 9A for loblolly pine

RuC2—Ruston fine sandy loam, 5 to 8 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Narrow ridges
Shape of areas: Irregular
Size of areas: 5 to 150 acres

Composition

Ruston and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
5 to 18 inches—red clay loam
18 to 37 inches—red clay loam that has yellowish brown mottles
37 to 50 inches—red loam that has yellowish brown mottles
50 to 80 inches—red sandy clay loam that has light yellowish brown and light brownish gray mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy marine sediments

Minor Components

Dissimilar soils:
- Well drained Sweatman soils on uplands

Similar soils:
- Soils that are on the steeper slopes and have a severely eroded surface layer

Land Use

Dominant uses: Pasture
Other uses: Cropland

Cropland
Suitability: Suited
Commonly grown crops: Cotton, corn, and soybeans
Management concerns: Erosion
Management measures and considerations:
- Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till cropping, and crop residue management reduces the hazard of further erosion.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Grasses and legumes
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Chisel plowing and subsoiling when seedbeds are prepared help to break through hardpans, increasing root penetration and the rate of water infiltration.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Competition from undesirable plants
Management measures and considerations:
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings
Suitability: Well suited
Management concerns: Erosion

Management measures and considerations:
- Installing a subsurface drainage system helps to lower the seasonal high water table.
- Care should be taken to prevent further erosion during construction, and vegetation should be reestablished as soon as possible after construction.

Septic tank absorption fields
Suitability: Suited
Management concerns: Restricted permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns:
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of further erosion.

Lawns and landscaping
Suitability: Well suited
Management concerns: Erosion and root penetration
Management measures and considerations:
- Because of the restricted rooting depth, lawns and landscaping are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.
- Applying supplemental irrigation and seeding or planting varieties that are adapted to droughty conditions increase the survival rate of grasses and landscaping plants.
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 9A for loblolly pine

SaA—Savannah fine sandy loam, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Stream terraces and narrow ridges
Landform position: Convex, low-lying ridgetops
Shape of areas: Irregular
Size of areas: 5 to 150 acres

Composition

Savannah and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 6 inches—brown fine sandy loam

Subsoil:
6 to 18 inches—strong brown loam
18 to 23 inches—yellowish brown loam
23 to 38 inches—mottled strong brown, yellow, brown, and light brownish gray loam
38 to 46 inches—mottled strong brown, yellowish brown, and light brownish gray loam
46 to 60 inches—mottled strong brown and light gray loam
60 to 82 inches—mottled gray, yellowish brown, and dark yellowish brown loam

Soil Properties and Qualities

Potential rooting depth: Moderately deep to a root restricting fragipan
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 1/2 to 3 feet from January through March
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy marine deposits

Minor Components

Dissimilar soils:
- Well drained Ruston soils, which are redder than the Savannah soil and are on the higher ridges

Similar soils:
- Soils that have poorer drainage than the Savannah soil

Land Use

Dominant uses: Pasture and hayland
Other uses: Cropland

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, and soybeans
Management concerns: Depth to root restricting layer
Management measures and considerations:
- Chisel plowing and subsoiling help to break through hardpans, increasing root penetration and the rate of water infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, tall fescue, and wheat
Management concerns: Root penetration
Management measures and considerations:
- Chisel plowing and subsoiling when seedbeds are prepared help to break through hardpans, increasing root penetration and the rate of water infiltration.

Forestland
Suitability: Well suited to loblolly pine

Management concerns: Equipment use, competition from undesirable plants, and windthrow
Management measures and considerations:
- Restricting logging to periods when the soil is not saturated minimizes rutting and the damage caused to tree roots by compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.
- Chisel plowing and subsoiling help to break through hardpans, increasing root penetration and the rate of water infiltration.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- Constructing structures on the highest part of the landscape and installing an artificial drainage system reduce the risk of damage from wetness.
- Installing a subsurface drainage system helps to lower the seasonal high water table.
- Care should be taken to prevent erosion during construction, and vegetation should be reestablished as soon as possible after construction.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength; wetness
Management measures and considerations:
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of erosion.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Designing plantings to conform to the natural contour of the slope reduces the hazard of erosion and increases the rate of water infiltration.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.
- A surface or subsurface drainage system is needed in some areas.

Interpretive Groups

Land capability classification: 2w
Forestland ordination symbol: 8W

SaB2—Savannah fine sandy loam, 2 to 5 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Stream terraces and narrow ridges
Landform position: Gently sloping, convex ridgetops
Shape of areas: Irregular
Size of areas: 5 to 250 acres

Composition

Savannah and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 6 inches—brown fine sandy loam

Subsoil:
6 to 18 inches—strong brown loam
18 to 23 inches—yellowish brown loam
23 to 38 inches—mottled strong brown, yellowish brown, and light brownish gray loam
38 to 46 inches—mottled strong brown, yellowish brown, and light brownish gray loam
46 to 60 inches—mottled strong brown and light gray loam
60 to 82 inches—mottled gray, yellowish brown, and dark yellowish brown loam

Soil Properties and Qualities

Potential rooting depth: Moderately deep to a root restricting fragipan
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 1/2 to 3 feet from January through April
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy marine deposits

Minor Components

Dissimilar soils:
- Well drained Ruston soils in the higher positions

Similar soils:
- Soils that are poorer drained than the Savannah soil; in concave seep areas

Land Use

Dominant uses: Pasture
Other uses: Cropland

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, and soybeans
Management concerns: Erosion
Management measures and considerations:
- Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till cropping, and crop residue management reduces the hazard of further erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, tall fescue, improved bermudagrass, and wheat
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Chisel plowing and subsoiling when seedbeds are prepared help to break through hardpans, increasing root penetration and the rate of water infiltration.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Erosion and competition from undesirable plants
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to control further erosion and the siltation of streams.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of

palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- Constructing structures on the highest part of the landscape and installing an artificial drainage system reduce the risk of damage from wetness.
- Installing a subsurface drainage system helps to lower the seasonal high water table.
- Care should be taken to prevent further erosion during construction, and vegetation should be reestablished as soon as possible after construction.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength; wetness
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of further erosion.

Lawns and landscaping
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- Because of the restricted rooting depth, lawns and landscaping are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.
- Applying supplemental irrigation and seeding or planting varieties that are adapted to droughty conditions increase the survival rate of grasses and landscaping plants.
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.

Interpretive Groups

Land capability classification: 2e
Forestland ordination symbol: 8W

SaC2—Savannah fine sandy loam, 5 to 8 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Stream terraces and narrow ridges
Landform position: Dissected upper parts of side slopes
Shape of areas: Irregular
Size of areas: 5 to 3,000 acres

Composition

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

Typical Profile

Surface layer:
0 to 6 inches—brown fine sandy loam

Subsoil:
6 to 18 inches—strong brown loam
18 to 23 inches—yellowish brown loam
23 to 38 inches—mottled strong brown, yellowish brown, and light brownish gray loam
38 to 46 inches—mottled strong brown, yellowish brown, and light brownish gray loam
46 to 60 inches—mottled strong brown and light gray loam
60 to 82 inches—mottled gray, yellowish brown, and dark yellowish brown loam

Soil Properties and Qualities

Potential rooting depth: Moderately deep to a root restricting fragipan
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 1/2 to 3 feet from January through April
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy marine deposits

Minor Components

Dissimilar soils:
- Moderately well drained Providence soils on narrow ridges

Similar soils:
- Areas of soils that are redder than the Savannah soil; on narrow ridges

Land Use

Dominant uses: Pasture
Other uses: Cropland

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, and soybeans
Management concerns: Erosion
Management measures and considerations:
- Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till cropping, and crop residue management

reduces the hazard of further erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, tall fescue, bahiagrass, and wheat
Management concerns: Erosion
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Erosion and competition from undesirable plants
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to control further erosion and the siltation of streams.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- Constructing structures on the highest part of the landscape and installing an artificial drainage system reduce the risk of damage from wetness.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength; wetness

Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of further erosion.

Lawns and landscaping
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- A surface or subsurface drainage system is needed in some areas.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 8W

SmD—Smithdale fine sandy loam, 8 to 15 percent slopes

Setting

Landscape: Coastal Plain
Landform: Hillslopes
Landform position: Saddles on ridges and side slopes
Shape of areas: Irregular
Size of areas: 10 to 40 acres

Composition

Smithdale and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
5 to 15 inches—brown sandy loam
15 to 28 inches—yellowish red sandy loam
28 to 55 inches—red sandy clay loam
55 to 80 inches—red sandy loam that has yellowish brown mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
- Well drained Sweatman soils on narrow ridges and hillslopes

Similar soils:
- Well drained soils that are less sloping than the Smithdale soil

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: Equipment use and erosion
Management measures and considerations:
- This map unit is severely limited for crop production. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Suited to pasture and hayland (fig. 8)
Commonly grown crops: Improved bermudagrass and bahiagrass
Management concerns: Equipment use
Management measures and considerations:
- The slope can limit equipment use in the steeper areas when hay is harvested.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Figure 8.—An area of Smithdale fine sandy loam, 8 to 15 percent slopes. A good management program is recommended for hayland and grazing land in areas of this soil.

- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Erosion
Management measures and considerations:
- Grass should be established following completion of harvesting.
- Establishing a permanent plant cover on roads and landings after logging reduces the hazard of erosion and the siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of trees and adapted understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Designing structures to conform to the contour of the natural slope or building in the less sloping areas helps to overcome the slope limitation.

Septic tank absorption fields
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Installing distribution lines on the contour improves the performance of septic tank absorption fields.

Local roads and streets
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Lawns and landscaping
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Designing plantings to conform to the natural contour of the slope reduces the hazard of erosion and increases the rate of water infiltration.

Interpretive Groups

Land capability classification: 4e
Forestland ordination symbol: 9A for loblolly pine

SmF—Smithdale fine sandy loam, 15 to 40 percent slopes

Setting

Landscape: Coastal Plain
Landform: Hillslopes
Landform position: Steep side slopes
Shape of areas: Irregular
Size of areas: 160 to 3,000 acres

Composition

Smithdale and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
6 to 10 inches—brown sandy loam
10 to 22 inches—yellowish red loam
22 to 43 inches—yellowish red sandy clay loam that has strong brown mottles
43 to 51 inches—yellowish red sandy clay loam that has red mottles
51 to 84 inches—red sandy loam that has yellowish brown mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
- Well drained Sweatman soils on hillslopes

Similar soils:
- Less sloping soils

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Poorly suited
Management concerns: Equipment use
Management measures and considerations:
- This map unit is severely limited for crop production.
- Cultivation should be restricted to the less sloping areas.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: None
Management concerns: Equipment use
Management measures and considerations:
- This map unit is difficult to manage for pasture or hayland because of the slope.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Suited to loblolly pine
Management concerns: Erosion and equipment use
- Waterbars are needed to prevent erosion on roads.
- Grass should be established following completion of harvesting.
- Establishing a permanent plant cover on roads and landings after logging reduces the hazard of erosion and the siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of trees and adapted understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings
Suitability: Poorly suited
Management concerns: Slope
Management measures and considerations:
- This map unit is severely limited as a site for dwellings.
- Designing structures to conform to the natural slope helps to overcome the slope limitation.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of erosion.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Slope
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- Increasing the size of the absorption field and installing the distribution lines on the contour improve the performance of septic tank absorption fields.

- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Slope
Management measures and considerations:
- This map unit is severely limited for local roads and streets.
- Designing roads to conform to the natural contour helps to overcome the slope limitation.
- Well-compacted, high-strength fill material can be used as a road base to help overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Slope
Management measures and considerations:
- This map unit is severely limited as a site for lawns and landscaping.
- Designing plantings to conform to the natural contour of the slope reduces the hazard of erosion and increases the rate of water infiltration.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

Interpretive Groups

Land capability classification: 7e
Forestland ordination symbol: 9R for loblolly pine

SnF—Smithdale and Sweatman soils, 15 to 45 percent slopes

Setting

Landscape: Coastal Plain
Landform: Hillslopes
Landform position: Steep side slopes
Shape of areas: Irregular
Size of areas: 160 to 3,000 acres

Composition

The composition of this map unit is variable. Some areas consists mainly of the Smithdale soils, some areas consists mainly of the Sweatman soils, and other contain both soils in variable proportions. The composition of a representative area is:

Smithdale and similar soils: 60 percent
Sweatman and similar soils: 30 percent
Dissimilar soils: 10 percent

Typical Profile

Smithdale
Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsoil:
6 to 10 inches—brown sandy loam
10 to 22 inches—yellowish red loam

22 to 43 inches—yellowish red sandy clay loam that has strong brown mottles
43 to 51 inches—yellowish red sandy clay loam that has red mottles
51 to 84 inches—red sandy loam that has yellowish brown mottles

Sweatman
Surface layer:
0 to 3 inches—brown fine sandy loam

Subsoil:
3 to 16 inches—red silty clay
16 to 28 inches—red clay that has brown mottles
28 to 35 inches—red clay that has strong brown and light brownish gray mottles

Substratum:
35 to 58 inches—mottled light gray and strong brown sandy clay loam that has fragments of shale
58 to 80 inches—light gray, soft weathered shale that has thin strata of loamy material

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Well drained
Permeability: Smithdale—moderate; Sweatman—moderately slow
Available water capacity: Moderate
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Smithdale—low; Sweatman—high
Flooding: None
Tilth: Good
Parent material: Clayey and loamy sediments

Minor Components

Dissimilar soils:
- Well drained Maben soils on hillslopes
- Somewhat poorly drained Wilcox soils on narrow ridges and hillslopes

Similar soils:
- Sandy soils on narrow ridges and hillslopes

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: Equipment use
Management measures and considerations:
- This map unit is severely limited for crop production. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: None
Management concerns: Equipment use
Management measures and considerations:
- Special care should be taken to prevent erosion when pastures are renovated or seedbeds are established.
- The slope can limit equipment use in the steeper areas.
- Fencing livestock away from creeks and streams helps to prevent streambank erosion and sedimentation.

Forestland
Suitability: Suited to loblolly pine
Management concerns: Erosion and equipment use
Management measures and considerations:
- Waterbars are needed to prevent erosion on roads.
- Grass should be established following completion of harvesting.
- Establishing a permanent plant cover on roads and landings after logging reduces the hazard of erosion and the siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of trees and adapted understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings
Suitability: Poorly suited
Management concerns: Slope
Management measures and considerations:
- Designing structures to conform to the natural slope helps to overcome the slope limitation.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of erosion.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Slope and permeability
Management measures and considerations:
- Increasing the size of the absorption field and installing the distribution lines on the contour improve the performance of septic tank absorption fields.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Smithdale—slope; Sweatman—low strength and slope
Management measures and considerations:
- Designing roads to conform to the natural contour helps to overcome the slope.
- Well-compacted, high-strength fill material can be used as a road base to help overcome the low strength of the natural soil material in areas of the Sweatman soil.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Slope
Management measures and considerations:
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Designing plantings to conform to the natural contour of the slope reduces the hazard of erosion and increases the rate of water infiltration.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

Interpretive Groups

Land capability classification: 7e
Forestland ordination symbol: Smithdale and Sweatman—9R for loblolly pine

StA—Stough loam, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Stream terraces
Landform position: Lower toeslopes
Shape of areas: Oblong
Size of areas: 5 to 160 acres

Composition

Stough and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
6 to 16 inches—mottled light brownish gray and yellowish brown loam
16 to 34 inches—mottled yellowish brown and light brownish gray loam
34 to 51 inches—mottled yellowish brown and light brownish gray sandy clay loam
51 to 65 inches—gray sandy clay loam that has yellowish brown and strong brown mottles
65 to 82 inches—light brownish gray sandy clay loam that has strong brown and yellowish brown mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 to $1^1/_2$ feet from January through April
Shrink-swell potential: Low
Flooding: None
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
- Poorly drained Guyton soils on stream terraces

Similar soils:
- Somewhat poorly drained soils that have finer textures than the Stough soil

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, and soybeans
Management concerns: Wetness
Management measures and considerations:
- Installing and maintaining an artificial drainage system reduces wetness and improves productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, tall fescue, and wheat
Management concerns: Wetness
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Chisel plowing and subsoiling when seedbeds are prepared help to break through hardpans, increasing root penetration and the rate of water infiltration.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.
- Installing and maintaining a subsurface drainage system improves the productivity of moisture-sensitive crops, such as alfalfa.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods minimizes rutting and soil compaction.

Wildlife habitat
Potential to support habitat for: Openland wildlife—good; forestland wildlife—good; wetland wildlife—fair
Management concerns: None
Management measures and considerations:
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Dwellings
Suitability: Poorly suited
Management concerns: Wetness
Management measures and considerations:
- Proper design, special construction, and an artificial drainage system are needed to overcome the severe wetness. These measures could significantly increase building costs.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Increasing the size of the absorption field and installing the distribution lines on the contour improve the performance of septic tank absorption fields.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.

Local roads and streets
Suitability: Fair
Management concerns: Wetness
Management measures and considerations:
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.

Lawns and landscaping
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- A surface or subsurface drainage system is needed in some areas.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.
- Drought resistant grasses, shrubs, and trees should be selected.

Interpretive Groups

Land capability classification: 2w
Forestland ordination symbol: 9W

SwB2—Sweatman fine sandy loam, 2 to 5 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Narrow ridgetops
Shape of areas: Irregular
Size of areas: 5 to 100 acres

Composition

Sweatman and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsoil:
3 to 16 inches—red silty clay
16 to 28 inches—red clay that has strong brown mottles
28 to 35 inches—red clay that has strong brown and light brownish gray mottles

Substratum:
35 to 58 inches—mottled light gray and strong brown sandy clay loam that has fragments of shale

58 to 80 inches—light gray, soft weathered shale that has thin strata of loamy material; firm; common fine mica flakes

Soil Properties and Qualities

Potential rooting depth: Very deep
Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Moderate
Flooding: None
Parent material: Clayey and loamy sediments

Minor Components

Dissimilar soils:
- Well drained Ruston soils on narrow ridges and hillslopes

Similar soils:
- Soils that have less clay than the Sweatman soil

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Suited
Commonly grown crops: Corn, cotton, and soybeans
Management concerns: Slope
Management measures and considerations:
- Using a resource management system that includes terraces and diversion, stripcropping, contour tillage, no-till cropping, and crop residue management reduces the hazard of further erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, tall fescue, and wheat
Management concerns: Slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Using equipment and harvesting timber during the drier seasons help to prevent the formation of ruts and minimize surface compaction.
- Constructing fire lanes around the perimeter of a forestland tract helps protect the tract from wildfire.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—good; wetland wildlife—very poor
Management concerns: None

Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Suited
Management concerns: Shrink-swell potential
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength
Management measures and considerations:
- Designing roads to conform to the natural contour helps to overcome the slope.
- Well-compacted, high-strength fill material can be used as a road base to help overcome the low strength of the natural soil material in areas of the Sweatman soil.

Lawns and landscaping
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Designing plantings to conform to the natural contour of the slope reduces the hazard of further erosion and increases the rate of water infiltration.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 8C

SwC—Sweatman fine sandy loam, 1 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Narrow ridges and shoulder slopes

Shape of areas: Long and narrow
Size of areas: 40 to 160 acres

Composition

Sweatman and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
5 to 15 inches—yellowish brown loam
15 to 28 inches—yellowish red clay

Substratum:
28 to 55 inches—yellowish red silty clay loam
55 to 80 inches—yellowish red silt loam that has light yellowish brown mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Moderate
Flooding: None
Parent material: Clayey and loamy sediments

Minor Components

Dissimilar soils:
- Well drained Ruston soils on narrow ridges and hillslopes

Similar soils:
- Soils that have less clay than the Sweatman soil

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Suited (fig. 9)
Commonly grown crops: Corn, cotton, and soybeans
Management concerns: Slope
Management measures and considerations:
- Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till cropping, and crop residue management reduces the hazard of erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, bahiagrass, and wheat
Management concerns: Slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.

Figure 9.—An area of Sweatman fine sandy loam, 1 to 8 percent slopes. Row crops are very productive in areas of this soil.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Using equipment and harvesting timber during the drier seasons help to prevent the formation of ruts and minimize surface compaction.
- Constructing fire lanes around the perimeter of a forestland tract helps protect the tract from wildfire.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Suited

Management concerns: Shrink-swell potential
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Well-compacted, high-strength fill material can be used as a road base to help overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Designing plantings to conform to the natural contour of the slope reduces the hazard of erosion and increases the rate of water infiltration.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 8C

SwC2—Sweatman fine sandy loam, 5 to 8 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Narrow ridges, shoulder slopes, and backslopes
Shape of areas: Irregular; long and narrow
Size of areas: 5 to 250 acres

Composition

Sweatman and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsoil:
3 to 16 inches—red silty clay
16 to 28 inches—red clay that has strong brown mottles
28 to 35 inches—red clay that has strong brown and brownish gray mottles

Substratum:
35 to 58 inches—mottled light gray and strong brown sandy clay loam that has fragments of shale
58 to 80 inches—light gray, soft weathered shale that has thin strata of loamy material; firm; common fine mica flakes

Soil Properties and Qualities

Potential rooting depth: Very deep
Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Moderate
Flooding: None
Parent material: Clayey and loamy sediments

Minor Components

Dissimilar soils:
- Well drained Ruston soils on narrow ridges and hillslopes

Similar soils:
- Well drained soils that are redder in the upper part than the Sweatman soil; on hillslopes

Land Use

Dominant uses: Forestland
Other uses: Pasture and cropland

Cropland
Suitability: Suited
Commonly grown crops: None
Management concerns: Slope
Management measures and considerations:
- Using a resource management system that includes contour farming, conservation tillage, crop residue management, stripcropping, and sod-based rotations reduces the hazard of further erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass and bahiagrass
Management concerns: Slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to control further erosion and the siltation of streams.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Suited
Management concerns: Shrink-swell potential
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability
Management measures and considerations:
- Increasing the size of the absorption field improves system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Lawns and landscaping
Suitability: Well suited
Management concerns: None
Management measures and considerations:
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

Interpretive Groups

Land capability classification: 4e
Forestland ordination symbol: 8C

SwD—Sweatman fine sandy loam, 8 to 15 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Side slopes and backslopes
Shape of areas: Long and narrow
Size of areas: 40 to 160 acres

Composition

Sweatman and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 2 inches—reddish brown fine sandy loam

Subsoil:
2 to 6 inches—reddish brown loam
6 to 24 inches—yellowish red clay that has reddish brown mottles

Substratum:
24 to 50 inches—mottled pinkish red, yellowish red, and reddish brown stratified shale and sandy loam

Soil Properties and Qualities

Potential rooting depth: Very deep
Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Moderate
Flooding: None
Parent material: Clayey and loamy sediments

Minor Components

Dissimilar soils:
- Well drained Ruston soils on narrow ridges and hillslopes

Similar soils:
- Soils that have less clay than the Sweatman soil

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: Slope
Management measures and considerations:
- This map unit is severely limited for crop production. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Well suited to pasture; suited to hayland (fig. 10)
Commonly grown crops: Bahiagrass and improved bermudagrass

Figure 10.—An area of Sweatman fine sandy loam, 8 to 15 percent slopes. Some areas of this soil serve dual functions, such as grazing land and hayland.

Management concerns: Slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Constructing fire lanes around the perimeter of a forestland tract helps protect the tract from wildfire.
- Restricting logging to periods when the soil has the proper moisture content minimizes rutting and the damage caused to tree roots by compaction.
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soil.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Suited
Management concerns: Shrink-swell potential and slope
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.
- Building on the contour and seeding, fertilizing, and mulching exposed areas immediately after work is done reduce the hazard of erosion.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability
Management measures and considerations:
- Increasing the size of the absorption field improves system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength; slope
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Lawns and landscaping
Suitability: Suited
Management concerns: Fertility and erosion
Management measures and considerations:
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Lime, fertilizer, mulch, and irrigation help to establish lawns and landscape plants.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

Interpretive Groups

Land capability classification: 6e
Forestland ordination symbol: 8C

SwD2—Sweatman fine sandy loam, 8 to 15 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Side slopes and backslopes
Shape of areas: Irregular
Size of areas: 5 to 250 acres

Composition

Sweatman and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsoil:
3 to 16 inches—red silty clay
16 to 28 inches—red clay that has strong brown mottles
28 to 35 inches—red clay that has strong brown and light brownish gray mottles

Substratum:
35 to 58 inches—mottled light gray and strong brown sandy clay loam that has fragments of shale
58 to 80 inches—light gray, soft weathered shale that has thin strata of loamy material; firm; common fine mica flakes

Soil Properties and Qualities

Potential rooting depth: Very deep
Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Moderate
Flooding: None
Parent material: Clayey and loamy sediments

Minor Components

Dissimilar soils:
- Well drained Ruston soils on narrow ridges and hillslopes

Similar soils:
- Well drained soils that are redder in the upper part than the Sweatman soil; on hillslopes

Land Use

Dominant uses: Pasture
Other uses: Forestland

Cropland
Suitability: Poorly suited
Management concerns: Slope
Management measures and considerations:
- This map unit is severely limited for crop production. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Well suited to pasture; suited to hayland
Commonly grown crops: Bahiagrass and improved bermudagrass
Management concerns: Slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- The slope can limit equipment use in the steeper areas when hay is harvested.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Establishing a permanent plant cover on roads and landings after logging reduces the hazard of further erosion and the siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Suited
Management concerns: Shrink-swell potential and slope
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.
- Building on the contour and seeding, fertilizing, and mulching exposed areas immediately after work is done reduce the hazard of further erosion.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability
Management measures and considerations:
- Structures can be designed to conform to the natural slope.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of further erosion.

- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength; slope
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and using well-compacted, high-strength roadfill as a base help to overcome the low strength of the natural soil material.
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Slope and erosion
Management measures and considerations:
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Designing plantings to conform to the natural contour of the slope reduces the hazard of further erosion and increases the rate of water infiltration.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

Interpretive Groups

Land capability classification: 6e
Forestland ordination symbol: 8C

SwF—Sweatman fine sandy loam, 15 to 40 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Side slopes
Shape of areas: Narrow and irregular
Size of areas: 160 to 2,000 acres

Composition

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

Typical Profile

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsoil:
3 to 16 inches—red silty clay
16 to 28 inches—red clay that has strong brown mottles
28 to 35 inches—red clay that has strong brown and light brownish gray mottles

Substratum:
35 to 58 inches—mottled light gray and strong brown sandy clay loam that has fragments of shale
58 to 80 inches—light gray, soft weathered shale that has thin strata of loamy material; firm; common fine mica flakes

Soil Properties and Qualities

Potential rooting depth: Very deep
Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: More than 6 feet below the surface
Shrink-swell potential: Moderate
Flooding: None
Parent material: Clayey and loamy sediments

Minor Components

Dissimilar soils:
- Somewhat poorly drained Wilcox soils on narrow ridges and hillslopes
- Well drained Lauderdale soils on hillslopes

Similar soils:
- Soils that have a loamy subsoil

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Poorly suited
Commonly grown crops: Cotton, corn, and soybeans
Management concerns: Slope
Management measures and considerations:
- This map unit is severely limited for crop production. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Poorly suited
Commonly grown crops: Improved bermudagrass
Management concerns: Slope and equipment use
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- The slope can limit equipment use in the steeper areas when hay is harvested.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use and competition from undesirable plants
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Establishing a permanent plant cover on roads and landings after logging reduces the hazard of erosion and the siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Constructing fire lanes around the perimeter of a forestland tract helps protect the tract from wildfire.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Poorly suited
Management concerns: Slope
Management measures and considerations:
- Designing structures to conform to the natural slope helps to overcome the slope limitation.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of erosion.
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability and slope
Management measures and considerations:
- Increasing the size of the absorption field improves system performance.
- Installing the distribution lines during dry periods helps to control smearing and sealing of trench walls.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength; slope
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Slope
Management measures and considerations:
- Topsoil should be stockpiled before an area is otherwise disturbed and then replaced before the area is landscaped.
- Designing plantings to conform to the natural contour of the slope reduces the hazard of erosion and increases the rate of water infiltration.
- Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

Interpretive Groups

Land capability classification: 7e
Forestland ordination symbol: 8R for loblolly pine

Ub—Urban land

Setting

Landscape: Coastal Plain
Landform: Stream terraces and uplands
Landform position: Planar or convex slopes
Slope: 2 to 8 percent
Shape of areas: Irregular
Size of areas: 1 to 50 acres

Composition

Urban land: 95 percent
Dissimilar soils: 5 percent

Urban land
This map unit is a miscellaneous land type consisting mainly of high-density residential areas and commercial and industrial developments. Generally, these areas have been graded and smoothed. In most areas, the original soils have been altered beyond recognition or are covered by buildings or pavement.

Minor Components

Dissimilar soils:
- Ora, Ruston, Savannah, Smithdale, and Sweatman soils near the edges of the mapped areas

Land Use

Dominant uses: Commercial, industrial, or high-density residential development
Other uses: Onsite investigation and testing are needed to determine the suitability of areas of this unit for any use.

Interpretive Groups

Land capability classification: 8s
Forestland ordination symbol: None assigned

Uo—Urbo silt loam, occasionally flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Planar or slightly convex slopes
Slope: 0 to 2 percent
Shape of areas: Long and narrow
Size of areas: 160 to 2,500 acres

Composition

Urbo and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsurface layer:
2 to 8 inches—grayish brown silty clay loam that has light brownish gray mottles
8 to 18 inches—grayish brown silty clay that has yellowish brown mottles
18 to 50 inches—grayish brown silty clay loam that has strong brown mottles
50 to 80 inches—light gray silty clay that has strong brown mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 1 to 2 feet from January through March
Shrink-swell potential: High
Flooding: Occasional for brief periods, mainly in winter and spring
Parent material: Clayey alluvium

Minor Components

Dissimilar soils:
- Loamy, somewhat poorly drained Mantachie soils on flood plains
- Silty, somewhat poorly drained Arkabutla soils on flood plains

Similar soils:
- Soils in small, depressional areas

Land Use

Dominant uses: Pasture
Other uses: Cropland

Cropland
Suitability: Suited
Commonly grown crops: Corn and soybeans
Management concerns: Flooding, wetness, and equipment use
Management measures and considerations:
- Restricting field work to periods when the soil is not wet helps to prevent rutting and the compaction of the surface caused by the high content of clay.
- Incorporating crop residue into the soil or leaving residue on the surface minimizes clodding and crusting, maximizes infiltration of water, and improves tilth and fertility.
- Proper arrangement of plant rows and surface field ditches reduces wetness and improves productivity.
- Although most of the flooding occurs during the winter and early spring, crop loss may occur during the growing season.
- Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Improved bermudagrass, tall fescue, and wheat
Management concerns: Flooding, wetness, and equipment use
Management measures and considerations:
- Restricting field work to periods when the soil is not wet helps to prevent rutting and the compaction of the surface caused by the high content of clay.
- Because the flooding typically occurs during the winter and early spring, livestock grazing and hay production can be restricted to periods when the flooding is less likely.
- Flooding can occur and cause damage during any period of heavy rainfall.

- Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity.

Forestland
Suitability: Suited to loblolly pine
Management concerns: Equipment use, seedling mortality, and competition from undesirable plants
Management measures and considerations:
- Natural regeneration of hardwood species is readily obtained on all openings of 1/2 acre or larger.
- If pines are planted, site preparation is needed to control competition from undesirable plants.
- Restricting logging to periods when the soil is not saturated minimizes rutting and the damage caused to tree roots by compaction.
- Harvesting timber during the summer reduces the risk of damage from the flooding.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; forestland wildlife and wetland wildlife—good
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Unsuited
Management concerns: Flooding and wetness
Management measures and considerations:
- A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Flooding, wetness, and slow percolation
Management measures and considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength; flooding
Management measures and considerations:
- Well-compacted, high-strength fill material can be used as a road base to elevate roads above the flooding.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Wetness and flooding
Management measures and considerations:
- A surface or subsurface drainage system is needed in some areas.

- This map unit is difficult to manage because of the flooding, which severely limits use during periods of inundation.

Interpretive Groups

Land capability classification: 4w
Forestland ordination symbol: 10W for loblolly pine

WcB2—Wilcox silty clay loam, 2 to 5 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Convex slopes, ridgetops, and side slopes
Shape of areas: Long and irregular
Size of areas: 40 to 160 acres

Composition

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

Typical Profile

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

Subsoil:
3 to 13 inches—reddish brown clay that has gray mottles
13 to 20 inches—mottled red and light brownish gray clay
20 to 35 inches—mottled red, light brownish gray, and yellowish brown clay
35 to 60 inches—light brownish gray clay that has red and yellowish brown mottles

Substratum:
60 to 80 inches—gray clayey shale that has yellowish brown and yellowish red mottles

Soil Properties and Qualities

Potential rooting depth: Deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 1/2 to 3 feet from January through April
Shrink-swell potential: Very high
Flooding: None
Parent material: Clayey sediments over shale
Depth to bedrock: 40 to 60 inches

Minor Components

Dissimilar soils:
- Well drained Sweatman soils on the slightly higher knolls
- Somewhat poorly drained Falkner soils, which are loamy in the upper part of the subsoil and are in the slightly higher positions
- Poorly drained, clayey soils in depressions

Similar soils:
- Scattered areas of clayey soils that do not have soft bedrock within a depth of 60 inches
- Scattered areas of soils that have a surface layer of clay or silty clay

Land Use

Dominant uses: Forestland
Other uses: Cropland and pasture

Cropland
Suitability: Suited
Commonly grown crops: Corn and soybeans
Management concerns: Erosion, equipment use, and tilth
Management measures and considerations:
- Using a resource management system that includes stripcropping, contour tillage, no-till cropping, and crop residue management reduces the hazard of further erosion, helps to control surface runoff, and maximizes rainfall infiltration.
- Restricting field work to periods when the soil is not wet helps to prevent rutting and the compaction of the surface caused by the high content of clay.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, wheat, and bahiagrass
Management concerns: Erosion, equipment use, and root penetration
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Restricting field work to periods when the soil is not wet helps to prevent rutting and the compaction of the surface caused by the high content of clay.
- Perennial grasses and legumes in the rotation help to penetrate and breakup the clayey root zone.

Forestland
Suitability: Suited
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods minimizes rutting and soil compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.
- Special site preparation practices, such as harrowing and bedding, help to establish seedlings, reduce the seedling mortality rate, and improve early growth.
- Constructing fire lanes around the perimeter of a forestland tract helps protect the tract from wildfire.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—good; wetland wildlife—poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Poorly suited
Management concerns: Shrink-swell potential
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength, shrink-swell potential, and instability of cutbanks
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, improve the stability of cutbanks, which are subject to be slumping, and helps to maintain road stability.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Tilth and droughtiness
Management measures and considerations:
- Because of the clayey texture of the soil, lawns and ornamental plants are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 9C for loblolly pine

WcC—Wilcox silty clay loam, 1 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Narrow ridges and hills
Shape of areas: Irregular
Size of areas: 40 to 160 acres

Composition

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

Typical Profile

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

Subsoil:
6 to 17 inches—dark brown silty clay
17 to 30 inches—mottled red, yellowish red, and light brownish gray clay and silty clay

Substratum:
30 to 60 inches—light brownish gray and pale brown clay
Greater than 60 inches—soft, weathered, gray shale

Soil Properties and Qualities

Potential rooting depth: Deep
Depth class: Deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 1/2 to 3 feet from January through April
Shrink-swell potential: Very high
Flooding: None
Parent material: Clayey sediments over shale
Depth to bedrock: 40 to 60 inches

Minor Components

Dissimilar soils:
- Well drained Sweatman soils on the slightly higher knolls and on narrow ridges and hillslopes
- Somewhat poorly drained Falkner soils that are loamy in the upper part of the subsoil and are in the higher positions
- Poorly drained soils in depressions

Similar soils:
- Scattered areas of clayey soils that do not have soft bedrock within a depth of 60 inches
- Scattered areas of soils that have a surface layer of clay or silty clay

Land Use

Dominant uses: Forestland
Other uses: Cropland

Cropland
Suitability: Suited
Commonly grown crops: Corn and soybeans
Management concerns: Slope
Management measures and considerations:
- Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till cropping, and crop residue management reduces the hazard of erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, wheat, and bahiagrass
Management concerns: Slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.

Forestland
Suitability: Well suited
Management concerns: Equipment limitation, seedling mortality, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods minimizes rutting and soil compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.
- Special site preparation practices, such as harrowing and bedding, help to establish seedlings, reduce the seedling mortality rate, and improve early growth.
- Constructing fire lanes around the perimeter of a forestland tract helps protect the tract from wildfire.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—good; wetland wildlife—poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Poorly suited
Management concerns: Shrink-swell potential
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength; shrink-swell potential
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, improve the stability of cutbanks, which are subject to be slumping.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Wetness, tilth, and erosion
Management measures and considerations:
- Because of the clayey texture of the soil, lawns and ornamental plants are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 8C

WcC2—Wilcox silty clay loam, 5 to 8 percent slopes, eroded

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Narrow ridges and hills
Shape of areas: Irregular
Size of areas: 40 to 160 acres

Composition

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

Typical Profile

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

Subsoil:
3 to 13 inches—reddish brown clay that has gray mottles
13 to 20 inches—mottled red and light brownish gray clay
20 to 35 inches—mottled red, light brownish gray, and yellowish brown clay
35 to 60 inches—light brownish gray clay that has red and yellowish brown mottles

Substratum:
60 to 80 inches—gray clayey shale that has yellowish brown and yellowish red mottles

Soil Properties and Qualities

Potential rooting depth: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 1/2 to 3 feet from January through April
Shrink-swell potential: Very high
Flooding: None
Parent material: Clayey sediments over shale
Depth to bedrock: 40 to 60 inches

Minor Components

Dissimilar soils:
- Well drained Sweatman soils on the slightly higher knolls and on narrow ridges and hillslopes

- Somewhat poorly drained Falkner soils that are loamy in the upper part of the subsoil and are in the higher positions
- Poorly drained soils in depressions

Similar soils:
- Scattered areas of clayey soils that do not have soft bedrock within a depth of 60 inches
- Scattered areas of soils that have a surface layer of clay or silty clay

Land Use

Dominant uses: Forestland
Other uses: Cropland

Cropland
Suitability: Suited
Commonly grown crops: Corn and soybeans
Management concerns: Slope
Management measures and considerations:
- Using a resource management system that includes contour farming, conservation tillage, crop residue management, stripcropping, and sod-based rotations reduces the hazard of further erosion, helps to control surface runoff, and maximizes rainfall infiltration.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, and tall fescue
Management concerns: Slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.

Forestland
Suitability: Well suited
Management concerns: Equipment limitation, seedling mortality, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods minimizes rutting and soil compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.
- Special site preparation practices, such as harrowing and bedding, help to establish seedlings, reduce the seedling mortality rate, and improve early growth.
- Constructing fire lanes around the perimeter of a forestland tract helps protect the tract from wildfire.

Wildlife habitat
Potential to support habitat for: Openland wildlife and forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Poorly suited
Management concerns: Shrink-swell potential
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength, shrink-swell potential, and instability of cutbanks
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, improve the stability of cutbanks, which are subject to be slumping.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Wetness, tilth, and erosion
Management measures and considerations:
- Because of the clayey texture of the soil, lawns and ornamental plants are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.

Interpretive Groups

Land capability classification: 4e
Forestland ordination symbol: 9C for loblolly pine

WcD—Wilcox silty clay loam, 8 to 15 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Narrow hillslopes
Shape of areas: Irregular
Size of areas: 100 to 250 acres

Composition

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

Typical Profile

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

Subsoil:
3 to 13 inches—reddish brown clay that has gray mottles
13 to 20 inches—mottled light brownish gray clay
20 to 35 inches—mottled red, light brownish gray, and yellowish brown clay
35 to 60 inches—light brownish gray clay that has red and yellowish brown mottles

Substratum:
60 to 80 inches—gray clayey shale that has yellowish brown and yellowish red mottles

Soil Properties and Qualities

Potential rooting depth: Deep
Depth class: Deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 1/2 to 3 feet from January through April
Shrink-swell potential: Very high
Flooding: None
Parent material: Clayey sediments over shale
Depth to bedrock: 40 to 60 inches

Minor Components

Dissimilar soils:
- Well drained Sweatman soils on hillslopes on the slightly higher knolls
- Somewhat poorly drained Falkner soils that are loamy in the upper part of the subsoil and are in the slightly higher positions

Similar soils:
- Scattered areas of clayey soils that do not have soft bedrock within a depth of 60 inches
- Scattered areas of soils that have a surface layer of clay or silty clay

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: Slope
Management measures and considerations:
- This map unit is severely limited for crop production. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, improved bermudagrass, and tall fescue
Management concerns: Slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Restricting field work to periods when the soil is not wet helps to prevent rutting and the compaction of the surface caused by the high content of clay.
- Perennial grasses and legumes in the rotation help to penetrate and breakup the clayey root zone.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Equipment use, seedling mortality, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods minimizes rutting and soil compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.
- Special site preparation practices, such as harrowing and bedding, help to establish seedlings, reduce the seedling mortality rate, and improve early growth.
- Constructing fire lanes around the perimeter of a forestland tract helps protect the tract from wildfire.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Poorly suited
Management concerns: Shrink-swell potential and slope
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.
- Building on the contour reduces the hazard of erosion.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength, slope, and shrink-swell potential
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Constructing roads and streets on the contour reduces the hazard of erosion.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Poor tilth, slope, and erosion

Management measures and considerations:
- Because of the clayey texture of the soil, lawns and ornamental plants are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.

Interpretive Groups

Land capability classification: 6e
Forestland ordination symbol: 9C for loblolly pine

WcE—Wilcox silty clay loam, 15 to 25 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Side slopes
Shape of areas: Irregular
Size of areas: 160 to 3,000 acres

Composition

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

Typical Profile

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

Subsoil:
3 to 13 inches—reddish brown clay that has gray mottles
13 to 20 inches—mottled red and light brownish gray clay
20 to 35 inches—mottled red, light brownish gray, and yellowish brown clay
35 to 60 inches—light brownish gray clay that has red and yellowish brown mottles

Substratum:
60 to 80 inches—gray clayey shale that has yellowish brown and yellowish red mottles

Soil Properties and Qualities

Potential rooting depth: Deep
Depth class: Deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: High
Seasonal high water table: Perched, at a depth of 1 1/2 to 3 feet from January through April
Shrink-swell potential: Very high
Flooding: None
Tilth: Poor
Parent material: Clayey sediments over shale
Depth to bedrock: 40 to 60 inches

Minor Components

Dissimilar soils:
- Well drained Sweatman soils on hillslopes
- Somewhat poorly drained Falkner soil that are loamy in the upper part of the subsoil and are in the slightly higher positions

Similar soils:
- Scattered areas of clayey soils that do not have soft bedrock within a depth of 60 inches

Land Use

Dominant uses: Forestland
Other uses: Wildlife habitat

Cropland
Suitability: Unsuited
Management concerns: Slope
Management measures and considerations:
- This map unit is severely limited for crop production. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: Bahiagrass, improved bermudagrass, and tall fescue
Management concerns: Slope
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.

Forestland
Suitability: Well suited to loblolly pine
Management concerns: Slope, equipment use, seedling mortality, and competition from undesirable plants
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to control erosion and the siltation of streams.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.
- Special site preparation practices, such as harrowing and bedding, help to establish seedlings, reduce the seedling mortality rate, and improve early growth.
- Constructing fire lanes around the perimeter of a forestland tract helps protect the tract from wildfire.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; forestland wildlife—good; wetland wildlife—very poor
Management concerns: None
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and nesting sites.
- Forestland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every 3 years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings (without basements)
Suitability: Poorly suited
Management concerns: Shrink-swell potential and slope

Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to prevent the damage caused by shrinking and swelling.
- Building on the contour reduces the hazard of erosion.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness, slope, and restricted permeability
Management measures:
- This map unit is severely limited as a site for septic tank absorption fields.
- The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength, shrink-swell potential, and slope
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Constructing roads and streets on the contour reduces the hazard of erosion.

Lawns and landscaping
Suitability: Poorly suited
Management concerns: Tilth and erosion
Management measures and considerations:
- Because of the clayey texture of the soil, lawns and ornamental plants are difficult to establish and maintain, especially if the soil has been significantly disturbed by construction.

Interpretive Groups

Land capability classification: 7e
Forestland ordination symbol: 9R for loblolly pine

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 8 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 105,000 acres in the survey area, or nearly 27 percent of the total acreage, meets the soil requirements for prime farmland. Scattered areas of this land are throughout the county, but most are in the southern part. The crops grown on the prime farmland are mainly corn and soybeans.

The map units in the survey area that are considered prime farmland are listed in table 5. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

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 as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand, gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, 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

John Wilkes, district conservationist, Natural Resources Conservation Service, prepared this section.

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.

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.

Winston County has about 78,000 acres of pasture and hayland and 8,000 acres of cultivated crops. Most of the soils in the county have naturally low fertility, and all of the soils are naturally acid. Most of the soils on uplands, terraces, and flood plains in the Gulf Coastal Plains land resource areas are very strongly acid or strongly acid. Soils on the flood plains have a naturally higher content of plant nutrients than most of the soils on uplands. In most of the upland soils, the levels of available phosphorus and potash are naturally low. On all of the soils, applications of lime and fertilizer should be based on soil tests and expected yields. The Cooperative Extension Service can provide information regarding kinds and amounts of fertilizer to apply.

The main row crops produced in the county are corn, cotton, grain sorghum, soybeans, and wheat. They are grown on a small scale. The productivity of the soils for these crops is reduced as the surface layer is lost to erosion and parts of the subsoil are mixed with the plow layer.

The kind of soil, the steepness and length of the slope, and the degree of past erosion determine the conservation practices needed on sloping cropland. Conservation practices may include no-till cropping systems, reduced-tillage cropping systems, terraces, contour farming, and contour stripcropping.

On many of the soils on flood plains in the county, main and lateral ditches and surface field ditches, with or without overfall or drop pipes, are needed to help remove excess surface water. Grade stabilization structures are needed to safely remove surface water from some fields. On many fields on flood plains, diversions are needed to protect soils from surface runoff from adjoining uplands. Ariel, Arkabutla, Jena, Kinston, Kirkville, Mantachie, Mathiston, Mooreville, Rosebloom, and Urbo soils are on flood plains. If the poorly drained Kinston and Rosebloom soils have been abandoned to native wetland vegetation, they should be left as wetlands.

The main forage crops grown in the county are bahiagrass, common bermudagrass, improved bermudagrass, dallisgrass, rye grass, and fescue. Legumes, such as white clover, red clover, and crimson clover, are sometimes grown in combination with grasses. The management practices needed for forages and pasture include rotational grazing and the maintenance of a minimum grazing height of 2 to 3 inches. Proper applications of lime and fertilizer increase forage production. Contact the Natural Resources Conservation Service or the Cooperative Extension Service for information regarding the best species of grass or legume for a particular soil.

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 6. In any given year, yields may be

higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

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

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

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

Crops other than those shown in table 6 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 rangeland, for forestland, or for engineering purposes.

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

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

Class 1 soils have slight limitations that restrict their use.

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

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

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

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, 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, rangeland, 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, rangeland, forestland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in this soil survey.

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

Forestland Management and Productivity

Table 7 can be used by forestland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed. The table lists the ordination symbol for each soil. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for an indicator tree species. The number indicates the volume, in cubic meters per hectare per year, which the indicator species can produce in a pure stand under natural conditions. The number 1 indicates low potential productivity; 2 or 3, moderate; 4 or 5, moderately high; 6 to 8, high; 9 to 11, very high; and 12 to 39, extremely high. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *R* indicates steep slopes; *X*, stoniness or rockiness; *W*, excess water in or on the soil; *T*, toxic substances in the soil; *D*, restricted rooting depth; *C*, clay in the upper part of the soil; *S*, sandy texture; *F*, a high content of rock fragments in the soil; *L*, low strength; and *N*, snowpack. The letter *A* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: R, X, W, T, D, C, S, F, L, and N.

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

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

Equipment limitation reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in forestland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, stones on the surface, rock outcrops, soil wetness, and texture of the surface layer. A rating of *slight* indicates that under normal conditions the kind of equipment and season of use are not significantly restricted by soil factors. Soil wetness can restrict equipment use, but the wet period does not exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If the soil is wet, the wetness restricts equipment use for a period of 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either as to the kind of equipment that can be used or the season of use. If the soil is wet, the wetness restricts equipment use for more than 3 months.

Seedling mortality refers to the death of naturally occurring or planted tree seedlings, as influenced by the kinds of soil, soil wetness, or topographic conditions. The factors used in rating the soils for seedling mortality are texture of the surface layer, depth to a seasonal high water table and the length of the period when the water table is high, rock fragments in the surface layer, effective rooting depth, and slope aspect. A rating of *slight* indicates that seedling mortality is not likely to be a problem under normal conditions. Expected mortality is less than 25 percent. A rating of *moderate* indicates that some problems from seedling mortality can be expected. Extra precautions are advisable. Expected mortality is 25 to 50 percent. A rating of *severe* indicates that seedling mortality is a serious problem. Extra precautions are important. Replanting may be necessary. Expected mortality is more than 50 percent.

Windthrow hazard is the likelihood that trees will be uprooted by the wind because the soil is not deep enough for adequate root anchorage. The main restrictions that affect rooting are a seasonal high water table and the depth to bedrock, a fragipan, or other limiting layers. A rating of *slight* indicates that under normal conditions no trees are blown down by the wind. Strong winds may damage trees, but they do not uproot them. A rating of *moderate* indicates that some trees can be blown down during periods when the soil is wet and winds are moderate or strong. A rating of *severe* indicates that many trees can be blown down during these periods.

Plant competition ratings indicate the degree to which undesirable species are expected to invade and grow when openings are made in the tree canopy. The main factors that affect plant competition are depth to the water table and the available water capacity. A rating of *slight* indicates that competition from undesirable plants is not likely to prevent natural regeneration or suppress the more desirable species. Planted seedlings can become established without undue competition. A rating of *moderate* indicates that competition may delay the establishment of desirable species. Competition may hamper stand development, but it will not prevent the eventual development of fully stocked stands. A rating of *severe* indicates that competition can be expected to prevent regeneration unless precautionary measures are applied.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index* and as a *volume* number. The site index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forestland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *volume*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic meters per hectare per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to plant are those that are suitable for commercial wood production.

Recreation Site Development

In table 8, the soils of the survey area are rated according to limitations that affect their suitability for recreation site development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, 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.

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.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

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

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

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

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

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

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity,

wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, crotons, pokeweed, ragweed, paspalums, and partridge pea.

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

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

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are mountainmahogany, bitterbrush, snowberry, and big sagebrush.

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

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

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

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

Habitat for forestland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, meadowlark, killdeer, hawks, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, bobcat, opossum, and skunk.

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

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, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 10a and table 10b show the degree and kind of soil limitations that affect dwellings with and without basements and small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Table 10a

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.

Table 10b

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 11a and table 11b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Table 11a

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.

Table 11b

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 12 gives information about the soils as potential sources of roadfill, sand, gravel, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

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).

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 12, 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.

The soils are rated *good, fair,* or *poor* as potential sources of topsoil. The features that limit the soils as sources are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil. The lower the number, the greater the limitation.

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

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

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

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

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect

performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

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

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

Soil Properties

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

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

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

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

Engineering Properties

Table 14 gives the engineering classifications and the range of properties for the layers of each soil in the survey area.

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

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

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

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

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

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

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

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

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

Physical Properties

Table 15 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

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

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.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 15, 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 shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (Ksat) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity

(Ksat). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^{1}/_{3}$- or $^{1}/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 15, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

Erosion factors are shown in table 15 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

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

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

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook,” which is available in local offices of the Natural Resources Conservation Service or on the Internet (http://soils.usda.gov/).

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 Properties

Table 16 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

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

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

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

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

Soil Features

Table 17 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

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

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 18 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

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

The four hydrologic soil groups are:

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

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

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

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

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.

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

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

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 18 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year) (Soil Survey Division Staff, 1993).

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.

Physical and Chemical Analyses of Selected Soils

By D.E. Pettry, professor of Soil Science, Mississippi State University

Many of the soils in Winston County are acid and have a relatively low capacity to retain plant nutrients (cations) because of the influence of siliceous parent material. Very deep, well drained, siliceous soils, such as Smithdale soils, are strongly acid or very strongly acid and have a relatively low capacity to retain nutrients. However, crops grown on these soils respond to applications of fertilizer. In contrast, Wilcox

soils are very strongly acid, but they have a high capacity to retain plant nutrients due to a high content of smectitic clays.

The physical properties of soils, such as infiltration rate and conduction, shrink-swell potential, crusting, consistence, and available water capacity, are closely related to the soil texture (the percentage of sand, silt, and clay). Soils that have a high content of silt in the surface layer, such as Urbo soils, tend to pack when cultivated and form a crust, which may affect plant emergence. The surface layer and subsoil of the Wilcox soil have a high content of expansive, smectitic clay. The volume of these horizons changes significantly with loss or gain of moisture, which can cause damage to buildings, roads, and other structures.

Chemical soil properties in combination with other soil features, such as permeability, structure, and texture, influence the limitations and potentials of individual soils. Chemical properties of the soils are not evident by visual observations; laboratory analyses are necessary. The amount and type of clay minerals present and the content of organic matter largely regulate the chemical nature of soils. These substances have the capacity to attract and hold cations. Exchangeable cations are positively charged elements that are bonded to negatively charged clay minerals and organic matter.

The exchangeable cations may be removed or exchanged through leaching or plant uptake. Through this mechanism of cation exchange, soil acidity is corrected by liming. It is useful to note that neutralizing 1 milliequivalent per 100 grams of extractable acidity (hydrogen + aluminum) requires 1,000 pounds of calcium carbonate (lime) per acre. Chemical data for soils are expressed as milliequivalents (meq) per 100 grams of the various cations to the common units of pounds per acre for the surface plow layer. The plow layer, or topsoil, of average soils to a depth of 6.67 inches weighs about 2 million pounds per acre. To convert the cations to pounds per acre, multiply the milliequivalents per 100 grams by 400 for calcium, 240 for magnesium, 780 for potassium, and 460 for sodium.

The taxonomic classification system for soils used by the National Cooperative Soil Survey includes chemical properties as differentiating criteria in some categories. The Alfisols and Ultisols, which are classes in the highest category of the system, are separated on the basis of percentage base saturation deep in the subsoil. Base saturation is related to weathering, and it reflects the replacement of bases by hydrogen. Ultisols have base saturation of less than 35 percent in the lower part of the subsoil. This is in contrast to Alfisols, which have base saturation of more than 35 percent in the lower part of the subsoil. For example, the Maben soil has a base saturation level greater than 35 percent at depths below 5 feet; thus, it is an Alfisol. Many of the soils in Winston County are highly weathered and have base saturation levels less than 35 percent.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2006). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 19 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is 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 loamy, mixed, active, thermic, shallow 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. An example is the Lauderdale series.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each

series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2006). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Ariel Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Silty alluvium
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Slightly convex slopes (fig. 11)
Slope: 0 to 2 percent
Taxonomic class: Coarse-silty, mixed, active, thermic Fluventic Dystrudepts

Commonly Associated Soils

The Ariel series is commonly associated with Arkabutla and Mathiston soils.

- The somewhat poorly drained Arkabutla and Mathiston soils are in the slightly lower positions on the flood plains.

Figure 11.—An area of Ariel silt loam, occasionally flooded, in an ideal landscape position for sod farming.

Typical Pedon

Ariel silt loam, occasionally flooded; about 0.5 mile north of Louisville, 1.0 mile south of Pugh Mill Church; USGS Bradley topographic quadrangle; lat. 33 degrees 15 minutes 2 seconds N. and long. 88 degrees 54 minutes 11 seconds W.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; common fine roots; moderately acid; abrupt wavy boundary.

Bw—7 to 28 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; few fine roots; strongly acid; clear smooth boundary.

Eb—28 to 37 inches; pale brown (10YR 6/3) silt loam; weak medium subangular blocky structure; friable; few fine roots; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; clear wavy boundary.

Bwxb1—37 to 48 inches; pale brown (10YR 6/3) silty clay loam; weak medium subangular blocky structure; friable; dense and brittle in 30 percent of the matrix; common medium distinct yellowish brown (10YR 5/8) masses of iron accumulation; few fine black manganese concretions; strongly acid; clear smooth boundary.

Bwxb2—48 to 81 inches; pale brown (10YR 6/3) silty clay loam; weak medium subangular blocky structure; friable; dense and brittle in 40 percent of the matrix; common medium faint light brownish gray (10YR 6/2) iron depletions; few fine black manganese concretions; strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches

Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas where lime has been applied

A or Ap horizon:

Color—hue of 10YR, value of 4 or 5, and chroma of 2 or 3

Bw horizon:

Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4

Eb horizon (where present):

Color—hue of 10YR, value of 5 or 6, and chroma of 2 or 3; chroma of 2 or less is below a depth of 24 inches.

Redoximorphic features—few or common masses of iron accumulation in shades of brown

Bwxb horizon:

Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 8; or no dominant matrix color and multicolored in shades of brown and gray

Texture—silt loam, silty clay loam, or loam

Redoximorphic features—few to many iron or clay depletions in shades of gray and masses of iron accumulation in shades of brown

Arkabutla Series

Depth class: Very deep

Drainage class: Somewhat poorly drained

Permeability: Moderate

Parent material: Silty alluvium

Landscape: Coastal Plain

Landform: Flood plains

Landform position: Slightly convex slopes

Slope: 0 to 1 percent
Taxonomic class: Fine-silty, mixed, active, acid, thermic Fluventic Endoaquepts

Commonly Associated Soils

The Arkabutla series is commonly associated with Ariel, Mathiston, Rosebloom, and Urbo soils.

- The well drained Ariel soils are in the slightly higher positions.
- The somewhat poorly drained Mathiston and Urbo soils are in positions similar to those of the Arkabutla soils.
- The poorly drained Rosebloom soils are in the lower depressional positions on the flood plains.

Typical Pedon

Arkabutla silt loam, frequently flooded; about 0.7 mile northeast of Louisville, south of Town Creek canal; USGS Louisville topographic quadrangle; lat. 33 degrees 7 minutes 57 seconds N. and long. 89 degrees 2 minutes 13 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) silt loam; weak medium granular structure; friable; many fine roots; moderately acid; abrupt wavy boundary.

Bw—5 to 18 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; many fine and very fine roots; common medium distinct light brownish gray (10YR 6/2) iron depletions; common medium faint yellowish brown (10YR 5/4) masses of iron accumulation; few medium black manganese concretions; very strongly acid; clear smooth boundary.

Bg1—18 to 40 inches; light brownish gray (10YR 6/2) silt loam; weak medium subangular blocky structure; friable, slightly plastic; common medium distinct dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/6) masses of iron accumulation; few black manganese concretions; very strongly acid; gradual wavy boundary.

Bg2—40 to 60 inches; light brownish gray (10YR 6/2) silty clay loam; weak medium subangular blocky structure; friable; common medium distinct dark yellowish brown (10YR 4/4) and brown (7.5YR 5/4) masses of iron accumulation; common fine black manganese concretions; very strongly acid; gradual smooth boundary.

Bg3—60 to 82 inches; light brownish gray (10YR 6/2) silty clay loam; weak medium subangular blocky structure; friable; many medium and coarse brown (7.5YR 5/4) masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 40 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas where lime has been applied

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4
Texture—silt loam or loam

Bw horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 to 6; or no dominant matrix color and multicolored in shades of brown, gray, and yellow
Texture—silt loam, loam, or silty clay loam
Redoximorphic features—clay depletions in shades of gray and masses of iron accumulation in shades of brown

Bg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 or less

Texture—silt loam, loam, or silty clay loam
Redoximorphic features—few to many masses of iron accumulation in shades of brown; none to common concretions of iron and manganese oxides

Falkner Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Slow
Parent material: Thin layer of loess and the underlying clayey sediments
Landscape: Coastal Plain
Landform: Stream terraces and broad flats on uplands
Landform position: Slightly convex slopes
Slope: 0 to 2 percent
Taxonomic class: Fine-silty, siliceous, active, thermic Aquic Paleudalfs

Commonly Associated Soils

The Falkner series is commonly associated with Sweatman, Wilcox, and Urbo soils.

- The well drained Sweatman soils are in positions similar to those of the Falkner soils.
- The Wilcox soils are in the lower positions and have more clay than the Falkner soils in the upper part of the argillic horizon.
- The Urbo soils are in the lower positions on flood plains.

Typical Pedon

Falkner silt loam, 0 to 2 percent slopes; about 2 miles west of the Noxubee County line and northeast 2 miles along a TVA power line; USGS Ferns Spring topographic quadrangle; lat. 33 degrees 6 minutes 55 second N. and long. 88 degrees 48 minutes 55 seconds W.

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

Bt—4 to 15 inches; brownish yellow (10YR 6/6) silt loam; weak medium subangular blocky structure; friable; common fine and very fine roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; strongly acid; gradual wavy boundary.

2Btg1—15 to 22 inches; gray (10YR 6/1) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common faint clay films on faces of peds; many medium prominent yellowish red (5YR 5/6) masses of iron accumulation; strongly acid; clear wavy boundary.

2Btg2—22 to 45 inches; light brownish gray (2.5Y 6/2) silty clay; moderate medium subangular blocky structure; very firm; common faint clay films on faces of peds; many medium distinct reddish brown (5YR 5/4) and strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

2Btg3—45 to 60 inches; light brownish gray (2.5Y 6/2) silty clay; strong medium subangular blocky structure; very firm; many faint clay films on faces of peds; many medium prominent reddish brown (5YR 5/4) masses of iron accumulation; very strongly acid; gradual wavy boundary.

2Btg4—60 to 80 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas where lime has been applied

Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 1 to 4
Texture—silt loam

Bt horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6
Texture—silt loam or silty clay loam

2Btg horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Texture—silty clay loam, silty clay, or clay
Redoximorphic features—common or many masses of iron accumulation in shades of brown, red, and yellow

Guyton Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Parent material: Thick, loamy sediments
Landscape: Coastal Plain
Landform: Stream flood plains and depressional areas
Landform position: Slightly concave slopes
Slope: 0 to 1 percent
Taxonomic class: Fine-silty, siliceous, active, thermic Typic Glossaqualfs

Commonly Associated Soils

The Guyton series is commonly associated with Savannah and Stough soils.

- The moderately well drained Savannah soils and the somewhat poorly drained Stough soils are in the higher positions. Both of these soils have a fragipan.

Typical Pedon

Guyton silt loam, occasionally flooded; about 5 miles east of Noxapater and 0.1 mile north of State Highway 490 on the east side of Tallahaga Creek; USGS Vernon topographic quadrangle; lat. 32 degrees 59 minutes 24 seconds N. and long. 88 degrees 59 minutes 45 seconds W.

Ap—0 to 7 inches; grayish brown (10YR 5/2) silt loam; weak fine granular structure; friable; many fine roots; very strongly acid; abrupt smooth boundary.
Eg1—7 to 21 inches; light gray (10YR 7/1) silt loam; weak fine and medium subangular blocky structure; friable; many fine roots; few brown bodies with common medium distinct yellowish brown (10YR 5/4) masses of iron accumulation; very strongly acid; clear wavy boundary.
Eg2—21 to 31 inches; light gray (10YR 7/1) loam; fine and weak medium subangular blocky structure; friable; few fine roots; slightly brittle; common fine pores; gray silt tongues 1 to 3 inches thick spaced every 4 to 6 inches; common medium distinct yellowish brown (10YR 5/4) masses of iron accumulation; very strongly acid; clear irregular boundary.
Bg/Eg—31 to 41 inches; gray (10YR 6/1) clay loam (Bg); weak coarse prismatic structure parting to weak medium subangular blocky; friable; discontinuous clay

films on faces of peds; tongues or streaks of gray (10YR 6/1) making up about 15 percent of the horizon; tongues are 1 to 3 inches wide and spaced every 4 to 6 inches; common medium distinct yellowish brown (10YR 5/4) masses of iron accumulation; strongly acid; clear wavy boundary.

Btg1—41 to 55 inches; light brownish gray (10YR 6/2) clay loam; weak coarse prismatic structure parting to weak medium subangular blocky; friable; slightly brittle; few thin clay films on faces of peds; few streaks of gray (10YR 6/1) silt; common medium distinct yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; clear smooth boundary.

Btg2—55 to 70 inches; light brownish gray (10YR 6/2) clay loam; weak coarse prismatic structure parting to weak medium subangular blocky; friable; slightly brittle; few thin clay films on faces of peds; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; abrupt smooth boundary.

Cg—70 to 81 inches; gray (10YR 6/1) sandy clay loam; massive; firm; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches

Reaction: Very strongly acid or strongly acid, except for the surface layer in areas where lime has been applied and the lower part of the subsoil, which is strongly acid to neutral

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 or 3
Texture—silt loam

Eg horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 or 2
Texture—silt loam, loam, or very fine sandy loam

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6 , and chroma of 1 or 2
Texture—silt loam, silty clay loam, or clay loam

Cg horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Texture—silt loam, silty clay loam, or sandy clay loam

Jena Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy alluvium
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Slightly convex natural levees
Slope: 0 to 2 percent
Taxonomic class: Coarse-loamy, siliceous, active, thermic Fluventic Dystrudepts

Commonly Associated Soils

The Jena series is commonly associated with Kinston, Kirkville, Mantachie, and Mooreville soils.

- The poorly drained Kinston soils and the somewhat poorly drained Mantachie soils are in the lower positions.
- The moderately well drained Kirkville and Mooreville soils are in landscape positions similar to those of the Jena soils or slightly lower.

Typical Pedon

Jena loam, in an area of Jena-Kirkville complex, occasionally flooded; about 0.3 mile south of the Oktibbeha County line and 0.5 mile east of State Highway 25 on the north bank of the Noxubee River; USGS Bradley topographic quadrangle; lat. 33 degrees 17 minutes 5 seconds N. and long. 88 degrees 53 minutes 59 seconds W.

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

Bw1—4 to 14 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium granular structure; friable; few fine roots; very strongly acid; clear smooth boundary.

Bw2—14 to 21 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine pores; very strongly acid; clear smooth boundary.

Bw3—21 to 30 inches; 65 percent light yellowish brown (10YR 6/4) and 35 percent yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few uncoated sand grains; the areas of yellowish brown are masses of iron accumulation; very strongly acid; clear smooth boundary.

Bw4—30 to 52 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; common medium distinct pale brown (10YR 6/3) and few fine distinct light brownish gray (10YR 6/2) iron depletions; few pockets of uncoated sand grains; very strongly acid; clear smooth boundary.

C1—52 to 65 inches; 70 percent brownish gray (10YR 6/2) and 30 percent strong brown (7.5YR 5/6) fine sandy loam; massive; friable; the areas of brownish gray are iron depletions, and the areas of strong brown are masses of iron accumulation; very strongly acid; clear smooth boundary.

C2—65 to 80 inches; yellowish brown (10YR 5/6) fine sandy loam; massive; friable; very strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 65 inches

Reaction: Very strongly acid or strongly acid throughout the profile, except where lime has been applied

A or Ap horizon:

Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4

Texture—silt loam, loam, or fine sandy loam

Bw horizon:

Color—hue of 10YR or 7.5YR, value of 4 to 7, and chroma of 3 to 6

Texture—silt loam, fine sandy loam, or loamy fine sand

C horizon:

Color—hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 3 to 6; or multicolored in shades of brown or gray

Texture—sandy loam, loamy fine sandy, or fine sandy loam

Kinston Series

Depth class: Very deep

Drainage class: Poorly drained

Permeability: Moderate
Parent material: Stratified loamy sediments
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Slightly concave slopes
Slope: 0 to 1 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, acid, thermic Fluvaquentic Endoaquepts

Commonly Associated Soils

The Kinston series is commonly associated with Jena, Kirkville, Mantachie, and Mooreville soils.

- The well drained Jena soils, moderately well drained Kirkville and Mooreville soils, and somewhat poorly drained Mantachie soils are in the slightly higher positions.

Typical Pedon

Kinston loam, frequently flooded; about 3 miles north of the Kemper County line and 250 feet north of State Highway 397 along Nanih Waiya Creek; USGS Vermin topographic quadrangle; lat. 32 degrees 57 minutes 43 seconds N. and long. 88 degrees 52 minutes 46 seconds W.

A—0 to 3 inches; dark grayish brown (10YR 4/2) loam; weak fine granular structure; friable; few fine and medium roots; strongly acid; clear wavy boundary.
Cg1—3 to 38 inches; light brownish gray (10YR 6/2) loam; massive; friable; few medium roots; few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; gradual smooth boundary.
Cg2—38 to 60 inches; gray (10YR 6/1) loam; massive; many medium distinct yellowish brown (10YR 5/8) masses of iron accumulation; strongly acid; gradual smooth boundary.
Cg3—60 to 84 inches; gray (10YR 6/1) loam; massive; friable; strongly acid.

Range in Characteristics

Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas where lime has been applied

A horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 1 to 3
Texture—sandy loam or loam

Cg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture—loam, sandy clay loam, or clay loam or, in the lower part of the horizon in some pedons, sand or gravelly sand

Kirkville Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Loamy alluvium
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Slightly convex slopes
Slope: 0 to 2 percent
Taxonomic class: Coarse-loamy, siliceous, active, thermic Fluvaquentic Dystrudepts

Commonly Associated Soils

The Kirkville series is commonly associated with Jena, Kinston, Mantachie, and Mooreville soils.

- The well drained Jena soils are in the slightly higher positions.
- The poorly drained Kinston soils are in the lower positions.
- The somewhat poorly drained Mantachie soils and the moderately well drained Mooreville soils are in positions similar to those of the Kirkville soils.

Typical Pedon

Kirkville loam, in an area of Jena-Kirkville complex, occasionally flooded; about 3.5 miles west of Plattsburg, Mississippi, 95 feet north of Plattsburg Road; USGS Plattsburg topographic quadrangle; lat. 32 degrees 56 minutes 49 seconds N. and long. 89 degrees 14 minutes 26 seconds W.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loam; weak fine granular structure; very friable; many fine roots; strongly acid; clear wavy boundary.

A—6 to 10 inches; dark yellowish brown (10YR 4/4) loam; weak medium granular structure; friable; many fine roots; strongly acid; clear wavy boundary.

Bw1—10 to 18 inches; dark yellowish brown (10YR 4/6) sandy loam; weak medium subangular blocky structure; friable; common fine roots; common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.

Bw2—18 to 28 inches; dark yellowish brown (10YR 4/6) sandy loam; weak medium subangular blocky structure; friable; common fine roots; common medium distinct light brownish gray (10YR 6/2) and grayish brown (10YR 5/2) iron depletions; common black and brown manganese concretions; strongly acid; clear wavy boundary.

Bg1—28 to 42 inches; light brownish gray (10YR 6/2) sandy loam; weak medium subangular blocky structure; friable; common fine roots; many medium distinct yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/4) masses of iron accumulation; common fine black manganese concretions; very strongly acid; gradual wavy boundary.

Bg2—42 to 50 inches; light brownish gray (10YR 6/2) sandy loam; weak medium subangular blocky structure; very friable; few fine roots; many medium distinct strong brown (7.5YR 5/6) and common medium distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; common medium black manganese concretions; strongly acid; gradual wavy boundary.

Cg—50 to 80 inches; gray (10YR 6/1) fine sandy loam; massive; friable; many medium distinct strong brown (7.5YR 5/8) masses of iron accumulation; strongly acid.

Range in Characteristics

Thickness of the solum: 30 to more than 60 inches

Reaction: Very strongly acid or strongly acid throughout the profile, except where lime has been applied

A and Ap horizons:

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4

Bw horizon:

Color—hue of 10YR, value of 4 or 5, and chroma of 3 to 6; or mottled in shades of brown and gray

Texture—sandy loam, loam, or fine sandy loam

Redoximorphic features—few or common masses of iron accumulation in shades of brown and iron depletions in shades of gray

Bg horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 or less
Texture—sandy loam, loam, or fine sandy loam
Redoximorphic features—few to many masses of iron accumulation in shades of brown

Cg horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 or less
Texture—sandy loam, loam, or fine sandy loam
Redoximorphic features—few to many masses of iron accumulation in shades of brown

Lauderdale Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Horizontally bedded siltstone
Landscape: Coastal Plain
Landform: Hillslopes
Landform position: Hillslopes, shoulder slopes, and backslopes
Slope: 15 to 35 percent
Taxonomic class: Loamy, mixed, active, thermic, shallow Typic Hapludults

Commonly Associated Soils

The Lauderdale series is commonly associated with Smithdale and Sweatman soils.

- The well drained Smithdale soils are in positions similar to those of the Lauderdale soils.
- The well drained Sweatman soils are in the lower positions.

Typical Pedon

Lauderdale fine sandy loam, 15 to 30 percent slopes; about 1.0 mile north of the Neshoba County line on State Highway 19, about 1.0 mile northeast on Ryals Road, and 15 feet east into woods; USGS Edinburg topographic quadrangle; lat. 32 degrees 56 minutes 48 seconds N. and long. 89 degrees 18 minutes 5 seconds W.

Ap—0 to 4 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; friable; many fine roots; strongly acid; clear smooth boundary.
Bt1—4 to 10 inches; dark yellowish brown (10YR 4/4) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; about 5 percent, by volume, sandstone channers; strongly acid; clear smooth boundary.
Bt2—10 to 15 inches; strong brown (7.5YR 5/6) clay loam; moderate medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; about 8 percent, by volume, sandstone channers; few fine mica flakes; strongly acid; abrupt wavy boundary.
Cr—15 to 60 inches; stratified layers of weathered sandstone and siltstone; strong thick platy rock structure; level bedded; very firm; few fine roots in fractures; distinct coarse dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/6) masses of iron accumulation on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 10 to 20 inches
Depth to bedrock: 10 to 20 inches
Reaction: Very strongly acid or strongly acid throughout the profile

A or Ap horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 1 to 3

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6
Texture—sandy clay loam, clay loam, or silty clay loam; 2 to 15 percent, by volume, fragments of sandstone, siltstone, or claystone

Cr layer:
Type of bedrock—weathered claystone, siltstone, or sandstone; level-bedded; can be dug with difficulty and is rippable by light machinery

Maben Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Stratified clayey sediments and soft shale
Landscape: Coastal Plain
Landform: Uplands
Landform position: Narrow ridges and hillslopes
Slope: 2 to 35 percent
Taxonomic class: Fine, mixed, active, thermic Ultic Hapludalfs

Commonly Associated Soils

The Maben series is commonly associated with Smithdale, Sweatman, and Wilcox soils.

- The associated soils are in positions similar to those of the Maben soils.

Typical Pedon

Maben silt loam, 15 to 35 percent slopes; about 3.5 miles northwest of Louisville, 200 feet northeast of the intersection of State Highways 15 and 25, and 200 feet south of State Highway 25; USGS Louisville topographic quadrangle; lat. 33 degrees 9 minutes 18 seconds N. and long. 89 degrees 4 minutes 54 seconds W.

A—0 to 3 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; many fine and medium roots; strongly acid; clear wavy boundary.

E—3 to 5 inches; pale brown (10YR 6/3) silt loam; weak medium granular structure; friable; many fine and medium roots; strongly acid; clear smooth boundary.

Bt1—5 to 19 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, plastic and sticky; few fine and medium roots; thin continuous clay films on faces of peds; few fine faint yellowish red (5YR 5/6) masses of iron accumulation; very strongly acid; clear wavy boundary.

Bt2—19 to 34 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, plastic and sticky; few fine roots; continuous clay films; many fine pores; common medium distinct yellowish red (5YR 5/6) and yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid; clear wavy boundary.

BC—34 to 40 inches; red (2.5YR 4/6) silty clay loam; moderate medium subangular blocky structure; soft partially weathered shale fragments; firm; common medium distinct light brownish gray (10YR 6/2) iron depletions and yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

C1—40 to 60 inches; 40 percent red (2.5YR 4/6), 35 percent light brownish gray (10YR 6/2), and 25 percent yellowish brown (10YR 5/6) clay; the areas of yellowish brown are masses of iron accumulation, and the areas of light brownish gray are iron depletions; thinly bedded claystone or shale and very fine sandy and loamy material; strongly acid; gradual wavy boundary.

C2—60 to 80 inches; stratified layers of red (2.5YR 6/8) soft clayey shale; strongly acid.

Range in Characteristics

Thickness of the solum: 20 to 48 inches
Reaction: Very strongly acid or strongly acid

A horizon:
Color—hue of 10YR or 7.5YR, value of 3 to 5, and chroma of 3 or 4
Texture—fine sandy loam, sandy loam, loam, or silt loam

E horizon (where present):
Color—hue of 10YR, value of 4 to 6, and chroma of 2 to 4; or mottled in shades of brown
Texture—fine sandy loam, sandy loam, loam, or silt loam

Bt horizon:
Color—hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 4 to 8
Texture—silty clay loam, silty clay, clay loam, or clay
Redoximorphic features—few to many masses of iron accumulation in shades of brown, red, and yellow

BC horizon (where present):
Color—hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 4 to 8; or mottled in shades of brown, gray, red, and yellow
Texture—silty clay loam, silty clay, clay loam, or clay
Redoximorphic features—few to many iron depletions in shades of gray and masses of iron accumulation in shades of brown, red, and yellow

C horizon:
Color—multicolored in shades of red, gray, or yellow
Texture—stratified fine sandy loam and partially weathered shale fragments, siltstone, or claystone

Mantachie Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Parent material: Loamy alluvium
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Slightly convex slopes
Slope: 0 to 2 percent
Taxonomic class: Fine-loamy, siliceous, active, acid, thermic Fluventic Endoaquepts

Commonly Associated Soils

The Mantachie series is commonly associated with Jena, Kinston, Kirkville, and Mooreville soils.

- The well drained Jena soils are in the slightly higher positions.
- The poorly drained Kinston soils are in the lower positions.

- The moderately well drained Kirkville and Mooreville soils are in positions similar to those of the Mantachie soils.

Typical Pedon

Mantachie loam, occasionally flooded; about 7.2 miles west of State Highway 14 and 0.3 mile south of a gravel road; USGS Louisville topographic quadrangle; lat. 33 degrees 6 minutes 10 seconds N. and long. 89 degrees 10 minutes 23 seconds W.

Ap—0 to 7 inches; brown (10YR 4/3) loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt wavy boundary.

Bw—7 to 16 inches; brown (10YR 4/3) loam; weak fine granular structure; very friable; common fine and medium roots; common fine faint brown (10YR 5/3) masses of iron accumulation and few fine distinct light brownish gray (10YR 6/2) iron depletions; strongly acid; gradual wavy boundary.

Bg1—16 to 22 inches; light brownish gray (10YR 6/2) loam; weak medium subangular blocky structure; friable; common medium distinct brown (10YR 4/3) and yellowish brown (10YR 5/6) masses of iron accumulation; few fine roots; strongly acid; clear wavy boundary.

Bg2—22 to 33 inches; gray (10YR 6/1) loam; weak medium subangular blocky structure; friable; common medium distinct yellowish brown (10YR 5/6) and few fine distinct strong brown (7.5YR 5/6) masses of iron accumulation; strongly acid; gradual wavy boundary.

Bg3—33 to 38 inches; gray (10YR 6/1) loam; weak medium subangular blocky structure; friable; common medium distinct strong brown (7.5YR 5/8) masses of iron accumulation; very strongly acid; clear wavy boundary.

Bg4—38 to 61 inches; light brownish gray (10YR 6/2) loam; weak medium subangular blocky structure; friable; common medium distinct brown (10YR 4/3) masses of iron accumulation; very strongly acid; clear wavy boundary.

C—61 to 81 inches; gray (10YR 6/1) loam; massive; friable; very strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 65 inches

Reaction: Very strongly acid or strongly acid throughout the profile, except where lime has been applied

A horizon:

Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 6; or mottled in shades of brown and gray

Texture—loam, fine sandy loam, sandy loam, or silt loam

Bw horizon:

Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 6

Texture—loam, sandy clay loam, or clay loam

Redoximorphic features—few to many iron depletions in shades of gray and masses of iron accumulation in shades of brown and yellow

Bg horizon:

Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2

Texture—loam, sandy clay loam, or clay loam

Redoximorphic features—common or many masses of iron accumulation in shades of brown and yellow

C horizon:

Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2

Texture—loam, sandy clay loam, or clay loam

Mathiston Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Parent material: Silty alluvium
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Slightly convex slopes
Slope: 0 to 2 percent
Taxonomic class: Fine-silty, siliceous, active, acid, thermic Aeric Fluvaquents

Commonly Associated Soils

The Mathiston series is commonly associated with Ariel, Arkabutla, Rosebloom, and Urbo soils.

- The well drained Ariel soils are in the slightly higher positions.
- The somewhat poorly drained Arkabutla and Urbo soils are in positions similar to those of the Mathiston soils.
- The poorly drained Rosebloom soils are in the lower positions in depressions.

Typical Pedon

Mathiston silt loam, occasionally flooded; about 1.5 miles east of State Highway 25 and 0.5 mile south of the Oktibbeha County line, near the Mississippi State University Experimental Forest; USGS Bradley topographic quadrangle; lat. 33 degrees 16 minutes 55 seconds N. and long. 88 degrees 52 minutes 5 seconds W.

A1—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; common fine pores; common fine and medium roots; few fine distinct grayish brown (10YR 5/2) iron depletions; very strongly acid; clear smooth boundary.

A2—4 to 8 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; few fine pores; common fine and medium roots; common medium distinct grayish brown (10YR 5/2) iron depletions; very strongly acid; clear smooth boundary.

Bg1—8 to 19 inches; grayish brown (10YR 5/2) silt loam; moderate fine and medium subangular blocky structure; friable; common fine roots; very strongly acid; clear wavy boundary.

Bg2—19 to 34 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots; few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bg3—34 to 42 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium subangular blocky structure; friable; few fine roots; few fine and medium black manganese concretions; few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bg4—42 to 55 inches; 50 percent grayish brown (10YR 5/2) and 50 percent yellowish brown (10YR 5/6) silty clay loam; weak fine and medium subangular blocky structure; friable; few fine roots; few fine and medium black manganese concretions; the areas of yellowish brown are masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bg5—55 to 80 inches; 55 percent gray (10YR 5/1) and 45 percent yellowish brown (10YR 5/8) silty clay loam; weak fine and medium subangular blocky structure; friable; the areas of gray are iron depletions, and the areas of yellowish brown are masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except where lime has been applied

A horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2 or 3
Texture—silt loam, loam, or silty clay loam
Redoximorphic features—few or common iron depletions in shades of brown or gray

Bg horizon:
Color—mottled in shades of gray, yellow, and brown; or hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 to 4
Texture—silt loam or silty clay loam
Redoximorphic features—few to many masses of iron accumulation in shades of brown and yellow and none to common black and brown concretions

Mooreville Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Loamy alluvium
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Planar to slightly convex slopes
Slope: 0 to 2 percent
Taxonomic class: Fine-loamy, siliceous, active, thermic Fluvaquentic Dystrudepts

Commonly Associated Soils

The Mooreville series is commonly associated with Jena, Kinston, and Mantachie soils.

- The well drained Jena soils are in the higher positions.
- The poorly drained Kinston soils are in depressions.
- The somewhat poorly drained Mantachie soils and poorly drained Kinston soils are in positions similar to those of the Mooreville soils.

Typical Pedon

Mooreville loam in an area of Kinston, Mantachie, and Mooreville soils, frequently flooded, on Hughes Creek, north of Tallahaga Creek; NE$^{1}/_{4}$NE$^{1}/_{4}$ sec. 22, T. 14 N., R. 12 E.; USGS Louisville South topographic quadrangle; lat. 33 degrees 4 minutes 18 seconds N. and long. 89 degrees 4 minutes 16 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) loam; weak fine granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.
Bw1—5 to 25 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable; common fine roots; common distinct yellowish brown (10YR 5/6) masses of iron accumulation; few fine faint light brownish gray (10YR 6/2) iron depletions; strongly acid; clear smooth boundary.
Bw2—25 to 38 inches; 50 percent yellowish brown (10YR 5/4) and 50 percent light brownish gray (10YR 6/2) loam; weak medium subangular blocky structure; friable; few fine roots; few fine black and brown concretions; strongly acid; gradual smooth boundary.

Bw3—38 to 60 inches; 50 percent light brownish gray (10YR 6/2) and 50 percent yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; few fine black and yellowish brown concretions; common medium distinct yellowish brown (10YR 5/8) masses of iron accumulation; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to more than 60 inches
Reaction: Strongly acid or very strongly acid, except for the surface layer in areas where lime has been applied

Ap horizon:
Color—hue of 10YR, value of 4, and chroma of 3 or 4
Texture—loam, silt loam, or fine sandy loam

Bw horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 to 8 in the upper part; hue of 10YR, value of 5 or 6, and chroma of 2 or less in the lower part; or multicolored from iron depletions in shades of gray and masses of iron accumulation in shades of brown
Texture—loam or silty clay loam

Cg horizon (where present):
Color—hue of 10YR, value of 4 or 5, and chroma of 2 or less; or multicolored from iron depletions in shades of gray and masses of iron accumulation in shades of brown
Texture—loam or sandy loam

Ora Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slow
Parent material: Loamy marine and fluvial deposits
Landscape: Coastal Plain
Landform: Upland ridgetops
Landform position: Summits, shoulder slopes, and backslopes (fig. 12)
Slope: 0 to 12 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Typic Fragiudults

Commonly Associated Soils

The Ora series is commonly associated with Providence, Ruston, and Smithdale soils.

- The moderately well drained Providence soils are in positions similar to those of the Ora soils on stream terraces.
- The well drained Ruston soils do not have a fragipan and are in positions similar to those of the Ora soils on uplands.
- The well drained Smithdale soils are in positions similar to those of the Ora soils or lower on side slopes on uplands.

Typical Pedon

Ora fine sandy loam, 5 to 8 percent slopes, eroded; about 4.0 miles southeast of Handle, 1.0 mile west of the Noxubee County line, and 20 yards south of a gravel road; USGS Preston topographic quadrangle; lat. 32 degrees 57 minutes 00 seconds N. and long. 82 degrees 50 minutes 13 seconds W.

Figure 12.—An area of Ora fine sandy loam, 2 to 5 percent slopes, eroded, which is prime farmland.

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

E—3 to 6 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine and medium granular structure; very friable; few fine roots; very strongly acid; clear smooth boundary.

Bt—6 to 18 inches; yellowish red (5YR 5/8) loam; moderate medium subangular blocky structure; friable; many fine roots; few faint clay films on faces of peds; very strongly acid; clear smooth boundary.

Btx1—18 to 28 inches; 40 percent yellowish red (5YR 5/8), 35 percent red (2.5YR 4/6), and 25 percent light gray (10YR 7/2) loam; moderate very coarse prismatic structure; very firm; few fine roots; compact and brittle in about 65 percent of the mass; common fine voids; common faint clay films on faces of peds; the areas of yellowish red are masses of iron accumulation, and the areas of gray are iron depletions; very strongly acid; clear smooth boundary.

Btx2—28 to 56 inches; 40 percent yellowish red (5YR 5/8), 35 percent red (2.5YR 4/6), and 25 percent light gray (10YR 7/2) sandy clay loam; moderate very coarse prismatic structure parting to moderate coarse subangular blocky; firm; dense and brittle in about 65 percent of the mass; common fine voids; few faint clay films on faces of peds; thin seams of light brownish gray (10YR 6/2) sandy loam between prisms; the areas of yellowish red and red are masses of iron accumulation, and the areas of light gray are iron depletions; strongly acid; clear smooth boundary.

C—56 to 80 inches; 40 percent yellowish red (5YR 5/6), 30 percent yellowish brown (10YR 5/6), and 30 percent light gray (10YR 7/2) sandy loam; massive; friable; the areas of yellowish brown and yellowish red are masses of iron accumulation, and the areas of light gray are iron depletions; strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to root restricting layer: 18 to 42 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas where lime has been applied

Ap horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4; or hue of 2.5Y, value of 4 or 5, and chroma of 2

E horizon (where present):
Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4
Texture—silt loam, sandy loam, fine sandy loam, or loam

Bt horizon:
Color—hue of 5YR or 2.5YR, value of 4 or 5 , and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Btx horizon:
Color—mottled in shades of brown, gray, yellow, and red; or matrix color in shades of yellowish red to yellowish brown
Texture—loam, sandy loam, or sandy clay loam
Redoximorphic features—few to many iron depletions in shades of gray and masses of iron accumulation in shade of brown, red, and yellow

C horizon (where present):
Color—mottled in shades of yellow, brown, gray, and red; or matrix color in shades of gray, yellow, and red
Texture—loam, sandy loam, or sandy clay loam; few fine to coarse quartz pebbles in some pedons

Providence Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate above the fragipan and moderately slow in the fragipan
Parent material: Loess and underlying loamy sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Summits, shoulder slopes, and backslopes
Slope: 2 to 5 percent
Taxonomic class: Fine-silty, mixed, active, thermic Oxyaquic Fragiudalfs

Commonly Associated Soils

The Providence series is commonly associated with Ora, Ruston, and Smithdale soils.

- The moderately well drained Ora soils and well drained Ruston soils are in positions similar to those of the Providence soils and formed in loamy material. The Ruston soils do not have a fragipan.
- The well drained Smithdale soils are in the lower positions on hillslopes and do not have a fragipan.

Typical Pedon

Providence silt loam, 2 to 5 percent slopes, eroded; about 1.5 miles north of Louisville on State Highway 25 and 1.0 mile east on a paved road; USGS Louisville North topographic quadrangle; lat. 33 degrees 9 minutes 14 seconds N. and long. 89 degrees 1 minute 17 seconds W.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many fine roots; neutral; clear smooth boundary.

Bt—6 to 29 inches; yellowish brown (10YR 5/8) silt loam; moderate medium granular structure; friable; common fine roots; common fine and medium pores; common medium distinct strong brown (7.5YR 5/4) and pale brown (10YR 6/3) masses of iron accumulation; strongly acid; clear wavy boundary.

Btx1—29 to 37 inches; strong brown (7.5YR 5/8) silt loam; moderate very coarse prismatic structure parting to moderate medium subangular blocky; firm; compact and brittle; few fine roots between prisms; few distinct clay films on faces of peds; common medium distinct yellowish brown (10YR 5/4) and pale brown (10YR 6/3) masses of iron accumulation; strongly acid; clear wavy boundary.

Btx2—37 to 54 inches; yellowish brown (10YR 5/8) silty clay loam; weak very coarse prismatic structure parting to moderate fine and medium subangular blocky; firm; few fine roots between prisms; compact and brittle; many fine voids; few faint clay films on faces of peds; common medium distinct light brownish gray (10YR 6/2) iron depletions and light yellowish brown (10YR 6/4) masses of iron accumulation; contains noticeable sand; very strongly acid; clear smooth boundary.

Btx3—54 to 60 inches; strong brown (7.5YR 5/8) loam; weak very coarse prismatic structure parting to moderate medium subangular blocky; firm; few distinct clay films on faces of peds; common medium distinct yellowish red (5YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

2Bt—60 to 80 inches; strong brown (7.5YR 5/8) clay loam; moderate medium subangular blocky structure; firm; many coarse distinct yellowish red (5YR 5/8) masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches

Depth to restricting layer: 18 to 38 inches

Reaction: Very strongly acid to moderately acid throughout the profile, except for the surface layer in areas where lime has been applied

Ap horizon:

Color—hue of 10YR, value of 3 to 5, and chroma of 2 to 6

Bt horizon:

Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 4 to 8

Texture—silt loam or silty clay loam

Redoximorphic features—few or common masses of iron accumulation in shades of brown

Btx horizon:

Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 6 to 8 and mottles in shades of gray, brown, and red

Texture—silt loam, loam, sandy clay loam, silty clay loam, or clay loam

Redoximorphic features—few to many iron depletions in shades of gray and masses of iron accumulation in shades of brown, red, and yellow and none to many concretions

2Bt horizon:

Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 6 to 8 and mottles in shades of gray, brown, and red

Texture—silt loam, loam, sandy clay loam, sandy loam, or clay loam

Redoximorphic features—few to many iron depletions in shades of gray and masses of iron accumulation in shades of brown, red, and yellow and none to many concretions

Rosebloom Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Parent material: Silty alluvium
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Slightly concave positions
Slope: 0 to 1 percent
Taxonomic class: Fine-silty, mixed, active, acid, thermic Fluvaquentic Endoaquepts

Commonly Associated Soils

The Rosebloom series is commonly associated with Ariel, Arkabutla, and Mathiston soils.

- The well drained Ariel soils and somewhat poorly drained Arkabutla and Mathiston soils are in the higher positions.

Typical Pedon

Rosebloom silt loam, frequently flooded; about 0.7 mile north of the Kemper County line on State Highway 397 and 0.5 mile northeast on a paved road; USGS Preston topographic quadrangle; lat. 32 degrees 55 minutes 54 seconds N. and long. 88 degrees 55 minutes 51 seconds W.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many fine roots; strongly acid; abrupt smooth boundary.

Bg1—9 to 20 inches; gray (10YR 6/1) silt loam; weak medium subangular structure; friable, plastic; many fine roots; common medium distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; very strongly acid; clear smooth boundary.

Bg2—20 to 36 inches; gray (10YR 6/1) silt loam; weak medium subangular blocky structure; firm, plastic; common fine roots; few medium distinct yellowish brown (10YR 5/4) masses of iron accumulation; strongly acid; clear smooth boundary.

Bg3—36 to 58 inches; gray (10YR 6/1) silty clay loam; weak medium subangular blocky structure; firm, plastic; few fine roots; many medium distinct yellowish brown (10YR 5/4) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Cg—58 to 80 inches; gray (10YR 6/1) silty clay loam; massive; firm, plastic; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to more than 60 inches
Reaction: Very strongly acid or strongly acid throughout the profile

A or Ap horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 to 3; or hue of 2.5Y, value of 5, and chroma of 2
Texture—silt loam

Bg horizon:
Color—hue of 10YR or 2.5Y, value of 6 or 7, and chroma of 1 or 2
Texture—silt loam or silty clay loam
Redoximorphic features—few to many masses of iron accumulation in shades of brown and yellow

Cg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture—silt loam or silty clay loam
Redoximorphic features—common or many masses of iron accumulation in shades of brown and yellow

Ruston Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy marine or stream sediments
Landscape: Coastal Plain
Landform: Broad upland ridgetops
Landform position: Summits
Slope: 0 to 8 percent
Taxonomic class: Fine-loamy, siliceous, subactive, thermic Typic Paleudults

Commonly Associated Soils

The Ruston series is commonly associated with Ora, Providence, and Smithdale soils.

- The Ora soils have a fragipan.
- The Providence soils have a fragipan and have a subsoil that is more yellow than the subsoil of the Ruston soils.
- The Smithdale soils have a solum that is shallower than that of the Ruston soils and are on steeper slopes.

Typical Pedon

Ruston fine sandy loam, 2 to 5 percent slopes, eroded; about 7.5 miles east of Louisville on State Highway 14, about 2.5 miles northeast on a paved road, and 30 feet south of the road; USGS Boon topographic quadrangle; lat. 33 degrees 6 minutes 56 seconds N. and long. 88 degrees 52 minutes 50 seconds W.

Ap—0 to 5 inches; brown (7.5YR 4/4) fine sandy loam; weak medium granular structure; friable; few fine roots; strongly acid; clear smooth boundary.
Bt1—5 to 18 inches; red (2.5YR 5/6) clay loam; moderate fine subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; strongly acid; clear smooth boundary.
Bt2—18 to 37 inches; red (2.5YR 5/6) clay loam; weak medium subangular blocky structure; friable, plastic; few fine roots; many distinct clay films on faces of peds; sand grains coated and bridged with clay; few fine distinct light yellowish brown (10YR 6/4) masses of iron accumulation; strongly acid; clear wavy boundary.
B/E—37 to 50 inches; red (2.5YR 4/6) loam (B); moderate medium subangular blocky structure; friable; few fine roots; pockets of light yellowish brown (10YR 6/4) sandy loam (E); common distinct clay films on faces of peds; mottled areas of uncoated sand; common medium distinct light yellowish brown (10YR 6/4) masses of iron accumulation; strongly acid; clear wavy boundary.
B´t—50 to 80 inches; red (2.5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium distinct light yellowish brown (10YR 6/4) masses of iron accumulation and light brownish gray (10YR 6/2) iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except where lime has been applied

Ap horizon:
Color—hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 2 to 4
Other features—in eroded areas, the Ap or A horizon is a mixture of topsoil and subsoil in shades of brown.

E horizon and E part of the B/E horizon (where present):
Color—hue of 10YR, value of 5 or 6, and chroma of 4
Texture—fine sandy loam, sandy loam, or sandy loam in streaks and pockets making up as much as 50 percent of the B/E horizon; small, dark, compact, brittle bodies make up as much as 10 percent, by volume, of the B/E horizon in some pedons.

B part of the B/E horizon (where present):
Color—hue of 5YR or 2.5YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy clay loam, fine sandy loam, loam, or clay loam

Bt & B´t horizons:
Color—hue of 5YR or 2.5YR, value of 4 to 6, and chroma of 4 to 8; in some pedons, the B´t horizon is mottled in shades of gray, brown, red, or yellow.
Texture—fine sandy loam, loam, sandy clay loam, or clay loam
Redoximorphic features—few to many iron depletions in shades of gray and masses of iron accumulation in shades of brown and yellow

Savannah Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slow
Parent material: Loamy sediments
Landscape: Coastal Plain
Landform: Stream terraces
Landform position: Planar and convex slopes
Slope: 0 to 8 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Typic Fragiudults

Commonly Associated Soils

The Savannah series is commonly associated with Guyton and Stough soils.

- The poorly drained Guyton soils do not have a fragipan and are in the lower positions.
- The somewhat poorly drained Stough soils are in the slightly lower positions.

Typical Pedon

Savannah fine sandy loam, 0 to 2 percent slopes; about 3.5 miles west of Louisville on State Highway 14, about 0.3 mile north on a paved road, and 60 feet east; USGS Louisville Southwest topographic quadrangle; lat. 33 degrees 7 minutes 13 seconds N. and long. 89 degrees 7 minutes 36 seconds W.

Ap—0 to 6 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; common fine roots; strongly acid; abrupt smooth boundary.
Bt1—6 to 18 inches; strong brown (7.5YR 5/6) loam; weak fine and medium granular structure; very friable; few fine roots; sand grains coated and bridged with clay; strongly acid; clear wavy boundary.
Bt2—18 to 23 inches; yellowish brown (10YR 5/6) loam; weak fine and medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; strongly acid; clear wavy boundary.

Btx1—23 to 38 inches; 35 percent strong brown (7.5YR 5/6), 35 percent yellowish brown (10YR 5/8), and 30 percent light brownish gray (10YR 6/2) loam; strong very coarse prismatic structure parting to weak fine subangular blocky; firm; compact and brittle in about 60 percent of the volume; sand grains coated and bridged with clay; few faint clay films on faces of peds; common fine voids; uncoated sand grains in seams between prisms; strongly acid; gradual wavy boundary.

Btx2—38 to 46 inches; 35 percent strong brown (7.5YR 5/6), 35 percent yellowish brown (10YR 5/8), and 30 percent light brownish gray (10YR 6/2) loam; strong very coarse prismatic structure parting to weak fine and medium subangular blocky and angular; firm; compact and brittle in about 60 percent of the volume; few faint clay films on faces of peds; common fine voids; uncoated sand grains in seams between prisms; strongly acid; gradual wavy boundary.

Btx3—46 to 60 inches; 55 percent strong brown (7.5YR 5/6) and 45 percent light gray (10YR 7/1) loam; strong very coarse prismatic structure parting to weak fine and medium subangular blocky; firm; compact and brittle in about 60 percent of the volume; common distinct clay films on faces of peds; few fine voids; strongly acid; gradual wavy boundary.

Btx4—60 to 82 inches; 40 percent gray (10YR 6/1), 35 percent yellowish brown (10YR 5/6), and 25 percent dark yellowish brown (10YR 4/4) loam; strong very coarse prismatic structure parting to weak fine subangular blocky; firm; compact and brittle in about 60 percent of the volume; common distinct clay films on faces of peds; few fine voids; strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to restricting layer: 18 to 38 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except where lime has been applied

Ap horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 2 to 4
Texture—fine sandy loam, sandy loam, loam, or silt loam

Bt horizon:
Color—hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Btx horizon:
Color—mottled in shades of yellow, brown, red, and gray; or hue of 10YR, value of 5, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam
Redoximorphic features—few to many iron depletions in shades of gray and masses of iron accumulation in shades of brown, red, and yellow

Smithdale Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Side slopes and backslopes

Slope: 8 to 45 percent
Taxonomic class: Fine-loamy, siliceous, subactive, thermic Typic Hapludults

Commonly Associated Soils

The Smithdale series is commonly associated with Lauderdale, Maben, Ora, Providence, Ruston, and Sweatman soils.

- The well drained Lauderdale and Maben soils are in positions similar to those of the Smithdale soils.
- The moderately well drained Ora and Providence soils are in the higher positions on ridgetops and have a fragipan. The Providence soils formed in a thin mantel of loess and the underlying loamy sediments.
- The well drained Ruston soils are in the higher positions on ridgetops.
- The well drained Sweatman soils are in the lower positions.

Typical Pedon

Smithdale fine sandy loam, 15 to 40 percent slopes; about 4.0 miles west of Louisville on State Highway 14, about 3.0 miles northwest on a paved road, and 50 feet south; USGS Highpoint topographic quadrangle; lat. 33 degrees 8 minutes 34 seconds N. and long. 89 degrees 10 minutes 2 seconds W.

A—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; common fine roots; strongly acid; clear wavy boundary.

BE—6 to 10 inches; brown (7.5YR 4/4) sandy loam; weak fine granular structure; very friable; few fine roots; strongly acid; clear smooth boundary.

Bt1—10 to 22 inches; yellowish red (5YR 4/6) loam; moderate fine and medium subangular blocky structure; friable; few fine roots; common faint clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—22 to 43 inches; yellowish red (5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay and oxides; few faint clay films on faces of peds; few fine distinct strong brown (7.5YR 4/6) masses of iron accumulation; strongly acid; clear smooth boundary.

Bt3—43 to 51 inches; yellowish red (5YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; common medium distinct red (2.5YR 4/6) masses of iron accumulation; strongly acid; clear wavy boundary.

Bt4—51 to 84 inches; red (2.5YR 4/6) sandy loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; common coarse pockets of light yellowish brown (10YR 6/4) masses of iron accumulation; few clean sand grains; strongly acid.

Range in Characteristics

Thickness of the solum: 60 to more than 100 inches
Reaction: Very strongly acid or strongly acid throughout the profile

A horizon:
Color—hue of 10YR or 7.5YR, value of 4, and chroma of 1 to 3
Texture—fine sandy loam, sandy loam, loamy fine sand, or loamy sand

Ap horizon (where present):
Color—hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 2 to 6

Bt horizon:
Color—hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 6 to 8

Texture—loam, sandy loam, sandy clay loam, or clay loam; as much as 10 percent, by volume, chert, quartz, or ironstone gravel in some pedons
Redoximorphic features—few to many masses of iron accumulation in shades of brown, red, and yellow

Stough Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately slow
Parent material: Loamy sediments
Landscape: Coastal Plain
Landform: Stream terraces
Landform position: Slightly convex slopes
Slope: 0 to 2 percent
Taxonomic class: Coarse-loamy, siliceous, semiactive, thermic Fragiaquic Paleudults

Commonly Associated Soils

The Stough series is commonly associated with Guyton and Savannah soils.

- The poorly drained Guyton soils are in the slightly lower positions.
- The moderately well drained Savannah soils are in higher or lower positions than those of the Stough soils.

Typical Pedon

Stough loam, 0 to 2 percent slopes; about 4.0 miles east of Noxapater on State Highway 490, about 1.0 mile north on a gravel road, and 50 feet east; USGS Vernon topographic quadrangle; lat. 32 degrees 59 minutes 28 seconds N. and long. 88 degrees 59 minutes 57 seconds W.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loam; weak fine granular structure; friable; common fine roots; strongly acid; abrupt smooth boundary.
Bt—6 to 16 inches; 55 percent light brownish gray (10YR 6/2) and 45 percent yellowish brown (10YR 5/6) loam; weak fine and medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; the areas of light brownish gray are iron depletions, and the areas of yellowish brown are masses of iron accumulation; very strongly acid; clear wavy boundary.
Btx1—16 to 34 inches; 55 percent yellowish brown (10YR 5/6) and 45 percent light brownish gray (10YR 6/2) loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; slightly brittle and compact; about 50 percent, by volume, brown material; few fine roots; common distinct clay films on faces of peds; gray seams of sandy loam about 1/2 inch wide between prisms; the areas of yellowish brown are masses of iron accumulation, and the areas of light brownish gray are iron depletions; very strongly acid; clear wavy boundary.
Btx2—34 to 51 inches; 35 percent yellowish brown (10YR 5/4), 35 percent yellowish brown (10YR 5/8), and 30 percent light brownish gray (10YR 6/2) sandy clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; slightly brittle and compact in about 50 percent of the volume; sand grains coated and bridged with clay; common distinct clay films on faces of peds; gray seams of sandy loam about 1/2 inch wide between prisms; the areas of yellowish brown are masses of iron accumulation, and the areas of light brownish gray are iron depletions; strongly acid; gradual wavy boundary.
Btx3—51 to 65 inches; gray (10YR 6/1) sandy clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; slightly brittle and

compact in about 40 percent of the volume; few faint clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) and strong brown (7.5YR 5/8) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Btx4—65 to 82 inches; light brownish gray (10YR 6/2) sandy clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; slightly brittle and compact in about 40 percent of the volume; few faint clay films on faces of peds; common medium distinct strong brown (7.5YR 5/8) and yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to the restricting layer: 16 to 28 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except where lime has been applied

Ap horizon:
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2
Texture—fine sandy loam, loam, or sandy loam

Bt horizon:
Color—hue of 10YR or 2.5YR, value of 4 to 6, and chroma of 1 to 6
Texture—fine sandy loam, loam, or sandy loam
Redoximorphic features—few or common iron depletions in shades of gray and masses of iron accumulation in shades of brown, red, and yellow

Btx horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 to 6 and few to many mottles with chroma of 2 or less; or mottled in shades of brown, gray, or red
Texture—fine sandy loam, loam, sandy loam, or sandy clay loam
Redoximorphic features—common or many iron depletions in shades of gray and masses of iron accumulation in shades of brown, red, and yellow

Sweatman Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Clayey and loamy sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Narrow ridges and hillslopes
Slope: 1 to 35 percent
Taxonomic class: Fine, mixed, semiactive, thermic Typic Hapludults

Commonly Associated Soils

The Sweatman series is commonly associated with Lauderdale, Maben, Smithdale, and Wilcox soils.

- The well drained Lauderdale, Maben, and Smithdale soils are in the higher positions.
- The Wilcox soils are in positions similar to those of the Sweatman soils.

Typical Pedon

Sweatman fine sandy loam, 2 to 5 percent slopes, eroded; about 2.0 miles west of Louisville on State Highway 14, about 0.5 mile north on a gravel road, and 100 feet

south; USGS Louisville North topographic quadrangle; lat. 33 degrees 15 minutes 47 seconds N. and long. 89 degrees 6 minutes 20 seconds W.

Ap—0 to 3 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; friable; many fine roots; strongly acid; abrupt smooth boundary.

Bt1—3 to 16 inches; red (2.5YR 4/6) silty clay; moderate medium subangular blocky structure; firm, plastic and sticky; few fine roots; few faint clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—16 to 28 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, plastic and sticky; few fine and medium roots; few faint clay films on faces of peds; few fine distinct strong brown (7.5YR 5/6) masses of iron accumulation; strongly acid; gradual smooth boundary.

Bt3—28 to 35 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm, plastic and sticky; few fine roots; few faint continuous clay films on faces of peds; many medium distinct strong brown (7.5YR 5/6) masses of iron accumulation and light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual wavy boundary.

C1—35 to 58 inches; 50 percent light gray (10YR 7/1) and 50 percent strong brown (7.5YR 5/8) sandy clay loam; massive; firm; few thin layers of soft shale; the areas of light gray are iron depletions, and the areas of strong brown are masses of iron accumulation; very strongly acid; gradual wavy boundary.

C2—58 to 80 inches; light gray (10YR 7/1) weathered shale; moderate thin platy rock structure; friable; common thin strata of red (2.5YR 4/6) and strong brown (7.5YR 5/6) sandy loam; common fine mica flakes; strongly acid.

Range in Characteristics

Thickness of the solum: Commonly 20 to 40 inches but ranges to 50 inches

Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas where lime has been applied

Ap horizon:

Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4

Bt horizon:

Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8

Texture—silty clay loam, silty clay, or clay

Redoximorphic features—few to many masses of iron accumulation in shades of brown

C horizon:

Color—hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 6 to 8

Texture—sandy loam, loam, or sandy clay loam and thinly stratified shale

Redoximorphic features—common or many iron depletions in shades of gray and masses of iron accumulation in shades of brown, red, and yellow

Urbo Series

Depth class: Very deep

Drainage class: Somewhat poorly drained

Permeability: Very slow

Parent material: Clayey alluvium

Landscape: Coastal Plain

Landform: Flood plains

Landform position: Slightly convex slopes

Slope: 0 to 2 percent

Taxonomic class: Fine, mixed, active, acid, thermic Vertic Epiaquepts

Commonly Associated Soils

The Urbo series is commonly associated with Ariel, Arkabutla, Mathiston, Rosebloom, and Wilcox soils.

- The well drained Ariel soils are in the slightly higher positions.
- The somewhat poorly drained Arkabutla and Mathiston soils are in positions similar to those of the Urbo soils.
- The poorly drained Rosebloom soils are in the lower positions.
- The somewhat poorly drained Wilcox soils are in the higher positions on uplands.

Typical Pedon

Urbo silt loam, occasionally flooded; about 0.3 mile south of the Oktibbeha County line, 0.7 mile east of State Highway 25, and 15 feet north of a paved road; USGS Bradley topographic quadrangle; lat. 33 degrees 16 minutes 55 seconds N. and long. 88 degrees 52 minutes 47 seconds W.

A1—0 to 2 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; common fine and medium roots; few fine grayish brown (10YR 5/2) iron depletions; very strongly acid; abrupt smooth boundary.

A2—2 to 8 inches; grayish brown (10YR 5/2) silt loam; weak fine and medium subangular blocky structure; friable; common fine pores; common fine and medium roots; common fine distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.

Bg1—8 to 18 inches; grayish brown (10YR 5/2) silty clay loam; weak coarse prismatic structure parting to moderate fine and medium subangular blocky; firm; few fine roots; few fine and medium black concretions; few fine distinct yellowish brown (10YR 5/8) masses of iron accumulation; extremely acid; clear smooth boundary.

Bg2—18 to 30 inches; grayish brown (2.5Y 5/2) silty clay loam; weak coarse prismatic structure parting to moderate fine and medium subangular blocky; firm; few fine roots; few pressure faces; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; few fine black and brown concretions; extremely acid; clear wavy boundary.

Bssg1—30 to 50 inches; grayish brown (2.5Y 5/2) silty clay; weak coarse prismatic structure parting to moderate fine and medium subangular blocky; firm; few fine roots; few large slickensides that have faint, slightly grooved surfaces; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; few stress surfaces on faces on peds; few fine and medium black concretions; extremely acid; gradual wavy boundary.

Bssg2—50 to 80 inches; light gray (10YR 7/1) silty clay; weak coarse prismatic structure parting to moderate fine and medium angular blocky; firm; few fine roots; few large slickensides that have faint, slightly grooved surfaces; common fine and medium black and brown concretions; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches

Reaction: Extremely acid to strongly acid throughout the profile, except for the surface layer in areas where lime has been applied

A or Ap horizon:

Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 or 3

Redoximorphic features—few or common iron depletions in shades of gray and masses of iron accumulation in shades of brown

Bw horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 or 4; or no dominant matrix color and multicolored in shades of brown, gray, and yellow
Texture—silty clay loam, clay loam, silty clay, or clay
Redoximorphic features—few to many iron depletions in shades of gray and masses of iron accumulation in shades of brown, yellow, and red; few or common concretions of iron and manganese oxides

Bg and Bssg horizons:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture—silty clay loam, clay loam, silty clay, or clay
Redoximorphic features—few to many masses of iron accumulation in shades of brown, yellow, and red and few or common iron and manganese concretions

Wilcox Series

Depth class: Deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Parent material: Clayey sediments overlying shale
Landscape: Coastal Plain
Landform: Uplands
Landform position: Convex ridgetops and side slopes in the uplands
Slope: 1 to 25 percent
Taxonomic class: Very-fine, smectitic, thermic Chromic Dystruderts

Commonly Associated Soils

The Wilcox series is commonly associated with Falkner, Sweatman, and Urbo soils.

- The Falkner soils and the well drained Sweatman soils are in positions similar to those of the Wilcox soils but are at slightly higher elevations and have less clay.
- The somewhat poorly drained Urbo soils are on flood plains adjacent to the Wilcox soils and are subject to flooding.

Typical Pedon

Wilcox silty clay loam, 2 to 5 percent slopes, eroded; about 0.2 mile west of the Noxubee County line on State Highway 14 and 75 feet south of the highway; USGS Ferns Spring topographic quadrangle; lat. 33 degrees 5 minutes 12 seconds N. and long. 88 degrees 49 minutes 4 seconds W.

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

Bt1—3 to 13 inches; reddish brown (2.5YR 4/4) clay; strong medium subangular and angular blocky structure; firm; many fine roots; few faint clay films in pores; common medium distinct gray (10YR 6/1) iron depletions; very strongly acid; clear wavy boundary.

Bt2—13 to 20 inches; 55 percent red (2.5YR 4/6) and 45 percent light brownish gray (10YR 6/2) clay; strong fine and medium angular blocky structure; firm; many fine roots; few faint clay films in pores; the areas of red are masses of iron accumulation, and the areas of light brownish gray are iron depletions; very strongly acid; clear wavy boundary.

Btss—20 to 35 inches; 50 percent red (2.5YR 4/6), 30 percent light brownish gray (10YR 6/2), and 20 percent yellowish brown (10YR 5/8) clay; strong medium

angular blocky structure; firm; many fine roots; few fine nodules of ironstone; common large intersecting slickensides that have prominent polished and grooved surfaces; the areas of red and yellowish brown are masses of iron accumulation, and the areas of light brownish gray are iron depletions; very strongly acid; clear wavy boundary.

Bssg—35 to 60 inches; light brownish gray (10YR 6/2) clay; weak very coarse angular blocky structure parting to fine and medium angular blocky; firm; few fine roots flattened on faces of peds; few fine nodules of ironstone; common large intersecting slickensides that have prominent polished and grooved surfaces; common medium prominent red (2.5YR 5/6) and distinct yellowish brown (10YR 5/8) masses of iron accumulation; extremely acid; clear wavy boundary.

Cr—60 to 80 inches; gray (10YR 5/1) clayey shale; strong thick platy rock structure; very firm; common coarse distinct yellowish brown (10YR 5/8) and prominent yellowish red (5YR 5/6) masses of iron accumulation; extremely acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to shale: 40 to 60 inches
Reaction: Extremely acid to strongly acid throughout the profile

A or Ap horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 1 to 3
Texture—silt loam or silty clay loam

Bt and Btss horizons:
Color—hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 4 to 8; or no dominant matrix color and multicolored in shades of red, brown, yellow, and gray
Redoximorphic features—few to many iron depletions in shades of gray and masses of iron accumulation in shades of brown, red, and yellow

Bssg or Cg horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—few to many masses of iron accumulation in shades of brown, red, and yellow

Cr horizon:
Type of bedrock—shale or clayey shale that has platy or conchoidal rock structure, can be cut with hand tools, and is rippable by light machinery

Formation of the Soils

In this section, the factors of soil formation are described and related to the soils in Winston County, the processes of horizon differentiation are explained, and the physiography and geology of the county are described.

Factors of Soil Formation

Soil is a natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated affect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soils are formed through the interaction of five major factors: parent material, climate, plant and animal life, relief, and time. The relative influence of each factor varies from place to place. In places, one factor dominates the formation of a soil and determines most of its properties. Local variations between the soils in Winston County are caused mainly by differences in parent material, relief, time, and human activities.

Parent Material

Parent material is the unconsolidated mass in which a soil develops. The parent materials of the soils in Winston County consist of thin loess, the underlying marine deposits, and alluvium.

The loess is silt loam from glacial rock. This material was carried southward by melting glaciers and deposited on flood plains along the Mississippi River. Later, it was redeposited by wind on the older formations. The upper horizons of the soils that formed in loess have a combined thickness of less than 4 feet. The lower horizons formed in acidic marine deposits. Falkner and Providence soils formed in this combination of parent materials. Falkner soils are in the eastern part of county along the Noxubee County line. Providence soils are in the central part of Winston County, directly east of the town of Louisville. The areas where loess is the parent material are in the Wilcox Formation.

The parent materials in the uplands and on the stream terraces in most of the county are marine deposits. These sediments are mixtures of sand, silt, and clay. Soils that formed in the marine deposits contain much more sand than the soils that formed in loess. Maben, Ora, Ruston, Savannah, Smithdale, and Sweatman soils formed in marine deposits. The areas where marine deposits are the parent material are in the Wilcox Formation.

The parent materials in the uplands and bottomlands in the northeastern and eastern parts of the county are acidic clays and sediments. Wilcox and Urbo soils formed in these kinds of parent material. This area is in the Porters Creek Formation. It is known locally as the Flatwoods.

The soils along streams throughout the county formed in acidic alluvium that washed down from the surrounding uplands and stream terraces and was redeposited by the streams on the flood plains. Ariel, Arkabutla, Jena, Kinston,

Kirkville, Mantachie, Mathiston, Mooreville, Rosebloom, and Urbo soils formed in this kind of parent material.

The parent material for the Lauderdale soil, which is on uplands in the southwestern part of the county, consists of layers of horizontally bedded, soft to hard claystone, siltstone, and sandstone. The Lauderdale soil is a shallow soil on steep uplands. It formed in outcropping formations of Eocene age.

Climate

The climate of Winston County is of the humid, warm, continental type. Winters are mild and generally have short periods of freezing weather. Summers are fairly hot and occasionally have temperatures of more than 100 degrees F.

These climatic features favor rapid chemical reactions. If rainfall is heavy during late winter and early spring, the soils are leached of soluble materials. Little organic matter accumulates in the soils. The climate is fairly uniform throughout the county and is not a major factor in producing differences between the soils. Normal average temperatures and rainfall for the county are shown in table 1.

Plant and Animal Life

Plants, animals, earthworms, and other organisms have an important effect on the formation of soils. Bacteria, fungi, and other microorganisms aid in the decomposition of organic matter and the weathering of rock. Earthworms mix the surface layer of soil.

The kinds and numbers of plants and animals that live on and in the soil are determined by climate, parent material, relief, and the age of the soil.

Vegetation, including hardwoods and pine trees, have vastly affected soil formation in Winston County. The native vegetation on the uplands in the county was chiefly hickory, red maple, red oak, cherrybark oak, white oak, chinkapin oak, and short leaf pine. The native vegetation on the well drained soils on bottom lands was ash, basswood, cherrybark oak, cow oak, willow oak, beech, and other lowland hardwoods. Bald cypress, tupelo gum, bitter pecan, and overcup oak grew in areas of the poorly drained soils on bottom lands. Cottonwood, swamp chestnut oak, cherrybark oak, and sweetgum were on the excessively drained to moderately well drained soils along major streams.

Relief

Relief, or topography, affects soil formation through its influence on drainage, erosion, and plant cover.

Elevation in the county ranges from 725 feet above sea level near the southwest corner of the county to less than 230 feet on the Green Timber Reservoir in the northeast corner of the county.

The rate of runoff is greater on steep slopes than on gentle slopes. Excess moisture is present in soils that develop on low topography. This wetness causes gray or mottled colors in the subsoil. Guyton, Kinston, and Rosebloom soils are examples of soils influenced by wetness. Soils that formed on well drained sites include Jena, Maben, Ruston, Smithdale, and Sweatman soils. The well drained Maben, Ruston, Smithdale, and Sweatman soils have reddish subsoils.

Time

A long time is required for most soils to form. The weathering of soil materials precedes the development of soil horizons. The age of a soil is reflected in the degree of development of the soil profile.

The alluvial soils along flood plains of streams are the youngest soils in the county because material is still being deposited. Examples include Kinston and Rosebloom soils. These soils do not have distinct horizons.

Ora, Providence, Ruston, Savannah, and Smithdale soils are older, loamy soils that formed on uplands. These soils have distinct horizons.

Processes of Horizon Differentiation

Several processes have been involved in the formation of horizons in the soils of Winston County. These processes are accumulation of organic matter, leaching of calcium carbonates and bases, reduction and transfer of iron, and formation and translocation of silicate clay minerals. In most soils, more than one of the processes have been active.

Accumulation of organic matter in the upper part of the profile leading to the formation of an A horizon has been an important process in the county. The soils in the county have a low content of organic matter.

Leaching of carbonates and bases has occurred in nearly all of the soils. Soil scientists generally agree that leaching of bases normally precedes translocation of silicate clay minerals. Most of the soils of the county are moderately to strongly leached, which has contributed to the development of horizons.

Reduction and transfer of iron, a process called gleying, is evident in the poorly drained and very poorly drained soils in the county. Grayish colors in the subsoil indicate the reduction and loss of iron. Some horizons contain reddish-brown mottles and concretions, indicating segregation of iron.

In some soils, the translocation of clay minerals has contributed to the development of horizons. An eluviated E horizon above a B horizon has a lower content of clay and generally is lighter in color. The B horizon generally has an accumulation of clay (clay films) in pores and on ped surfaces. Soils that have an eluviated E horizon above a B horizon were probably leached of carbonates and soluble salts to a considerable extent before translocation of silicate clays took place. Leaching of bases and translocation of silicate clays are among the more important processes of horizon differentiation in Winston County. Soils of the Ora, Providence, and Ruston series are examples of soils having an accumulation of translocated silicate clays in the form of clay films in the B horizon.

Physiography and Geology

Frank A. Adams, geologist, Natural Resources Conservation Service, prepared this section.

Mississippi is almost entirely within the Gulf Coastal Plain physiographic province of North America. The state has been divided into 12 topographic units. Two of these units, the North Central Hills and the Flatwoods, are represented in Winston County.

The Flatwoods, which formed on the outcrop of the Midway Group, trends northwest to southeast in the northeast corner of the county. This unit is generally flat and has very little relief. It is underlain by Porters Creek clay. The topography is more undulating along the western edge of the unit where the upper Porters Creek is sandy and more resistant to erosion. Streams in this area are less deeply incised and flood plains are less well developed than elsewhere in the county.

The majority of the county is in the North Central Hills, which is a rugged upland region where moderate to steep relief has developed on the sands and clays of the Wilcox Group. Streams have greatly dissected the rolling hills, and moderate flood plains are near the major streams.

The greatest relief in the survey area is along the somewhat abrupt boundary between the Flatwoods and the North Central Hills. An escarpment (cuesta) underlain by the Wilcox Group overlooks the Flatwoods, and elevation can change by more

than 300 feet in 1 mile. The highest elevation is 725 feet near the southwest corner of the county. The lowest elevation is less than 230 feet on the Green Timber Reservoir in the northeast corner of the county.

Winston County is in two major drainage basins. The northern and eastern third of the county is drained by stream tributaries of the Tombigbee River. Principal streams include the Noxubee River and Hashuqua Creek. The remaining two-thirds of the county is in the Pearl River drainage basin. Principal streams are Tallahaga, Noxapeter, Pinishook, and Naniawaya Creeks, which drain to the south, and Lobutcha Creek, which drains to the southwest.

The stratigraphic units exposed in Winston County are Tertiary-aged marine and continental sediments. Formations of the Tertiary systems crop out in concentric bands across the county and present a generally northwest to southeast structural strike of about 40 degrees with an average regional dip of about 30 feet per mile, or about $^{1}/_{3}$ degree to the southwest.

The oldest unit exposed in Winston County is made up of Paleocene-aged sediments of the Midway Group. These sediments are of the Porters Creek and Naheola Formations. The Porters Creek formation is a thick marine sequence of blocky, dark gray, carbonaceous and micaceous, montmorillonitic clay that weathers to light gray where exposed. The upper beds grade into laminated, green-gray, glauconitic, sandy beds of the Naheola Formation. These beds are less well developed and distinct than those to the southeast in Kemper County and to the northwest in Webster County. In Winston County, the maximum thickness of the Midway Group is probably more than 500 feet.

The majority of the rest of the county is underlain by Eocene-aged sediments of the Wilcox Group. These sediments unconformably overlie the Naheola Formation and consist predominately of non-marine, irregularly bedded sands, silty clays, and shales of the Nanafalia, Tuscahoma, and Hatchetigbee Formations. In Winston County, the Wilcox Formation (undifferentiated) ranges from about 850 to 1,100 feet in thickness.

Claiborne-aged sands of the Tallahatta and Winona Formations crop out in the western and southwestern parts of the county. The Tallahatta Formation unconformably overlies the Hatchetigbee Formation. These sediments consist predominately of locally glauconitic, micaceous sand containing clay lenses and abundant clay stringers. The Neshoba Sand Member of the Tallahatta Formation is coarse-grained sand that has lesser amounts of glauconite. Outliers of the Winona Formation can be found in the extreme south-southwest part of the county. The Winona Formation consists of highly glauconitic, clayey to moderately clayey, fossiliferous, red-brown sands. The contact between the Winona and Tallahatta Formations is conformable and gradational. In Winston County, the Claiborne sediments range from about 150 to 200 feet in thickness.

Quaternary terrace deposits derived from Wilcox sediments are found mainly along streams in the Flatwoods unit in the eastern part of the county and along the lower Tallahaga Creek.

Water-bearing strata are exploited in the sands of Cretaceous, Tertiary, and locally Quaternary Systems. The lower sand of the Tuscaloosa Group and Wilcox Group yield the largest quantities.

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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.

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

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

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.

Arroyo. The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in alluvium.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 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.

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. 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 planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

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

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

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

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

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.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

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 but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

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. Low-chroma zones having a low content of iron, manganese, and

clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

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

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

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

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

Conservation 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.

Coppice dune. A small dune of fine grained soil material stabilized around shrubs or small trees.

Coprogenous earth (sedimentary peat). Fecal material deposited in water by aquatic organisms.

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

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

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

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cuesta. A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

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

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement. On a desert surface, a layer of gravel or larger fragments that was emplaced by upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

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 soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

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 layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Esker. A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

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 terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

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. 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. The normal flood plain of a stream, subject to frequent or occasional flooding.

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

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai. Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

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 miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope. 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.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Ksat. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low-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.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

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.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

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

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

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.

Permafrost. Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperature below freezing has existed continuously for a long time.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as “permeability.” Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is

considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Playa. The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential 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.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

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 from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

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.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

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. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.

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:

Level	0 to 1 percent
Nearly level	0 to 2 percent
Very gently sloping	1 to 3 percent
Gently sloping	2 to 5 percent
Moderately sloping	5 to 8 percent
Strongly sloping	8 to 15 percent
Moderately steep	15 to 25 percent
Steep	25 to 45 percent
Very steep	45 percent and higher

Classes for complex slopes are as follows:

Nearly level	0 to 2 percent
Gently undulating	0 to 5 percent
Undulating	2 to 8 percent

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Sodic (alkali) 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.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^{+} to Ca^{++} + Mg^{++}. The degrees of sodicity and their respective ratios are:

Slight	less than 13:1
Moderate	13-30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

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. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till plain. An extensive area of nearly level to undulating soils underlain by glacial till.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

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 and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

[Recorded in the period 1971-2000 at Louisville, Mississippi]

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	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 snowfall
	°F	*°F*	*°F*	*°F*	*°F*	*Units*	*In*	*In*	*In*		*In*
January-----	52.2	31.8	42.0	75	9	166	5.96	3.07	8.59	8	0.3
February----	57.5	34.9	46.2	80	13	232	5.12	2.81	7.39	6	0.1
March-------	66.3	42.9	54.6	84	20	460	6.54	4.13	8.77	7	0.0
April-------	73.5	49.5	61.5	88	30	648	5.93	2.36	8.61	6	0.1
May---------	80.4	58.9	69.6	91	42	915	5.13	3.05	6.63	7	0.0
June--------	87.0	66.0	76.5	96	52	1,095	3.90	1.49	6.05	6	0.0
July--------	89.8	69.3	79.5	99	59	1,223	5.40	2.32	8.47	7	0.0
August------	89.1	68.3	78.7	97	57	1,200	3.38	1.64	4.97	5	0.0
September---	84.1	62.7	73.4	95	44	1,002	3.82	1.59	5.85	5	0.0
October-----	74.7	50.8	62.7	89	33	703	3.68	1.07	6.03	4	0.0
November----	64.5	42.4	53.4	82	23	413	4.83	2.72	6.81	6	0.0
December----	55.9	34.9	45.4	77	12	229	5.45	2.88	7.84	7	0.2
Yearly:											
Average---	72.9	51.0	62.0	---	---	---	---	---	---	---	---
Extreme---	104	-3	---	99	6	---	---	---	---	---	---
Total-----	---	---	---	---	---	8,286	59.13	42.49	72.59	74	0.7

* 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 (40 degrees F).

Table 2.--Freeze Dates in Spring and Fall

[Recorded in the period 1961-1990 at Louisville, Mississippi]

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. 20	Apr. 10
2 years in 10 later than--	Mar. 11	Mar. 24	Apr. 6
5 years in 10 later than--	Feb. 25	Mar. 11	Mar. 28
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 17	Nov. 3	Oct. 26
2 years in 10 earlier than--	Nov. 23	Nov. 8	Oct. 31
5 years in 10 earlier than--	Dec. 5	Nov. 18	Nov. 10

Table 3.--Growing Season

[Recorded in the period 1971-2000 at Louisville, Mississippi]

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	261	230	205
8 years in 10	270	238	212
5 years in 10	289	255	226
2 years in 10	307	272	241
1 year in 10	317	281	248

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
Ab	Ariel silt loam, occasionally flooded	2,111	0.5
Ar	Arkabutla silt loam, frequently flooded	1,401	0.4
FaA	Falkner silt loam, 0 to 2 percent slopes	3,697	0.9
Gu	Guyton silt loam, occasionally flooded	279	*
Jk	Jena-Kirkville complex, occasionally flooded	3,485	0.9
Ke	Kinston loam, frequently flooded	21,771	5.6
KM	Kinston, Mantachie, and Mooreville soils, frequently flooded	26,349	6.7
LaF	Lauderdale fine sandy loam, 15 to 30 percent slopes	1,358	0.3
MaC	Maben silt loam, 2 to 8 percent slopes	2,890	0.7
MaF	Maben silt loam, 15 to 35 percent slopes	14,458	3.7
Mn	Mantachie loam, occasionally flooded	23,409	6.0
Mo	Mantachie loam, frequently flooded	5,394	1.4
Mt	Mathiston silt loam, occasionally flooded	3,557	0.9
OrB2	Ora fine sandy loam, 2 to 5 percent slopes, eroded	4,675	1.2
OrC	Ora fine sandy loam, 0 to 8 percent slopes	1,838	0.5
OrC2	Ora fine sandy loam, 5 to 8 percent slopes, eroded	36,968	9.5
OrD2	Ora fine sandy loam, 8 to 12 percent slopes, eroded	14,273	3.7
Pc	Pits-Udorthents complex	246	*
PrB2	Providence silt loam, 2 to 5 percent slopes, eroded	2,831	0.7
Ro	Rosebloom silt loam, frequently flooded	12,489	3.2
RuB2	Ruston fine sandy loam, 2 to 5 percent slopes, eroded	3,653	0.9
RuC	Ruston fine sandy loam, 0 to 8 percent slopes	5,700	1.5
RuC2	Ruston fine sandy loam, 5 to 8 percent slopes, eroded	10,574	2.7
SaA	Savannah fine sandy loam, 0 to 2 percent slopes	1,206	0.3
SaB2	Savannah fine sandy loam, 2 to 5 percent slopes, eroded	17,272	4.4
SaC2	Savannah fine sandy loam, 5 to 8 percent slopes, eroded	3,172	0.8
SmD	Smithdale fine sandy loam, 8 to 15 percent slopes	13,591	3.5
SmF	Smithdale fine sandy loam, 15 to 40 percent slopes	32,889	8.4
SnF	Smithdale and Sweatman soils, 15 to 45 percent slopes	25,350	6.5
StA	Stough loam, 0 to 2 percent slopes	5,492	1.4
SwB2	Sweatman fine sandy loam, 2 to 5 percent slopes, eroded	2,847	0.7
SwC	Sweatman fine sandy loam, 1 to 8 percent slopes	833	0.2
SwC2	Sweatman fine sandy loam, 5 to 8 percent slopes, eroded	17,081	4.4
SwD	Sweatman fine sandy loam, 8 to 15 percent slopes	791	0.2
SwD2	Sweatman fine sandy loam, 8 to 15 percent slopes, eroded	23,587	6.0
SwF	Sweatman fine sandy loam, 15 to 40 percent slopes	14,809	3.8
Ub	Urban land	225	*
Uo	Urbo silt loam, occasionally flooded	7,087	1.8
W	Water	2,409	0.6
WcB2	Wilcox silty clay loam, 2 to 5 percent slopes, eroded	6,971	1.8
WcC	Wilcox silty clay loam, 1 to 8 percent slopes	1,065	0.3
WcC2	Wilcox silty clay loam, 5 to 8 percent slopes, eroded	2,126	0.5
WcD	Wilcox silty clay loam, 8 to 15 percent slopes	2,882	0.7
WcE	Wilcox silty clay loam, 15 to 25 percent slopes	5,409	1.4
	Total	390,500	100.0

* Less than 0.1 percent.

Table 5.--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]

Map symbol	Map unit name	Farmland Classification
Ab	Ariel silt loam, occasionally flooded	Prime farmland where protected from flooding or not frequently flooded during the growing season
FaA	Falkner silt loam, 0 to 2 percent slopes	All areas are prime farmland
Gu	Guyton silt loam, occasionally flooded	Prime farmland where protected from flooding or not frequently flooded during the growing season
Mn	Mantachie loam, occasionally flooded	Prime farmland where protected from flooding or not frequently flooded during the growing season
Mt	Mathison silt loam, occasionally flooded	Prime farmland where protected from flooding or not frequently flooded during the growing season
OrB2	Ora fine sandy loam, 2 to 5 percent slopes, eroded	All areas are prime farmland
PrB2	Providence silt loam, 2 to 5 percent slopes, eroded	All areas are prime farmland
RuB2	Ruston fine sandy loam, 2 to 5 percent slopes, eroded	All areas are prime farmland
RuC	Ruston fine sandy loam, 0 to 8 percent slopes	All areas are prime farmland
SaA	Savannah fine sandy loam, 0 to 2 percent slopes	All areas are prime farmland
SaB2	Savannah fine sandy loam, 2 to 5 percent slopes, eroded	All areas are prime farmland
StA	Stough loam, 0 to 2 percent slopes	All areas are prime farmland
SwB2	Sweatman fine sandy loam, 2 to 5 percent slopes, eroded	All areas are prime farmland

Table 6.--Land Capability and Yields per Acre of Crops and Pasture

[Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Map symbol and soil name	Land capability	Cotton lint	Improved bermudagrass	Soybeans	Wheat	Corn
		Lbs	*AUM*	*Bu*	*Bu*	*Bu*
Ab:						
Ariel	2w	800	11.0	40	40	110
Ar:						
Arkabutla	4w	---	10.0	20	---	---
FaA:						
Falkner	2w	625	9.5	35	---	75
Gu:						
Guyton	4w	---	---	---	---	---
Jk:						
Jena	3w	---	---	---	---	85
Kirkville	3w	---	---	---	---	85
Ke:						
Kinston	6w	---	---	---	---	---
KM:						
Kinston	5w	---	---	---	---	---
Mantachie	5w	---	---	---	---	---
Mooreville	5w	---	---	---	---	---
Jena	5w	---	---	---	---	---
Quitman	2w	650	10.0	30	35	80
LaF:						
Lauderdale	7e	---	---	---	---	---
MaC:						
Maben	3e	---	7.0	20	25	---
MaF:						
Maben	7e	---	---	---	---	---
Mn:						
Mantachie	3w	650	---	35	40	90
Mo:						
Mantachie	5w	---	---	---	---	---
Mt:						
Mathiston	4w	700	11.0	35	---	95
OrB2:						
Ora	2e	650	8.0	30	35	70
OrC:						
Ora	3e	700	8.5	35	20	70
OrC2:						
Ora	3e	500	7.0	25	---	70

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Cotton lint	Improved bermudagrass	Soybeans	Wheat	Corn
		Lbs	*AUM*	*Bu*	*Bu*	*Bu*
OrD2:						
Ora	4e	---	6.5	---	---	70
Pc:						
Pits	8s	---	---	---	---	---
Udorthents.						---
PrB2:						
Providence	2e	700	9.5	35	---	80
Ro:						
Rosebloom	5w	---	7.0	---	---	---
RuB2:						
Ruston	2e	600	12.0	25	45	65
RuC:						
Ruston	3e	600	12.0	25	45	65
RuC2:						
Ruston	3e	600	12.0	25	45	65
SaA:						
Savannah	2w	700	8.5	35	40	80
SaB2:						
Savannah	2e	650	8.5	35	40	80
SaC2:						
Savannah	3e	550	8.0	25	30	80
SmD:						
Smithdale	4e	400	9.0	25	---	---
SmF:						
Smithdale	7e	---	---	---	---	---
SnF:						
Smithdale	7e	---	---	---	---	---
Sweatman	7e	---	---	---	---	---
StA:						
Stough	2w	725	8.0	25	35	80
SwB2:						
Sweatman	3e	350	---	15	20	50
SwC:						
Sweatman	3e	400	---	20	30	50
SwC2:						
Sweatman	4e	---	---	---	---	50
SwD:						
Sweatman	6e	---	---	---	---	---
SwD2:						
Sweatman	6e	---	---	---	---	50
SwF:						
Sweatman	7e	---	---	---	---	---

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Cotton lint	Improved bermudagrass	Soybeans	Wheat	Corn
		Lbs	*AUM*	*Bu*	*Bu*	*Bu*
Ub:						
Urban land	8s	---	---	---	---	---
Uo:						
Urbo	4w	700	12.0	35	40	95
W:						
Water.						---
WcB2:						
Wilcox	3e	---	---	25	30	40
WcC:						
Wilcox	3e	---	---	25	30	40
WcC2:						
Wilcox	4e	---	---	---	---	---
WcD:						
Wilcox	6e	---	---	---	---	---
WcE:						
Wilcox	7e	---	---	---	---	---

Table 7.--Forestland Management and Productivity

[Only the soils suitable for production of commercial trees are listed]

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
									m3/ha	
Ab:										
Ariel----------	10A	Slight	Slight	Slight	Slight	Moderate	Cherrybark oak------	110	13	Cherrybark oak, eastern cottonwood, loblolly pine, sweetgum, water oak, yellow poplar
							Eastern cottonwood--	115	12	
							Loblolly pine-------	95	10	
							Sweetgum----------	100	10	
							Water oak----------	105	7	
							Yellow poplar-------	110	9	
Ar:										
Arkabutla------	4W	Slight	Severe	Moderate	Slight	Moderate	Nuttall oak---------	110	---	American sycamore, cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum
							Cherrybark oak------	105	4	
							Eastern cottonwood--	110	---	
							Green ash----------	95	4	
							Loblolly pine-------	100	9	
							Sweetgum----------	100	10	
							Water oak----------	100	---	
FaA:										
Falkner--------	8W	Slight	Moderate	Slight	Slight	Moderate	Loblolly pine-------	85	8	Cherrybark oak, loblolly pine, shortleaf pine, sweetgum
							Shortleaf pine------	75	8	
							Sweetgum----------	90	7	
Gu:										
Guyton---------	8W	Slight	Severe	Moderate	Severe	Severe	Cherrybark oak------	---	---	Green ash, loblolly pine, slash pine, water oak
							Green ash----------	---	---	
							Loblolly pine-------	85	8	
							Slash pine----------	90	11	
							Sweetgum----------	---	---	
							Water oak----------	---	---	
							willow oak----------	78	5	

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
									m3/ha	
Jk:										
Jena	11W	Slight	Severe	Moderate	Slight	Moderate	Loblolly pine	100	11	American sycamore, eastern cottonwood, green ash, loblolly pine, slash pine
							Slash pine	---	---	
							Sweetgum	90	7	
							Water oak	80	5	
Kirkville	10W	Slight	Moderate	Severe	Slight	Moderate	Cherrybark oak	100	10	Cherrybark oak, eastern cottonwood, loblolly pine, sweetgum, yellow poplar
							Loblolly pine	95	10	
							Sweetgum	100	10	
							Water oak	100	7	
Ke:										
Kinston	8W	Slight	Severe	Severe	Severe	Severe	Cherrybark oak	95	5	American sycamore, cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum, yellow poplar
							Eastern cottonwood	100	9	
							Loblolly pine	100	11	
							Sweetgum	95	8	
							White oak	90	5	
KM:										
Kinston	9W	Slight	Severe	Severe	---	---	Cherrybark oak	95	4	American sycamore, cherrybark oak, eastern cottonwood, green ash, loblolly pine, slash pine, sweetgum, yellow poplar
							Eastern cottonwood	100	---	
							Loblolly pine	100	9	
							Sweetgum	95	8	
							White oak	90	4	

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
									m3/ha	
KM:										
Mantachie------	10W	Slight	Severe	Severe	Slight	Severe	Cherrybark oak------	100	10	Cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum, yellow poplar
							Eastern cottonwood--	90	7	
							Green ash----------	80	4	
							Loblolly pine-------	98	10	
							Sweetgum----------	95	8	
							Yellow poplar-------	95	7	
Mooreville-----	10W	Slight	Moderate	Severe	Slight	Moderate	Cherrybark oak------	100	10	Cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum, yellow poplar
							Eastern cottonwood--	105	10	
							Green ash----------	80	4	
							Loblolly pine-------	95	10	
							Sweetgum----------	100	10	
							Yellow poplar-------	100	8	
Jena----------	11W	Slight	Severe	Moderate	Slight	Moderate	Loblolly pine-------	100	11	American sycamore, eastern cottonwood, green ash, loblolly pine, slash pine
							Slash pine----------	---	---	
							Sweetgum----------	90	7	
							Water oak----------	80	5	
Quitman--------	10W	Slight	Moderate	Slight	Slight	Moderate	Loblolly pine-------	92	10	American sycamore, loblolly pine, slash pine, sweetgum, yellow poplar
							Slash pine----------	90	11	
							Sweetgum----------	93	8	
LaF:										
Lauderdale-----	6D	Moderate	Moderate	Moderate	Severe	Slight	Loblolly pine-------	70	6	Loblolly pine, shortleaf pine
							Shortleaf pine------	65	7	
MaC:										
Maben----------	8C	Slight	Moderate	Slight	Slight	Slight	Loblolly pine-------	83	8	Loblolly pine, shortleaf pine
							Shortleaf pine------	73	8	
MaF:										
Maben----------	8R	Moderate	Moderate	Slight	Slight	Slight	Loblolly pine-------	83	8	Loblolly pine, shortleaf pine
							Shortleaf pine------	73	8	

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
									m3/ha	
Mn:										
Mantachie------	10W	Slight	Moderate	Moderate	Slight	Severe	Cherrybark oak------	100	10	Cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum, yellow poplar
							Eastern cottonwood--	90	7	
							Green ash----------	80	4	
							Loblolly pine-------	98	10	
							Sweetgum----------	95	8	
							Yellow poplar-------	95	7	
Mo:										
Mantachie------	10W	Slight	Severe	Severe	Slight	Severe	Cherrybark oak------	100	10	Cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum, yellow poplar
							Eastern cottonwood--	90	7	
							Green ash----------	80	4	
							Loblolly pine-------	98	10	
							Sweetgum----------	95	8	
							Yellow poplar-------	95	7	
Mt:										
Mathiston------	10W	Slight	Moderate	Slight	Slight	Moderate	Cherrybark oak------	100	10	American sycamore, cherrybark oak, green ash, loblolly pine, sweetgum
							Green ash----------	90	4	
							Loblolly pine-------	95	10	
							Sweetgum----------	95	8	
OrB2:										
Ora----------	8W	Slight	Slight	Slight	Moderate	Moderate	Loblolly pine-------	83	8	Loblolly pine, slash pine
							Shortleaf pine------	69	8	
							Sweetgum----------	80	6	
OrC:										
Ora----------	8W	Slight	Slight	Slight	Moderate	Moderate	Loblolly pine-------	83	8	Loblolly pine, slash pine
							Shortleaf pine------	69	8	
							Sweetgum----------	80	6	
OrC2:										
Ora----------	8W	Slight	Slight	Slight	Moderate	Moderate	Loblolly pine-------	83	8	Loblolly pine, slash pine
							Shortleaf pine------	69	8	
							Sweetgum----------	80	6	

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
									m3/ha	
OrD2:										
Ora	8W	Slight	Slight	Slight	Moderate	Moderate	Loblolly pine	83	8	Loblolly pine, slash pine
							Shortleaf pine	69	8	
							Sweetgum	80	6	
PrB2:										
Providence	8W	Slight	Slight	Slight	Moderate	Moderate	Loblolly pine	84	8	Shumard's oak, loblolly pine, sweetgum, yellow poplar
							Shortleaf pine	64	7	
							Sweetgum	90	7	
Ro:										
Rosebloom	9W	Slight	Severe	Moderate	Moderate	Severe	American sycamore	80	6	Nuttall oak, cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum, water oak, willow oak
							Nuttall oak	95	---	
							Cherrybark oak	95	9	
							Eastern cottonwood	100	9	
							Green ash	95	4	
							Sweetgum	95	8	
							Water oak	95	6	
							Willow oak	90	6	
RuB2:										
Ruston	8A	Slight	Slight	Slight	Slight	Slight	Hickory	---	---	Loblolly pine
							Loblolly pine	84	8	
							Post oak	---	---	
							Shortleaf pine	75	8	
							Southern red oak	---	---	
							Sweetgum	---	---	
RuC:										
Ruston	8A	Slight	Slight	Slight	Slight	Slight	Hickory	---	---	Loblolly pine
							Loblolly pine	84	8	
							Post oak	---	---	
							Shortleaf pine	75	8	
							Southern red oak	---	---	
							Sweetgum	---	---	
RuC2:										
Ruston	8A	Slight	Slight	Slight	Slight	Slight	Hickory	---	---	Loblolly pine
							Loblolly pine	84	8	
							Post oak	---	---	
							Shortleaf pine	75	8	
							Southern red oak	---	---	
							Sweetgum	---	---	

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
									m3/ha	
SaA:										
Savannah-------	9W	Slight	Moderate	Slight	Moderate	Moderate	Loblolly pine-------	88	9	American sycamore, loblolly pine, slash pine, sweetgum, yellow poplar
							Longleaf pine-------	78	7	
							Slash pine----------	88	11	
							Sweetgum----------	85	6	
SaB2:										
Savannah-------	9W	Slight	Moderate	Slight	Moderate	Moderate	Loblolly pine-------	88	9	American sycamore, loblolly pine, slash pine, sweetgum, yellow poplar
							Longleaf pine-------	78	7	
							Slash pine----------	88	11	
							Sweetgum----------	85	6	
SaC2:										
Savannah-------	9W	Slight	Moderate	Slight	Moderate	Moderate	Loblolly pine-------	88	9	American sycamore, loblolly pine, slash pine, sweetgum, yellow poplar
							Longleaf pine-------	78	7	
							Slash pine----------	88	11	
							Sweetgum----------	85	6	
SmD:										
Smithdale------	8A	Slight	Slight	Slight	Slight	Slight	Loblolly pine-------	80	8	Loblolly pine
							Shortleaf pine------	69	8	
SmF:										
Smithdale------	8R	Moderate	Moderate	Slight	Slight	Slight	Loblolly pine-------	80	8	Loblolly pine
							Shortleaf pine------	69	8	
SnF:										
Smithdale------	8R	Moderate	Moderate	Slight	Slight	Slight	Loblolly pine-------	80	8	Loblolly pine
							Shortleaf pine------	69	8	
Sweatman-------	8C	Moderate	Moderate	Slight	Slight	Slight	Loblolly pine-------	83	8	Loblolly pine, shortleaf pine
							Shortleaf pine------	73	8	

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
									m3/ha	
StA:										
Stough---------	9W	Slight	Moderate	Slight	Moderate	Severe	Cherrybark oak------	85	7	Loblolly pine, slash pine
							Loblolly pine-------	90	9	
							Slash pine----------	86	11	
							Sweetgum----------	85	6	
							Water oak----------	80	5	
SwB2:										
Sweatman-------	8C	Slight	Moderate	Slight	Slight	Slight	Loblolly pine-------	83	8	Loblolly pine, shortleaf pine
							Shortleaf pine------	73	8	
SwC:										
Sweatman-------	8C	Slight	Moderate	Slight	Slight	Slight	Loblolly pine-------	83	8	Loblolly pine, shortleaf pine
							Shortleaf pine------	73	8	
SwC2:										
Sweatman-------	8C	Slight	Moderate	Slight	Slight	Slight	Loblolly pine-------	83	8	Loblolly pine, shortleaf pine
							Shortleaf pine------	73	8	
SwD:										
Sweatman-------	8C	Slight	Moderate	Slight	Slight	Slight	Loblolly pine-------	83	8	Loblolly pine, shortleaf pine
							Shortleaf pine------	73	8	
SwD2:										
Sweatman-------	8C	Slight	Moderate	Slight	Slight	Slight	Loblolly pine-------	83	8	Loblolly pine, shortleaf pine
							Shortleaf pine------	73	8	
SwF:										
Sweatman-------	8C	Moderate	Moderate	Slight	Slight	Slight	Loblolly pine-------	83	8	Loblolly pine, shortleaf pine
							Shortleaf pine------	73	8	
Uo:										
Urbo----------	10W	Slight	Moderate	Moderate	Moderate	Moderate	Cherrybark oak------	99	10	American sycamore, eastern cottonwood, loblolly pine, sweetgum, yellow poplar
							Eastern cottonwood--	108	11	
							Green ash----------	93	4	
							Sweetgum----------	98	9	
WcB2:										
Wilcox---------	8C	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine-------	81	8	Loblolly pine
							Shortleaf pine------	68	7	
							Slash pine----------	85	11	

Table 7.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
									m3/ha	
WcC:										
Wilcox---------	8C	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine-------	81	8	Loblolly pine
							Shortleaf pine------	68	7	
							Slash pine----------	85	11	
WcC2:										
Wilcox---------	8C	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine-------	81	8	Loblolly pine
							Shortleaf pine------	68	7	
							Slash pine----------	85	11	
WcD:										
Wilcox---------	8C	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine-------	81	8	Loblolly pine
							Shortleaf pine------	68	7	
							Slash pine----------	85	11	
WcE:										
Wilcox---------	8C	Moderate	Moderate	Moderate	Slight	Moderate	Loblolly pine-------	81	8	Loblolly pine
							Shortleaf pine------	68	7	
							Slash pine----------	85	11	

Table 8.--Recreation Site Development

[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 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ab:								
Ariel----------	Very limited		Slightly limited		Moderately limited		Not limited	
	~flooding (very limited)	1.00	~percs slowly (slightly limited)	0.15	~flooding (moderately limited)	0.60		
	~percs slowly (slightly limited)	0.15			~percs slowly (slightly limited)	0.15		
Ar:								
Arkabutla----------	Very limited		Limited		Very limited		Limited	
	~flooding (very limited)	1.00	~wetness (limited)	0.81	~flooding (very limited)	1.00	~wetness (limited)	0.81
	~wetness (very limited)	1.00	~flooding (moderately limited)	0.60	~wetness (very limited)	1.00	~flooding (moderately limited)	0.60
FaA:								
Falkner----------	Moderately limited		Moderately limited		Moderately limited		Slightly limited	
	~wetness (moderately limited)	0.50	~percs slowly (moderately limited)	0.40	~wetness (moderately limited)	0.50	~wetness (slightly limited)	0.28
	~percs slowly (moderately limited)	0.40	~wetness (slightly limited)	0.28	~percs slowly (moderately limited)	0.40		
Gu:								
Guyton----------	Very limited		Very limited		Very limited		Very limited	
	~ponded (wetness) (very limited)	1.00	~ponded (wetness) (very limited)	1.00	~ponded (wetness) (very limited)	1.00	~ponded (wetness) (very limited)	1.00
	~flooding (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~wetness (very limited)	1.00	~percs slowly (moderately limited)	0.40	~flooding (moderately limited)	0.60		
Jk:								
Jena----------	Very limited		Moderately limited		Very limited		Moderately limited	
	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60	~flooding (very limited)	1.00	~flooding (moderately limited)	0.60
Kirkville----------	Very limited		Slightly limited		Moderately limited		Slightly limited	
	~flooding (very limited)	1.00	~wetness (slightly limited)	0.28	~flooding (moderately limited)	0.60	~wetness (slightly limited)	0.28
	~wetness (moderately limited)	0.50			~wetness (moderately limited)	0.50		

Table 8.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ke:								
Kinston	Very limited		Very limited		Very limited		Very limited	
	~flooding	1.00	~wetness	1.00	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~wetness	1.00	~flooding	0.60	~wetness	1.00	~flooding	0.60
	(very limited)		(moderately limited)		(very limited)		(moderately limited)	
KM:								
Kinston	Very limited		Very limited		Very limited		Very limited	
	~flooding	1.00	~wetness	1.00	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
	~wetness	1.00	~flooding	0.60	~wetness	1.00	~flooding	0.60
	(very limited)		(moderately limited)		(very limited)		(moderately limited)	
Mantachie	Very limited		Limited		Very limited		Limited	
	~flooding	1.00	~wetness	0.81	~flooding	1.00	~wetness	0.81
	(very limited)		(limited)		(very limited)		(limited)	
	~wetness	1.00	~flooding	0.60	~wetness	1.00	~flooding	0.60
	(very limited)		(moderately limited)		(very limited)		(moderately limited)	
Mooreville	Very limited		Moderately limited		Very limited		Moderately limited	
	~flooding	1.00	~flooding	0.60	~flooding	1.00	~flooding	0.60
	(very limited)		(moderately limited)		(very limited)		(moderately limited)	
	~wetness	0.35	~wetness	0.13	~wetness	0.35	~wetness	0.13
	(moderately limited)		(slightly limited)		(moderately limited)		(slightly limited)	
LaF:								
Lauderdale	Very limited		Very limited		Very limited		Moderately limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	0.58
	(very limited)		(very limited)		(very limited)		(moderately limited)	
	~percs slowly	1.00	~percs slowly	1.00	~percs slowly	1.00		
	(very limited)		(very limited)		(very limited)			
	~shallow to bedrock	0.90	~shallow to bedrock	0.90	~shallow to bedrock	1.00		
	(limited)		(limited)		(very limited)			
MaC:								
Maben	Slightly limited		Slightly limited		Limited		Not limited	
	~percs slowly	0.15	~percs slowly	0.15	~slope	0.78		
	(slightly limited)		(slightly limited)		(limited)			
					~percs slowly	0.15		
					(slightly limited)			

Table 8.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MaF:								
Maben	Very limited		Very limited		Very limited		Limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	0.92
	(very limited)		(very limited)		(very limited)		(limited)	
	~percs slowly	0.15	~percs slowly	0.15	~percs slowly	0.15		
	(slightly limited)		(slightly limited)		(slightly limited)			
Mn:								
Mantachie	Very limited		Limited		Very limited		Limited	
	~flooding	1.00	~wetness	0.81	~wetness	1.00	~wetness	0.81
	(very limited)		(limited)		(very limited)		(limited)	
	~wetness	1.00			~flooding	0.60		
	(very limited)				(moderately limited)			
Mo:								
Mantachie	Very limited		Limited		Very limited		Limited	
	~flooding	1.00	~wetness	0.81	~flooding	1.00	~wetness	0.81
	(very limited)		(limited)		(very limited)		(limited)	
	~wetness	1.00	~flooding	0.60	~wetness	1.00	~flooding	0.60
	(very limited)		(moderately limited)		(very limited)		(moderately limited)	
Mt:								
Mathiston	Very limited		Slightly limited		Moderately limited		Slightly limited	
	~flooding	1.00	~wetness	0.28	~flooding	0.60	~wetness	0.28
	(very limited)		(slightly limited)		(moderately limited)		(slightly limited)	
	~wetness	0.50			~wetness	0.50		
	(moderately limited)				(moderately limited)			
OrB2:								
Ora	Slightly limited		Slightly limited		Moderately limited		Not limited	
	~percs slowly	0.15	~percs slowly	0.15	~slope	0.40		
	(slightly limited)		(slightly limited)		(moderately limited)			
					~percs slowly	0.15		
					(slightly limited)			
OrC:								
Ora	Slightly limited		Slightly limited		Moderately limited		Not limited	
	~percs slowly	0.15	~percs slowly	0.15	~slope	0.40		
	(slightly limited)		(slightly limited)		(moderately limited)			
					~percs slowly	0.15		
					(slightly limited)			

Table 8.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
OrC2:								
Ora	Slightly limited ~percs slowly (slightly limited)	0.15	Slightly limited ~percs slowly (slightly limited)	0.15	Very limited ~slope (very limited) ~percs slowly (slightly limited)	1.00 0.15	Not limited	
OrD2:								
Ora	Slightly limited ~slope (slightly limited) ~percs slowly (slightly limited)	0.16 0.15	Slightly limited ~slope (slightly limited) ~percs slowly (slightly limited)	0.16 0.15	Very limited ~slope (very limited) ~percs slowly (slightly limited)	1.00 0.15	Not limited	
Pc:								
Pits.								
Udorthents.								
PrB2:								
Providence	Moderately limited ~wetness (moderately limited)	0.35	Slightly limited ~wetness (slightly limited)	0.13	Moderately limited ~slope (moderately limited) ~wetness (moderately limited)	0.40 0.35	Slightly limited ~wetness (slightly limited)	0.13
Ro:								
Rosebloom	Very limited ~flooding (very limited) ~wetness (very limited)	1.00 1.00	Very limited ~wetness (very limited) ~flooding (moderately limited)	1.00 0.60	Very limited ~flooding (very limited) ~wetness (very limited)	1.00 1.00	Very limited ~wetness (very limited) ~flooding (moderately limited)	1.00 0.60
RuB2:								
Ruston	Not limited		Not limited		Moderately limited ~slope (moderately limited)	0.40	Not limited	
RuC:								
Ruston	Not limited		Not limited		Moderately limited ~slope (moderately limited)	0.40	Not limited	
RuC2:								
Ruston	Not limited		Not limited		Very limited ~slope (very limited)	1.00	Not limited	

Table 8.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SaA:								
Savannah----------	Moderately limited		Slightly limited		Moderately limited		Slightly limited	
	~wetness	0.35	~percs slowly	0.15	~wetness	0.35	~wetness	0.13
	(moderately limited)		(slightly limited)		(moderately limited)		(slightly limited)	
	~percs slowly	0.15	~wetness	0.13	~percs slowly	0.15		
	(slightly limited)		(slightly limited)		(slightly limited)			
SaB2:								
Savannah----------	Moderately limited		Slightly limited		Moderately limited		Slightly limited	
	~wetness	0.35	~percs slowly	0.15	~slope	0.40	~wetness	0.13
	(moderately limited)		(slightly limited)		(moderately limited)		(slightly limited)	
	~percs slowly	0.15	~wetness	0.13	~wetness	0.35		
	(slightly limited)		(slightly limited)		(moderately limited)			
					~percs slowly	0.15		
					(slightly limited)			
SaC2:								
Savannah----------	Moderately limited		Slightly limited		Very limited		Slightly limited	
	~wetness	0.35	~percs slowly	0.15	~slope	1.00	~wetness	0.13
	(moderately limited)		(slightly limited)		(very limited)		(slightly limited)	
	~percs slowly	0.15	~wetness	0.13	~wetness	0.35		
	(slightly limited)		(slightly limited)		(moderately limited)			
					~percs slowly	0.15		
					(slightly limited)			
SmD:								
Smithdale----------	Limited		Limited		Very limited		Not limited	
	~slope	0.63	~slope	0.63	~slope	1.00		
	(limited)		(limited)		(very limited)			
SmF:								
Smithdale----------	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
SnF:								
Smithdale----------	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)		(very limited)	
Sweatman----------	Very limited		Very limited		Very limited		Limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	0.83
	(very limited)		(very limited)		(very limited)		(limited)	
	~percs slowly	0.15	~percs slowly	0.15	~percs slowly	0.15		
	(slightly limited)		(slightly limited)		(slightly limited)			

Table 8.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
StA:								
Stough	Very limited		Limited		Very limited		Limited	
	~wetness	1.00	~wetness	0.81	~wetness	1.00	~wetness	0.81
	(very limited)		(limited)		(very limited)		(limited)	
	~percs slowly	0.15	~percs slowly	0.15	~percs slowly	0.15		
	(slightly limited)		(slightly limited)		(slightly limited)			
SwB2:								
Sweatman	Slightly limited		Slightly limited		Moderately limited		Not limited	
	~percs slowly	0.15	~percs slowly	0.15	~slope	0.40		
	(slightly limited)		(slightly limited)		(moderately limited)			
					~percs slowly	0.15		
					(slightly limited)			
SwC:								
Sweatman	Slightly limited		Slightly limited		Limited		Not limited	
	~percs slowly	0.15	~percs slowly	0.15	~slope	0.78		
	(slightly limited)		(slightly limited)		(limited)			
					~percs slowly	0.15		
					(slightly limited)			
SwC2:								
Sweatman	Slightly limited		Slightly limited		Very limited		Not limited	
	~percs slowly	0.15	~percs slowly	0.15	~slope	1.00		
	(slightly limited)		(slightly limited)		(very limited)			
					~percs slowly	0.15		
					(slightly limited)			
SwD:								
Sweatman	Limited		Limited		Very limited		Not limited	
	~slope	0.63	~slope	0.63	~slope	1.00		
	(limited)		(limited)		(very limited)			
	~percs slowly	0.15	~percs slowly	0.15	~percs slowly	0.15		
	(slightly limited)		(slightly limited)		(slightly limited)			
SwD2:								
Sweatman	Limited		Limited		Very limited		Not limited	
	~slope	0.63	~slope	0.63	~slope	1.00		
	(limited)		(limited)		(very limited)			
	~percs slowly	0.15	~percs slowly	0.15	~percs slowly	0.15		
	(slightly limited)		(slightly limited)		(slightly limited)			

Table 8.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SwF:								
Sweatman----------	Very limited		Very limited		Very limited		Limited	
	~slope	1.00	~slope	1.00	~slope	1.00	~slope	0.92
	(very limited)		(very limited)		(very limited)		(limited)	
	~percs slowly	0.15	~percs slowly	0.15	~percs slowly	0.15		
	(slightly limited)		(slightly limited)		(slightly limited)			
Ub:								
Urban land.								
Uo:								
Urbo----------	Very limited		Very limited		Very limited		Limited	
	~flooding	1.00	~percs slowly	1.00	~percs slowly	1.00	~wetness	0.60
	(very limited)		(very limited)		(very limited)		(limited)	
	~percs slowly	1.00	~wetness	0.60	~wetness	0.96		
	(very limited)		(limited)		(limited)			
	~wetness	0.96			~flooding	0.60		
	(limited)				(moderately limited)			
W:								
Water.								
WcB2:								
Wilcox----------	Very limited		Very limited		Very limited		Slightly limited	
	~percs slowly	1.00	~percs slowly	1.00	~percs slowly	1.00	~wetness	0.13
	(very limited)		(very limited)		(very limited)		(slightly limited)	
	~wetness	0.35	~wetness	0.13	~slope	0.40		
	(moderately limited)		(slightly limited)		(moderately limited)			
					~wetness	0.35		
					(moderately limited)			
WcC:								
Wilcox----------	Very limited		Very limited		Very limited		Slightly limited	
	~percs slowly	1.00	~percs slowly	1.00	~percs slowly	1.00	~wetness	0.13
	(very limited)		(very limited)		(very limited)		(slightly limited)	
	~wetness	0.35	~wetness	0.13	~slope	0.78		
	(moderately limited)		(slightly limited)		(limited)			
					~wetness	0.35		
					(moderately limited)			

Table 8.--Recreation Site Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds		Paths and trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WcC2:								
Wilcox----------	Very limited		Very limited		Very limited		Slightly limited	
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~wetness (slightly limited)	0.13
	~wetness (moderately limited)	0.35	~wetness (slightly limited)	0.13	~slope (very limited)	1.00		
					~wetness (moderately limited)	0.35		
WcD:								
Wilcox----------	Very limited		Very limited		Very limited		Very limited	
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~slope (very limited)	1.00	~erodes easily (very limited)	1.00
	~slope (limited)	0.63	~slope (limited)	0.63	~percs slowly (very limited)	1.00	~wetness (slightly limited)	0.13
	~wetness (moderately limited)	0.35	~wetness (slightly limited)	0.13	~wetness (moderately limited)	0.35		
WcE:								
Wilcox----------	Very limited		Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00	~erodes easily (very limited)	1.00
	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~percs slowly (very limited)	1.00	~slope (moderately limited)	0.50
	~wetness (moderately limited)	0.35	~wetness (slightly limited)	0.13	~wetness (moderately limited)	0.35	~wetness (slightly limited)	0.13

Table 9.--Wildlife Habitat

[See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable]

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Forestland wildlife	Wetland wildlife
Ab:											
Ariel	Good	Good	Good	Good	Good	---	Poor	Very poor	Good	Good	Very poor
Ar:											
Arkabutla	Poor	Fair	Fair	Good	Good	---	Fair	Fair	Fair	Good	Fair
FaA:											
Falkner	Good	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Gu:											
Guyton	Fair	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
Jk:											
Jena	Poor	Fair	Fair	Good	Good	Fair	Poor	Poor	Fair	Good	Poor
Kirkville	Poor	Good	Good	Good	---	---	Poor	Poor	Fair	Good	Poor
Ke:											
Kinston	Very poor	Poor	Poor	Poor	Poor	---	Good	Fair	Poor	Poor	Fair
KM:											
Kinston	Very poor	Poor	Poor	Poor	Poor	---	Good	Fair	Poor	Poor	Fair
Mantachie	Poor	Fair	Fair	Good	---	---	Fair	Fair	Fair	Good	Fair
Mooreville	Poor	Fair	Fair	Good	---	Good	Poor	Poor	Fair	Good	Poor
LaF:											
Lauderdale	Poor	Poor	Fair	Fair	---	Fair	Very poor	Very poor	Poor	Fair	Very poor
MaC:											
Maben	Fair	Good	Good	Good	Good	---	Poor	Very poor	Good	Good	Very poor
MaF:											
Maben	Very poor	Fair	Fair	Good	Good	---	Very poor	Very poor	Poor	Good	Very poor
Mn:											
Mantachie	Fair	Good	Good	Good	---	---	Fair	Fair	Good	Good	Fair
Mo:											
Mantachie	Poor	Fair	Fair	Good	---	---	Fair	Fair	Fair	Good	Fair
Mt:											
Mathiston	Fair	Good	Good	Good	Good	---	Fair	Fair	Good	Good	Fair
OrB2:											
Ora	Good	Good	Good	Good	---	---	Poor	Poor	Good	Good	Poor
OrC:											
Ora	Good	Good	Good	Good	---	---	Poor	Poor	Good	Good	Poor

Table 9.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Forestland wildlife	Wetland wildlife
OrC2:											
Ora----------	Fair	Good	Good	Good	---	---	Very poor	Very poor	Good	Good	Very poor
OrD2:											
Ora----------	Fair	Good	Good	Good	---	---	Very poor	Very poor	Good	Good	Very poor
Pc:											
Pits.											
Udorthents.											
PrB2:											
Providence---	Good	Good	Good	Good	Good	---	Poor	Very poor	Good	Good	Very poor
Ro:											
Rosebloom----	Poor	Fair	Fair	Fair	---	Fair	Good	Good	Fair	Fair	Good
RuB2:											
Ruston-------	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
RuC:											
Ruston-------	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
RuC2:											
Ruston-------	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
SaA:											
Savannah-----	Good	Good	Good	Good	Good	---	Poor	Very poor	Good	Good	Very poor
SaB2:											
Savannah-----	Good	Good	Good	Good	Good	---	Poor	Very poor	Good	Good	Very poor
SaC2:											
Savannah-----	Fair	Good	Good	Good	Good	---	Very poor	Very poor	Good	Good	Very poor
SmD:											
Smithdale----	Fair	Good	Good	Good	Good	---	Very poor	Very poor	Good	Good	Very poor
SmF:											
Smithdale----	Very poor	Fair	Good	Good	Good	---	Very poor	Very poor	Fair	Good	Very poor
SnF:											
Smithdale----	Very poor	Fair	Good	Good	Good	---	Very poor	Very poor	Fair	Good	Very poor
Sweatman-----	Poor	Fair	Good	Good	---	---	Very poor	Very poor	Fair	Good	Very poor
StA:											
Stough-------	Fair	Good	Good	Good	Good	---	Fair	Fair	Good	Good	Fair

Table 9.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Forestland wildlife	Wetland wildlife
SwB2:											
Sweatman-----	Good	Good	Good	Good	---	---	Poor	Very poor	Good	Good	Very poor
SwC:											
Sweatman-----	Good	Good	Good	Good	---	---	Poor	Very poor	Good	Good	Very poor
SwC2:											
Sweatman-----	Fair	Good	Good	Good	---	---	Poor	Very poor	Good	Good	Very poor
SwD:											
Sweatman-----	Fair	Good	Good	Good	---	---	Poor	Very poor	Good	Good	Very poor
SwD2:											
Sweatman-----	Fair	Good	Good	Good	---	---	Poor	Very poor	Good	Good	Very poor
SwF:											
Sweatman-----	Very poor	Fair	Good	Good	---	---	Very poor	Very poor	Fair	Good	Very poor
Ub:											
Urban land.											
Uo:											
Urbo---------	Fair	Good	Fair	Good	---	Good	Good	Good	Fair	Good	Good
W:											
Water.											
WcB2:											
Wilcox-------	Fair	Good	Good	Good	Good	---	Fair	Poor	Good	Good	Poor
WcC:											
Wilcox-------	Fair	Good	Good	Good	Good	---	Fair	Poor	Good	Good	Poor
WcC2:											
Wilcox-------	Poor	Fair	Good	Good	Good	---	Very poor	Very poor	Fair	Good	Very poor
WcD:											
Wilcox-------	Poor	Fair	Good	Good	Good	---	Very poor	Very poor	Fair	Good	Very poor
WcE:											
Wilcox-------	Poor	Fair	Good	Good	Good	---	Very poor	Very poor	Fair	Good	Very poor

Table 10a.--Building Site Development (Part 1)

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ab:							
Ariel----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.90		
Ar:							
Arkabutla----------	90	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
FaA:							
Falkner----------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39	Shrink-swell	1.00	Depth to	0.39
Gu:							
Guyton----------	90	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
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Jk:							
Jena----------	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Kirkville----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
Ke:							
Kinston----------	90	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
KM:							
Kinston----------	35	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
Mantachie----------	30	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 10a.--Building Site Development (Part 1)--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
KM:							
Mooreville----------	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.07	Shrink-swell	0.50	Depth to saturated zone	0.07
LaF:							
Lauderdale----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
MaC:							
Maben----------	90	Very limited		Not limited		Very limited	
		Shrink-swell	1.00			Shrink-swell	1.00
						Slope	0.12
MaF:							
Maben----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00			Shrink-swell	1.00
Mn:							
Mantachie----------	90	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
Mo:							
Mantachie----------	90	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
Mt:							
Mathiston----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
OrB2:							
Ora----------	90	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.99		
OrC:							
Ora----------	90	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.99		
OrC2:							
Ora----------	90	Not limited		Somewhat limited		Somewhat limited	
				Depth to saturated zone	0.99	Slope	0.88
OrD2:							
Ora----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Depth to saturated zone	0.99	Slope	1.00
				Slope	0.16		

Table 10a.--Building Site Development (Part 1)--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
Pc:							
Pits	60	Not rated		Not rated		Not rated	
Udorthents	40	Not rated		Not rated		Not rated	
PrB2:							
Providence	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.07	Depth to saturated zone	1.00	Depth to saturated zone	0.07
Ro:							
Rosebloom	90	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
RuB2:							
Ruston	90	Not limited		Not limited		Not limited	
RuC:							
Ruston	90	Not limited		Not limited		Not limited	
RuC2:							
Ruston	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
SaA:							
Savannah	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.07	Depth to saturated zone	1.00	Depth to saturated zone	0.07
SaB2:							
Savannah	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.07	Depth to saturated zone	1.00	Depth to saturated zone	0.07
SaC2:							
Savannah	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.07	Depth to saturated zone	1.00	Slope	0.88
						Depth to saturated zone	0.07
SmD:							
Smithdale	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
SmF:							
Smithdale	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
SnF:							
Smithdale	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Sweatman	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 10a.--Building Site Development (Part 1)--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
StA:							
Stough	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
SwB2:							
Sweatman	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
SwC:							
Sweatman	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12
SwC2:							
Sweatman	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.88
						Shrink-swell	0.50
SwD:							
Sweatman	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
SwD2:							
Sweatman	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
SwF:							
Sweatman	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Ub:							
Urban land	95	Not rated		Not rated		Not rated	
Uo:							
Urbo	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
W:							
Water	100	Not rated		Not rated		Not rated	
WcB2:							
Wilcox	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.07	Shrink-swell	1.00	Depth to saturated zone	0.07
WcC:							
Wilcox	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.07	Shrink-swell	1.00	Slope	0.12
						Depth to saturated zone	0.07

Table 10a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WcC2:							
Wilcox----------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.07	Shrink-swell	1.00	Slope	0.88
						Depth to saturated zone	0.07
WcD:							
Wilcox----------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.63	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.07	Slope	0.63	Depth to saturated zone	0.07
WcE:							
Wilcox----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.07	Shrink-swell	1.00	Depth to saturated zone	0.07

Table 10b.--Building Site Development (Part 2)

[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
Ab:							
Ariel----------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.90	Flooding	0.60
				Flooding	0.60		
				Cutbanks cave	0.10		
Ar:							
Arkabutla----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	0.94	Flooding	0.80	Depth to saturated zone	0.94
				Cutbanks cave	0.10		
FaA:							
Falkner----------	90	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Too clayey	0.41		
				Cutbanks cave	0.10		
Gu:							
Guyton----------	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
		Flooding	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	0.60	Flooding	0.60
				Cutbanks cave	0.10		
Jk:							
Jena----------	50	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.80	Flooding	1.00
				Cutbanks cave	0.10		
Kirkville----------	30	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Depth to saturated zone	0.19	Flooding	0.60	Depth to saturated zone	0.19
				Cutbanks cave	0.10		
Ke:							
Kinston----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
				Cutbanks cave	0.10		
KM:							
Kinston----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
				Cutbanks cave	0.10		

Table 10b.--Building Site Development (Part 2)--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
KM:							
Mantachie----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	0.94	Flooding	0.80	Depth to saturated zone	0.94
				Cutbanks cave	0.10		
Mooreville----------	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Shrink-swell	0.50	Flooding	0.80	Depth to saturated zone	0.03
		Depth to saturated zone	0.03	Cutbanks cave	0.10		
LaF:							
Lauderdale----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00	Slope	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Droughty	1.00
						Depth to bedrock	1.00
MaC:							
Maben----------	90	Very limited		Somewhat limited		Not limited	
		Shrink-swell	1.00	Too clayey	0.12		
MaF:							
Maben----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	0.12		
Mn:							
Mantachie----------	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
		Depth to saturated zone	0.94	Flooding	0.60	Flooding	0.60
				Cutbanks cave	0.10		
Mo:							
Mantachie----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	0.94	Flooding	0.80	Depth to saturated zone	0.94
				Cutbanks cave	0.10		
Mt:							
Mathiston----------	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Depth to saturated zone	0.19	Flooding	0.60	Depth to saturated zone	0.19
				Cutbanks cave	0.10		
OrB2:							
Ora----------	90	Not limited		Somewhat limited		Somewhat limited	
				Depth to saturated zone	0.99	Depth to cemented pan	0.42
				Cutbanks cave	0.10		
OrC:							
Ora----------	90	Not limited		Somewhat limited		Somewhat limited	
				Depth to saturated zone	0.99	Depth to cemented pan	0.42
				Cutbanks cave	0.10		

Table 10b.--Building Site Development (Part 2)--Continued

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
OrC2:							
Ora----------	90	Not limited		Somewhat limited		Somewhat limited	
				Depth to saturated zone	0.99	Depth to cemented pan	0.42
				Cutbanks cave	0.10		
OrD2:							
Ora----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Depth to saturated zone	0.99	Depth to cemented pan	0.42
				Slope	0.16	Slope	0.16
				Cutbanks cave	0.10		
Pc:							
Pits----------	60	Not rated		Not rated		Not rated	
Udorthents----------	40	Not rated		Not rated		Not rated	
PrB2:							
Providence----------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.03	Depth to saturated zone	1.00	Depth to saturated zone	0.03
				Cutbanks cave	0.10		
Ro:							
Rosebloom----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
				Cutbanks cave	0.10		
RuB2:							
Ruston----------	90	Not limited		Somewhat limited		Not limited	
				Cutbanks cave	0.10		
RuC:							
Ruston----------	90	Not limited		Somewhat limited		Not limited	
				Cutbanks cave	0.10		
RuC2:							
Ruston----------	90	Not limited		Somewhat limited		Not limited	
				Cutbanks cave	0.10		
SaA:							
Savannah----------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.03	Depth to saturated zone	1.00	Depth to saturated zone	0.03
				Cutbanks cave	0.10		
SaB2:							
Savannah----------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.03	Depth to saturated zone	1.00	Depth to saturated zone	0.03
				Cutbanks cave	0.10		
SaC2:							
Savannah----------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.03	Depth to saturated zone	1.00	Depth to saturated zone	0.03
				Cutbanks cave	0.10		

Table 10b.--Building Site Development (Part 2)--Continued

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
SmD:							
Smithdale----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
				Cutbanks cave	0.10		
SmF:							
Smithdale----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		
SnF:							
Smithdale----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10		
Sweatman----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.12		
				Cutbanks cave	0.10		
StA:							
Stough----------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.94	Depth to saturated zone	1.00	Depth to saturated zone	0.94
				Cutbanks cave	0.10	Droughty	0.01
SwB2:							
Sweatman----------	90	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Too clayey	0.12		
				Cutbanks cave	0.10		
SwC:							
Sweatman----------	90	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Too clayey	0.12		
				Cutbanks cave	0.10		
SwC2:							
Sweatman----------	90	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Too clayey	0.12		
				Cutbanks cave	0.10		
SwD:							
Sweatman----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Shrink-swell	0.50	Too clayey	0.12		
				Cutbanks cave	0.10		
SwD2:							
Sweatman----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Shrink-swell	0.50	Too clayey	0.12		
				Cutbanks cave	0.10		
SwF:							
Sweatman----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Too clayey	0.12		
				Cutbanks cave	0.10		

Table 10b.--Building Site Development (Part 2)--Continued

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
Ub:							
Urban Land----------	95	Not rated		Not rated		Not rated	
Uo:							
Urbo----------	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Flooding	0.60	Flooding	0.60
		Shrink-swell	0.50	Too clayey	0.12		
				Cutbanks cave	0.10		
W:							
Water----------	100	Not rated		Not rated		Not rated	
WcB2:							
Wilcox----------	90	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Depth to saturated zone	0.03	Cutbanks cave	1.00		
				Too clayey	0.88		
WcC:							
Wilcox----------	90	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Depth to saturated zone	0.03	Cutbanks cave	1.00		
				Too clayey	0.88		
WcC2:							
Wilcox----------	90	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Depth to saturated zone	0.03	Cutbanks cave	1.00		
				Too clayey	0.88		
WcD:							
Wilcox----------	90	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Slope	0.63
		Slope	0.63	Cutbanks cave	1.00	Depth to saturated zone	0.03
		Depth to saturated zone	0.03	Too clayey	0.88		
				Slope	0.63		
WcE:							
Wilcox----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
		Depth to saturated zone	0.03	Cutbanks cave	1.00		
				Too clayey	0.88		

Table 11a.--Sanitary Facilities (Part 1)

[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 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Ab:				
Ariel----------	Very limited		Very limited	
	~flooding	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~wetness	0.89	~wetness	1.00
	(limited)		(very limited)	
	~percs slowly	0.73		
	(limited)			
Ar:				
Arkabutla------	Very limited		Very limited	
	~wetness	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	
FaA:				
Falkner--------	Very limited		Very limited	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.93		
	(limited)			
Gu:				
Guyton---------	Very limited		Very limited	
	~ponded (wetness)	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~flooding	1.00	~ponded (wetness)	1.00
	(very limited)		(very limited)	
Jk:				
Jena----------	Very limited		Very limited	
	~flooding	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	1.00
	(slightly limited)		(very limited)	
Kirkville------	Very limited		Very limited	
	~wetness	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	

Table 11a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Ke:				
Kinston--------	Very limited		Very limited	
	~wetness	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	
KM:				
Kinston--------	Very limited		Very limited	
	~wetness	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	
Mantachie------	Very limited		Very limited	
	~wetness	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	
Mooreville-----	Very limited		Very limited	
	~wetness	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	
LaF:				
Lauderdale-----	Very limited		Very limited	
	~depth to bedrock	1.00	~slope	1.00
	(very limited)		(very limited)	
	~slope	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)	
MaC:				
Maben----------	Limited		Limited	
	~percs slowly	0.73	~slope	0.66
	(limited)		(limited)	
MaF:				
Maben----------	Very limited		Very limited	
	~slope	1.00	~slope	1.00
	(very limited)		(very limited)	
	~percs slowly	0.73		
	(limited)			
Mn:				
Mantachie------	Very limited		Very limited	
	~wetness	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	

Table 11a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Mo:				
Mantachie------	Very limited		Very limited	
	~wetness	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	
Mt:				
Mathiston------	Very limited		Very limited	
	~wetness	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	
OrB2:				
Ora----------	Very limited		Very limited	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
			~seepage	0.53
			(moderately limited)	
			~slope	0.31
			(moderately limited)	
OrC:				
Ora----------	Very limited		Very limited	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
			~seepage	0.53
			(moderately limited)	
			~slope	0.31
			(moderately limited)	
OrC2:				
Ora----------	Very limited		Very limited	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
			~slope	1.00
			(very limited)	
			~seepage	0.53
			(moderately limited)	
OrD2:				
Ora----------	Very limited		Very limited	
	~wetness	1.00	~slope	1.00
	(very limited)		(very limited)	
	~slope	0.16	~wetness	1.00
	(slightly limited)		(very limited)	
			~seepage	0.53
			(moderately limited)	
Pc:				
Pits.				
Udorthents.				

Table 11a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
PrB2:				
Providence-----	Very limited		Very limited	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.73	~seepage	0.53
	(limited)		(moderately limited)	
			~slope	0.31
			(moderately limited)	
Ro:				
Rosebloom------	Very limited		Very limited	
	~wetness	1.00	~flooding	1.00
	(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	
RuB2:				
Ruston---------	Slightly limited		Moderately limited	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	
			~slope	0.31
			(moderately limited)	
RuC:				
Ruston---------	Slightly limited		Moderately limited	
	~percs slowly	0.24	~seepage	0.53
	(slightly limited)		(moderately limited)	
			~slope	0.31
			(moderately limited)	
RuC2:				
Ruston---------	Slightly limited		Very limited	
	~percs slowly	0.24	~slope	1.00
	(slightly limited)		(very limited)	
			~seepage	0.53
			(moderately limited)	
SaA:				
Savannah-------	Very limited		Very limited	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.73	~seepage	0.53
	(limited)		(moderately limited)	
SaB2:				
Savannah-------	Very limited		Very limited	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.73	~seepage	0.53
	(limited)		(moderately limited)	
			~slope	0.31
			(moderately limited)	

Table 11a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
SaC2:				
Savannah-------	Very limited		Very limited	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.73	~slope	1.00
	(limited)		(very limited)	
			~seepage	0.53
			(moderately limited)	
SmD:				
Smithdale------	Limited		Very limited	
	~slope	0.63	~slope	1.00
	(limited)		(very limited)	
	~percs slowly	0.24	~seepage	1.00
	(slightly limited)		(very limited)	
SmF:				
Smithdale------	Very limited		Very limited	
	~slope	1.00	~slope	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	1.00
	(slightly limited)		(very limited)	
SnF:				
Smithdale------	Very limited		Very limited	
	~slope	1.00	~slope	1.00
	(very limited)		(very limited)	
	~percs slowly	0.24	~seepage	1.00
	(slightly limited)		(very limited)	
Sweatman-------	Very limited		Very limited	
	~slope	1.00	~slope	1.00
	(very limited)		(very limited)	
	~percs slowly	0.73		
	(limited)			
StA:				
Stough---------	Very limited		Very limited	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~percs slowly	0.73		
	(limited)			
SwB2:				
Sweatman-------	Limited		Moderately limited	
	~percs slowly	0.73	~slope	0.31
	(limited)		(moderately limited)	
SwC:				
Sweatman-------	Limited		Limited	
	~percs slowly	0.73	~slope	0.66
	(limited)		(limited)	
SwC2:				
Sweatman-------	Limited		Very limited	
	~percs slowly	0.73	~slope	1.00
	(limited)		(very limited)	

Table 11a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
SwD:				
Sweatman-------	Limited		Very limited	
	~percs slowly (limited)	0.73	~slope (very limited)	1.00
	~slope (limited)	0.63		
SwD2:				
Sweatman-------	Limited		Very limited	
	~percs slowly (limited)	0.73	~slope (very limited)	1.00
	~slope (limited)	0.63		
SwF:				
Sweatman-------	Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00
	~percs slowly (limited)	0.73		
Ub:				
Urban land.				
Uo:				
Urbo----------	Very limited		Very limited	
	~wetness (very limited)	1.00	~flooding (very limited)	1.00
	~flooding (very limited)	1.00	~wetness (very limited)	1.00
	~percs slowly (very limited)	1.00		
W:				
Water.				
WcB2:				
Wilcox---------	Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~depth to bedrock (limited)	0.60	~depth to bedrock (limited)	0.60
			~slope (moderately limited)	0.31
WcC:				
Wilcox---------	Very limited		Very limited	
	~wetness (very limited)	1.00	~wetness (very limited)	1.00
	~depth to bedrock (limited)	0.60	~slope (limited)	0.66
			~depth to bedrock (limited)	0.60

Table 11a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WcC2:				
Wilcox---------	Very limited		Very limited	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~depth to bedrock	0.60	~slope	1.00
	(limited)		(very limited)	
			~depth to bedrock	0.60
			(limited)	
WcD:				
Wilcox---------	Very limited		Very limited	
	~wetness	1.00	~slope	1.00
	(very limited)		(very limited)	
	~slope	0.63	~wetness	1.00
	(limited)		(very limited)	
	~depth to bedrock	0.60	~depth to bedrock	0.60
	(limited)		(limited)	
WcE:				
Wilcox---------	Very limited		Very limited	
	~slope	1.00	~slope	1.00
	(very limited)		(very limited)	
	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)	
	~depth to bedrock	0.60	~depth to bedrock	0.60
	(limited)		(limited)	

Table 11b.--Sanitary Facilities (Part 2)

[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 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ab:						
Ariel----------	Very limited		Very limited		Slightly limited	
	~flooding	1.00	~flooding	1.00	~too acid	0.30
	(very limited)		(very limited)		(slightly limited)	
	~wetness	0.52	~wetness	0.22	~wetness	0.14
	(moderately limited)		(slightly limited)		(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
Ar:						
Arkabutla------	Very limited		Very limited		Limited	
	~wetness	1.00	~flooding	1.00	~wetness	0.81
	(very limited)		(very limited)		(limited)	
	~flooding	1.00	~wetness	1.00	~too acid	0.30
	(very limited)		(very limited)		(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
FaA:						
Falkner--------	Limited		Limited		Limited	
	~wetness	0.99	~wetness	0.80	~hard to pack	0.70
	(limited)		(limited)		(limited)	
	~too clayey	0.78			~too clayey	0.57
	(limited)				(moderately limited)	
					~wetness	0.50
					(moderately limited)	
Gu:						
Guyton---------	Very limited		Very limited		Very limited	
	~ponded (wetness)	1.00	~flooding	1.00	~ponded (wetness)	1.00
	(very limited)		(very limited)		(very limited)	
	~wetness	1.00	~wetness	1.00	~wetness	1.00
	(very limited)		(very limited)		(very limited)	
	~flooding	1.00	~ponded (wetness)	1.00	~too acid	0.30
	(very limited)		(very limited)		(slightly limited)	
Jk:						
Jena----------	Very limited		Very limited		Slightly limited	
	~flooding	1.00	~flooding	1.00	~too acid	0.30
	(very limited)		(very limited)		(slightly limited)	
	~seepage	0.79				
	(limited)					
	~too acid	0.30				
	(slightly limited)					
Kirkville------	Very limited		Very limited		Moderately limited	
	~flooding	1.00	~flooding	1.00	~wetness	0.50
	(very limited)		(very limited)		(moderately limited)	
	~wetness	0.99	~wetness	0.80	~too acid	0.30
	(limited)		(limited)		(slightly limited)	
	~too acid	0.30				
	(slightly limited)					

Table 11b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ke:						
Kinston--------	Very limited		Very limited		Very limited	
	~wetness	1.00	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00	~too acid	0.30
	(very limited)		(very limited)		(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
KM:						
Kinston--------	Very limited		Very limited		Very limited	
	~wetness	1.00	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00	~too acid	0.30
	(very limited)		(very limited)		(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
Mantachie------	Very limited		Very limited		Limited	
	~wetness	1.00	~flooding	1.00	~wetness	0.81
	(very limited)		(very limited)		(limited)	
	~flooding	1.00	~wetness	1.00	~too acid	0.30
	(very limited)		(very limited)		(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
Mooreville-----	Very limited		Very limited		Moderately limited	
	~flooding	1.00	~flooding	1.00	~wetness	0.45
	(very limited)		(very limited)		(moderately limited)	
	~wetness	0.89	~wetness	0.69	~too acid	0.30
	(limited)		(limited)		(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
LaF:						
Lauderdale-----	Very limited		Very limited		Very limited	
	~slope	1.00	~depth to bedrock	1.00	~depth to bedrock	1.00
	(very limited)		(very limited)		(very limited)	
	~depth to bedrock	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)	
MaC:						
Maben----------	Limited		Not limited		Moderately limited	
	~too clayey	0.70			~too clayey	0.45
	(limited)				(moderately limited)	
	~too acid	0.12			~too acid	0.12
	(slightly limited)				(slightly limited)	
MaF:						
Maben----------	Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)	
	~too clayey	0.70			~too clayey	0.45
	(limited)				(moderately limited)	
	~too acid	0.12			~too acid	0.12
	(slightly limited)				(slightly limited)	

Table 11b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Mn:						
Mantachie------	Very limited		Very limited		Limited	
	~wetness	1.00	~flooding	1.00	~wetness	0.81
	(very limited)		(very limited)		(limited)	
	~flooding	1.00	~wetness	1.00	~too acid	0.30
	(very limited)		(very limited)		(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
Mo:						
Mantachie------	Very limited		Very limited		Limited	
	~wetness	1.00	~flooding	1.00	~wetness	0.81
	(very limited)		(very limited)		(limited)	
	~flooding	1.00	~wetness	1.00	~too acid	0.30
	(very limited)		(very limited)		(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
Mt:						
Mathiston------	Very limited		Very limited		Moderately limited	
	~flooding	1.00	~flooding	1.00	~wetness	0.50
	(very limited)		(very limited)		(moderately limited)	
	~wetness	0.99	~wetness	0.80	~too acid	0.30
	(limited)		(limited)		(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
OrB2:						
Ora----------	Limited		Moderately limited		Moderately limited	
	~wetness	0.69	~wetness	0.44	~wetness	0.35
	(limited)		(moderately limited)		(moderately limited)	
	~too acid	0.30			~too acid	0.30
	(slightly limited)				(slightly limited)	
OrC:						
Ora----------	Limited		Moderately limited		Moderately limited	
	~wetness	0.69	~wetness	0.44	~wetness	0.35
	(limited)		(moderately limited)		(moderately limited)	
	~too acid	0.30			~too acid	0.30
	(slightly limited)				(slightly limited)	
OrC2:						
Ora----------	Limited		Moderately limited		Moderately limited	
	~wetness	0.69	~wetness	0.44	~wetness	0.35
	(limited)		(moderately limited)		(moderately limited)	
	~too acid	0.30			~too acid	0.30
	(slightly limited)				(slightly limited)	
OrD2:						
Ora----------	Limited		Moderately limited		Moderately limited	
	~wetness	0.69	~wetness	0.44	~wetness	0.35
	(limited)		(moderately limited)		(moderately limited)	
	~too acid	0.30	~slope	0.16	~too acid	0.30
	(slightly limited)		(slightly limited)		(slightly limited)	
	~slope	0.16			~slope	0.16
	(slightly limited)				(slightly limited)	
Pc:						
Pits.						
Udorthents.						

Table 11b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PrB2:						
Providence-----	Limited		Limited		Moderately limited	
	~wetness	0.89	~wetness	0.69	~wetness	0.45
	(limited)		(limited)		(moderately limited)	
	~too acid	0.12			~too acid	0.12
	(slightly limited)				(slightly limited)	
Ro:						
Rosebloom------	Very limited		Very limited		Very limited	
	~wetness	1.00	~flooding	1.00	~wetness	1.00
	(very limited)		(very limited)		(very limited)	
	~flooding	1.00	~wetness	1.00	~too acid	0.30
	(very limited)		(very limited)		(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
RuB2:						
Ruston---------	Slightly limited		Not limited		Slightly limited	
	~too acid	0.30			~too acid	0.30
	(slightly limited)				(slightly limited)	
RuC:						
Ruston---------	Slightly limited		Not limited		Slightly limited	
	~too acid	0.30			~too acid	0.30
	(slightly limited)				(slightly limited)	
RuC2:						
Ruston---------	Slightly limited		Not limited		Slightly limited	
	~too acid	0.30			~too acid	0.30
	(slightly limited)				(slightly limited)	
SaA:						
Savannah-------	Limited		Limited		Moderately limited	
	~wetness	0.89	~wetness	0.69	~wetness	0.45
	(limited)		(limited)		(moderately limited)	
	~too acid	0.30			~too acid	0.30
	(slightly limited)				(slightly limited)	
SaB2:						
Savannah-------	Limited		Limited		Moderately limited	
	~wetness	0.89	~wetness	0.69	~wetness	0.45
	(limited)		(limited)		(moderately limited)	
	~too acid	0.30			~too acid	0.30
	(slightly limited)				(slightly limited)	
SaC2:						
Savannah-------	Limited		Limited		Moderately limited	
	~wetness	0.89	~wetness	0.69	~wetness	0.45
	(limited)		(limited)		(moderately limited)	
	~too acid	0.30			~too acid	0.30
	(slightly limited)				(slightly limited)	
SmD:						
Smithdale------	Limited		Limited		Limited	
	~seepage	0.79	~slope	0.63	~slope	0.63
	(limited)		(limited)		(limited)	
	~slope	0.63			~too acid	0.30
	(limited)				(slightly limited)	
	~too acid	0.30				
	(slightly limited)					

Table 11b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SmF:						
Smithdale------	Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)	
	~seepage	0.79			~too acid	0.30
	(limited)				(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
SnF:						
Smithdale------	Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)	
	~seepage	0.79			~too acid	0.30
	(limited)				(slightly limited)	
	~too acid	0.30				
	(slightly limited)					
Sweatman-------	Very limited		Very limited		Very limited	
	~slope	1.00	~slope	1.00	~slope	1.00
	(very limited)		(very limited)		(very limited)	
	~too clayey	0.70			~hard to pack	0.70
	(limited)				(limited)	
	~too acid	0.30			~too clayey	0.45
	(slightly limited)				(moderately limited)	
StA:						
Stough---------	Very limited		Very limited		Limited	
	~wetness	1.00	~wetness	1.00	~wetness	0.81
	(very limited)		(very limited)		(limited)	
	~too acid	0.30			~too acid	0.30
	(slightly limited)				(slightly limited)	
SwB2:						
Sweatman-------	Limited		Not limited		Limited	
	~too clayey	0.70			~hard to pack	0.70
	(limited)				(limited)	
	~too acid	0.30			~too clayey	0.45
	(slightly limited)				(moderately limited)	
					~too acid	0.30
					(slightly limited)	
SwC:						
Sweatman-------	Limited		Not limited		Limited	
	~too clayey	0.70			~hard to pack	0.70
	(limited)				(limited)	
	~too acid	0.30			~too clayey	0.45
	(slightly limited)				(moderately limited)	
					~too acid	0.30
					(slightly limited)	
SwC2:						
Sweatman-------	Limited		Not limited		Limited	
	~too clayey	0.70			~hard to pack	0.70
	(limited)				(limited)	
	~too acid	0.30			~too clayey	0.45
	(slightly limited)				(moderately limited)	
					~too acid	0.30
					(slightly limited)	

Table 11b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SwD:						
Sweatman-------	Limited		Limited		Limited	
	~too clayey (limited)	0.70	~slope (limited)	0.63	~hard to pack (limited)	0.70
	~slope (limited)	0.63			~slope (limited)	0.63
	~too acid (slightly limited)	0.30			~too clayey (moderately limited)	0.45
SwD2:						
Sweatman-------	Limited		Limited		Limited	
	~too clayey (limited)	0.70	~slope (limited)	0.63	~hard to pack (limited)	0.70
	~slope (limited)	0.63			~slope (limited)	0.63
	~too acid (slightly limited)	0.30			~too clayey (moderately limited)	0.45
SwF:						
Sweatman-------	Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~too clayey (limited)	0.70			~hard to pack (limited)	0.70
	~too acid (slightly limited)	0.30			~too clayey (moderately limited)	0.45
Ub:						
Urban land.						
Uo:						
Urbo----------	Very limited		Very limited		Limited	
	~wetness (very limited)	1.00	~flooding (very limited)	1.00	~hard to pack (limited)	0.70
	~flooding (very limited)	1.00	~wetness (limited)	0.99	~wetness (moderately limited)	0.60
	~too clayey (limited)	0.70			~too clayey (moderately limited)	0.45
W:						
Water.						
WcB2:						
Wilcox---------	Very limited		Limited		Limited	
	~depth to bedrock (very limited)	1.00	~wetness (limited)	0.69	~too clayey (limited)	0.79
	~too clayey (limited)	0.90	~depth to bedrock (moderately limited)	0.45	~hard to pack (limited)	0.70
	~wetness (limited)	0.89			~too acid (moderately limited)	0.54
WcC:						
Wilcox---------	Very limited		Limited		Limited	
	~depth to bedrock (very limited)	1.00	~wetness (limited)	0.69	~too clayey (limited)	0.79
	~too clayey (limited)	0.90	~depth to bedrock (moderately limited)	0.45	~hard to pack (limited)	0.70
	~wetness (limited)	0.89			~too acid (moderately limited)	0.54

Table 11b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Sanitary landfill (trench)		Sanitary landfill (area)		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WcC2:						
Wilcox---------	Very limited		Limited		Limited	
	~depth to bedrock (very limited)	1.00	~wetness (limited)	0.69	~too clayey (limited)	0.79
	~too clayey (limited)	0.90	~depth to bedrock (moderately limited)	0.45	~hard to pack (limited)	0.70
	~wetness (limited)	0.89			~too acid (moderately limited)	0.54
WcD:						
Wilcox---------	Very limited		Limited		Limited	
	~depth to bedrock (very limited)	1.00	~wetness (limited)	0.69	~too clayey (limited)	0.79
	~too clayey (limited)	0.90	~slope (limited)	0.63	~hard to pack (limited)	0.70
	~wetness (limited)	0.89	~depth to bedrock (moderately limited)	0.45	~slope (limited)	0.63
WcE:						
Wilcox---------	Very limited		Very limited		Very limited	
	~slope (very limited)	1.00	~slope (very limited)	1.00	~slope (very limited)	1.00
	~depth to bedrock (very limited)	1.00	~wetness (limited)	0.69	~too clayey (limited)	0.79
	~too clayey (limited)	0.90	~depth to bedrock (moderately limited)	0.45	~hard to pack (limited)	0.70

Table 12.--Construction Materials

[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 1.00. The larger the value, the greater the potential limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ab:								
Ariel----------	Not limited		Very limited		Very limited		Slightly limited	
			~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too acid (slightly limited)	0.30
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00		
Ar:								
Arkabutla------	Limited		Very limited		Very limited		Limited	
	~wetness (limited)	0.96	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.96
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too acid (slightly limited)	0.30
							~too clayey (slightly limited)	0.29
FaA:								
Falkner--------	Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (very limited)	1.00
	~wetness (moderately limited)	0.48	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~wetness (moderately limited)	0.48
Gu:								
Guyton---------	Very limited		Very limited		Very limited		Very limited	
	~wetness (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (very limited)	1.00
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too acid (slightly limited)	0.30
Jk:								
Jena----------	Not limited		Very limited		Very limited		Slightly limited	
			~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too acid (slightly limited)	0.30
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too sandy (slightly limited)	0.19

Table 12.--Construction Materials--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Jk:								
Kirkville------	Moderately limited		Very limited		Very limited		Limited	
	~wetness	0.48	~excess fines	1.00	~excess fines	1.00	~too sandy	0.78
	(moderately limited)		(thickest layer)		(bottom layer)		(limited)	
			~excess fines	1.00	~excess fines	1.00	~wetness	0.48
			(bottom layer)		(thickest layer)		(moderately limited)	
							~too acid	0.30
							(slightly limited)	
Ke:								
Kinston--------	Very limited		Very limited		Very limited		Very limited	
	~wetness	1.00	~excess fines	1.00	~excess fines	1.00	~wetness	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.21
							(slightly limited)	
KM:								
Kinston--------	Very limited		Very limited		Very limited		Very limited	
	~wetness	1.00	~excess fines	1.00	~excess fines	1.00	~wetness	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.21
							(slightly limited)	
Mantachie------	Limited		Very limited		Very limited		Limited	
	~wetness	0.96	~excess fines	1.00	~excess fines	1.00	~wetness	0.96
	(limited)		(thickest layer)		(bottom layer)		(limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.17
							(slightly limited)	
Mooreville-----	Moderately limited		Very limited		Very limited		Moderately limited	
	~shrink-swell	0.45	~excess fines	1.00	~excess fines	1.00	~too sandy	0.52
	(moderately limited)		(thickest layer)		(bottom layer)		(moderately limited)	
	~wetness	0.26	~excess fines	1.00	~excess fines	1.00	~too acid	0.30
	(slightly limited)		(bottom layer)		(thickest layer)		(slightly limited)	
							~wetness	0.26
							(slightly limited)	

Table 12.--Construction Materials--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LaF:								
Lauderdale-----	Very limited		Very limited		Very limited		Very limited	
	~depth to bedrock (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (thickest layer)	1.00	~depth to bedrock (very limited)	1.00
	~slope (moderately limited)	0.58					~slope (very limited)	1.00
							~small stones (moderately limited)	0.41
MaC:								
Maben----------	Moderately limited		Very limited		Very limited		Very limited	
	~shrink-swell (moderately limited)	0.54	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (very limited)	1.00
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too acid (slightly limited)	0.12
MaF:								
Maben----------	Limited		Very limited		Very limited		Very limited	
	~slope (limited)	0.92	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~slope (very limited)	1.00
	~shrink-swell (moderately limited)	0.54	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (very limited)	1.00
							~too acid (slightly limited)	0.12
Mn:								
Mantachie------	Limited		Very limited		Very limited		Limited	
	~wetness (limited)	0.96	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.96
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too acid (slightly limited)	0.30
							~too clayey (slightly limited)	0.17
Mo:								
Mantachie------	Limited		Very limited		Very limited		Limited	
	~wetness (limited)	0.96	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~wetness (limited)	0.96
			~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too acid (slightly limited)	0.30
							~too clayey (slightly limited)	0.17

Table 12.--Construction Materials--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Mt:								
Mathiston------	Moderately limited		Very limited		Very limited		Moderately limited	
	~wetness	0.48	~excess fines	1.00	~excess fines	1.00	~wetness	0.48
	(moderately limited)		(thickest layer)		(bottom layer)		(moderately limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.29
							(slightly limited)	
OrB2:								
Ora----------	Slightly limited		Very limited		Very limited		Moderately limited	
	~wetness	0.03	~excess fines	1.00	~excess fines	1.00	~too sandy	0.53
	(slightly limited)		(thickest layer)		(bottom layer)		(moderately limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.12
							(slightly limited)	
OrC:								
Ora----------	Slightly limited		Very limited		Very limited		Moderately limited	
	~wetness	0.03	~excess fines	1.00	~excess fines	1.00	~too sandy	0.53
	(slightly limited)		(thickest layer)		(bottom layer)		(moderately limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.12
							(slightly limited)	
OrC2:								
Ora----------	Slightly limited		Very limited		Very limited		Moderately limited	
	~wetness	0.03	~excess fines	1.00	~excess fines	1.00	~too sandy	0.53
	(slightly limited)		(thickest layer)		(bottom layer)		(moderately limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.12
							(slightly limited)	
OrD2:								
Ora----------	Slightly limited		Very limited		Very limited		Moderately limited	
	~wetness	0.03	~excess fines	1.00	~excess fines	1.00	~too sandy	0.53
	(slightly limited)		(thickest layer)		(bottom layer)		(moderately limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~slope	0.16
							(slightly limited)	

Table 12.--Construction Materials--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Pc:								
Pits.								
Udorthents.								
PrB2:								
Providence-----	Slightly limited		Very limited		Very limited		Slightly limited	
	~wetness	0.26	~excess fines	1.00	~excess fines	1.00	~wetness	0.26
	(slightly limited)		(thickest layer)		(bottom layer)		(slightly limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.12
			(bottom layer)		(thickest layer)		(slightly limited)	
Ro:								
Rosebloom------	Very limited		Very limited		Very limited		Very limited	
	~wetness	1.00	~excess fines	1.00	~excess fines	1.00	~wetness	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.29
							(slightly limited)	
RuB2:								
Ruston---------	Not limited		Very limited		Very limited		Moderately limited	
			~excess fines	1.00	~excess fines	1.00	~too sandy	0.52
			(thickest layer)		(bottom layer)		(moderately limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.21
							(slightly limited)	
RuC:								
Ruston---------	Not limited		Very limited		Very limited		Moderately limited	
			~excess fines	1.00	~excess fines	1.00	~too sandy	0.52
			(thickest layer)		(bottom layer)		(moderately limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.21
							(slightly limited)	
RuC2:								
Ruston---------	Not limited		Very limited		Very limited		Moderately limited	
			~excess fines	1.00	~excess fines	1.00	~too sandy	0.52
			(thickest layer)		(bottom layer)		(moderately limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.21
							(slightly limited)	

Table 12.--Construction Materials--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SaA:								
Savannah-------	Slightly limited		Very limited		Very limited		Moderately limited	
	~wetness	0.26	~excess fines	1.00	~excess fines	1.00	~too sandy	0.54
	(slightly limited)		(thickest layer)		(bottom layer)		(moderately limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~wetness	0.26
							(slightly limited)	
SaB2:								
Savannah-------	Slightly limited		Very limited		Very limited		Moderately limited	
	~wetness	0.26	~excess fines	1.00	~excess fines	1.00	~too sandy	0.54
	(slightly limited)		(thickest layer)		(bottom layer)		(moderately limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~wetness	0.26
							(slightly limited)	
SaC2:								
Savannah-------	Slightly limited		Very limited		Very limited		Moderately limited	
	~wetness	0.26	~excess fines	1.00	~excess fines	1.00	~too sandy	0.54
	(slightly limited)		(thickest layer)		(bottom layer)		(moderately limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~wetness	0.26
							(slightly limited)	
SmD:								
Smithdale------	Not limited		Very limited		Very limited		Limited	
			~excess fines	1.00	~excess fines	1.00	~slope	0.63
			(thickest layer)		(bottom layer)		(limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.12
							(slightly limited)	
SmF:								
Smithdale------	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.12
							(slightly limited)	

Table 12.--Construction Materials--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SnF:								
Smithdale------	Very limited		Very limited		Very limited		Very limited	
	~slope	1.00	~excess fines	1.00	~excess fines	1.00	~slope	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~too clayey	0.12
							(slightly limited)	
Sweatman-------	Limited		Very limited		Very limited		Very limited	
	~slope	0.83	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00
	(limited)		(thickest layer)		(bottom layer)		(very limited)	
	~shrink-swell	0.45	~excess fines	1.00	~excess fines	1.00	~slope	1.00
	(moderately limited)		(bottom layer)		(thickest layer)		(very limited)	
							~too acid	0.30
							(slightly limited)	
StA:								
Stough---------	Limited		Very limited		Very limited		Limited	
	~wetness	0.96	~excess fines	1.00	~excess fines	1.00	~wetness	0.96
	(limited)		(thickest layer)		(bottom layer)		(limited)	
			~excess fines	1.00	~excess fines	1.00	~too sandy	0.74
			(bottom layer)		(thickest layer)		(limited)	
							~too acid	0.30
							(slightly limited)	
SwB2:								
Sweatman-------	Moderately limited		Very limited		Very limited		Very limited	
	~shrink-swell	0.45	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00
	(moderately limited)		(thickest layer)		(bottom layer)		(very limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~small stones	0.05
							(slightly limited)	
SwC:								
Sweatman-------	Moderately limited		Very limited		Very limited		Very limited	
	~shrink-swell	0.45	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00
	(moderately limited)		(thickest layer)		(bottom layer)		(very limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~small stones	0.05
							(slightly limited)	

Table 12.--Construction Materials--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SwC2:								
Sweatman-------	Moderately limited		Very limited		Very limited		Very limited	
	~shrink-swell	0.45	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00
	(moderately limited)		(thickest layer)		(bottom layer)		(very limited)	
			~excess fines	1.00	~excess fines	1.00	~too acid	0.30
			(bottom layer)		(thickest layer)		(slightly limited)	
							~small stones	0.05
							(slightly limited)	
SwD:								
Sweatman-------	Moderately limited		Very limited		Very limited		Very limited	
	~shrink-swell	0.45	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00
	(moderately limited)		(thickest layer)		(bottom layer)		(very limited)	
			~excess fines	1.00	~excess fines	1.00	~slope	0.63
			(bottom layer)		(thickest layer)		(limited)	
							~too acid	0.30
							(slightly limited)	
SwD2:								
Sweatman-------	Moderately limited		Very limited		Very limited		Very limited	
	~shrink-swell	0.45	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00
	(moderately limited)		(thickest layer)		(bottom layer)		(very limited)	
			~excess fines	1.00	~excess fines	1.00	~slope	0.63
			(bottom layer)		(thickest layer)		(limited)	
							~too acid	0.30
							(slightly limited)	
SwF:								
Sweatman-------	Limited		Very limited		Very limited		Very limited	
	~slope	0.92	~excess fines	1.00	~excess fines	1.00	~slope	1.00
	(limited)		(thickest layer)		(bottom layer)		(very limited)	
	~shrink-swell	0.45	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00
	(moderately limited)		(bottom layer)		(thickest layer)		(very limited)	
							~too acid	0.30
							(slightly limited)	
Ub:								
Urban land.								

Table 12.--Construction Materials--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Uo:								
Urbo----------	Limited		Very limited		Very limited		Very limited	
	~wetness	0.86	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00
	(limited)		(thickest layer)		(bottom layer)		(very limited)	
	~shrink-swell	0.45	~excess fines	1.00	~excess fines	1.00	~wetness	0.86
	(moderately limited)		(bottom layer)		(thickest layer)		(limited)	
							~too acid	0.30
							(slightly limited)	
W:								
Water.								
WcB2:								
Wilcox---------	Very limited		Very limited		Very limited		Very limited	
	~shrink-swell	1.00	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)	
	~depth to bedrock	0.45	~excess fines	1.00	~excess fines	1.00	~too acid	0.54
	(moderately limited)		(bottom layer)		(thickest layer)		(moderately limited)	
	~wetness	0.26					~wetness	0.26
	(slightly limited)						(slightly limited)	
WcC:								
Wilcox---------	Very limited		Very limited		Very limited		Very limited	
	~shrink-swell	1.00	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)	
	~depth to bedrock	0.45	~excess fines	1.00	~excess fines	1.00	~too acid	0.54
	(moderately limited)		(bottom layer)		(thickest layer)		(moderately limited)	
	~wetness	0.26					~wetness	0.26
	(slightly limited)						(slightly limited)	
WcC2:								
Wilcox---------	Very limited		Very limited		Very limited		Very limited	
	~shrink-swell	1.00	~excess fines	1.00	~excess fines	1.00	~too clayey	1.00
	(very limited)		(thickest layer)		(bottom layer)		(very limited)	
	~depth to bedrock	0.45	~excess fines	1.00	~excess fines	1.00	~too acid	0.54
	(moderately limited)		(bottom layer)		(thickest layer)		(moderately limited)	
	~wetness	0.26					~wetness	0.26
	(slightly limited)						(slightly limited)	

Table 12.--Construction Materials--Continued

Map symbol and soil name	Source for roadfill		Source for sand		Source for gravel		Source for topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WcD:								
Wilcox---------	Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~too clayey (very limited)	1.00
	~depth to bedrock (moderately limited)	0.45	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~slope (limited)	0.63
	~wetness (slightly limited)	0.26					~too acid (moderately limited)	0.54
WcE:								
Wilcox---------	Very limited		Very limited		Very limited		Very limited	
	~shrink-swell (very limited)	1.00	~excess fines (thickest layer)	1.00	~excess fines (bottom layer)	1.00	~slope (very limited)	1.00
	~slope (moderately limited)	0.50	~excess fines (bottom layer)	1.00	~excess fines (thickest layer)	1.00	~too clayey (very limited)	1.00
	~depth to bedrock (moderately limited)	0.45					~too acid (moderately limited)	0.54

Table 13.--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
Ab:							
Ariel	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.04	Piping	0.69	Slow refill	0.96
				Depth to saturated zone	0.24	Cutbanks cave	0.50
						Depth to saturated zone	0.38
Ar:							
Arkabutla	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.05		
FaA:							
Falkner	90	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
						Cutbanks cave	0.10
				Hard to pack	0.66	Depth to saturated zone	0.01
Gu:							
Guyton	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
				Ponding	1.00		
				Piping	0.43		
Jk:							
Jena	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.02	Depth to water	1.00
Kirkville	30	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Seepage	0.03	Depth to saturated zone	0.01
Ke:							
Kinston	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.11		
KM:							
Kinston	35	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.26		
Mantachie	30	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.17		

Table 13.--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
KM:							
Mooreville----------	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	0.95	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.26	Depth to saturated zone	0.02
LaF:							
Lauderdale----------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Thin layer	1.00	Depth to water	1.00
		Depth to bedrock	0.61				
MaC:							
Maben----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.32	Piping	0.20	Depth to water	1.00
		Seepage	0.04	Seepage	0.01		
MaF:							
Maben----------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Piping	0.20	Depth to water	1.00
		Seepage	0.04	Seepage	0.01		
Mn:							
Mantachie----------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.16		
Mo:							
Mantachie----------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.16		
Mt:							
Mathiston----------	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.08	Depth to saturated zone	0.01
OrB2:							
Ora----------	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.85	Depth to saturated zone	0.68	Depth to water	1.00
		Seepage	0.72	Piping	0.39		
		Slope	0.08				
OrC:							
Ora----------	90	Somewhat limited		Somewhat limited		Very limited	
		Depth to cemented pan	0.85	Depth to saturated zone	0.68	Depth to water	1.00
		Seepage	0.72	Piping	0.39		
		Slope	0.08				
OrC2:							
Ora----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.92	Depth to saturated zone	0.68	Depth to water	1.00
		Depth to cemented pan	0.85	Piping	0.37		
		Seepage	0.72				

Table 13.--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
OrD2:							
Ora	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.68	Depth to water	1.00
		Depth to cemented pan	0.85	Piping	0.37		
		Seepage	0.72				
Pc:							
Pits	60	Not rated		Not rated		Not rated	
Udorthents	40	Not rated		Not rated		Not rated	
PrB2:							
Providence	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	0.95	Slow refill	0.28
		Slope	0.08	Piping	0.62	Cutbanks cave	0.10
				Seepage	0.04	Depth to saturated zone	0.02
Ro:							
Rosebloom	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	0.05	Cutbanks cave	0.10
RuB2:							
Ruston	90	Somewhat limited		Not limited		Very limited	
		Seepage	0.72			Depth to water	1.00
		Slope	0.08				
RuC:							
Ruston	90	Somewhat limited		Not limited		Very limited	
		Seepage	0.72			Depth to water	1.00
		Slope	0.08				
RuC2:							
Ruston	90	Somewhat limited		Not limited		Very limited	
		Slope	0.92			Depth to water	1.00
		Seepage	0.72				
SaA:							
Savannah	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	0.95	Slow refill	0.96
				Piping	0.30	Cutbanks cave	0.10
						Depth to saturated zone	0.02
SaB2:							
Savannah	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	0.95	Slow refill	0.96
		Slope	0.08	Piping	0.30	Cutbanks cave	0.10
						Depth to saturated zone	0.02
SaC2:							
Savannah	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.92	Depth to saturated zone	0.95	Slow refill	0.96
		Seepage	0.72	Piping	0.30	Cutbanks cave	0.10
						Depth to saturated zone	0.02

Table 13.--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
SmD:							
Smithdale----------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.56	Depth to water	1.00
		Slope	1.00				
SmF:							
Smithdale----------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.56	Depth to water	1.00
		Slope	1.00				
SnF:							
Smithdale----------	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.56	Depth to water	1.00
		Slope	1.00				
Sweatman----------	30	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.01	Depth to water	1.00
		Seepage	0.04				
StA:							
Stough----------	90	Somewhat limited		Very limited		Very limited	
		Seepage	0.04	Depth to saturated zone	1.00	Depth to water	1.00
				Seepage	0.03		
SwB2:							
Sweatman----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Seepage	0.01	Depth to water	1.00
		Seepage	0.04				
SwC:							
Sweatman----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.32	Seepage	0.01	Depth to water	1.00
		Seepage	0.04				
SwC2:							
Sweatman----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.92	Seepage	0.01	Depth to water	1.00
		Seepage	0.04				
SwD:							
Sweatman----------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.01	Depth to water	1.00
		Seepage	0.04				
SwD2:							
Sweatman----------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.01	Depth to water	1.00
		Seepage	0.04				
SwF:							
Sweatman----------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Seepage	0.01	Depth to water	1.00
		Seepage	0.04				
Ub:							
Urban Land----------	95	Not rated		Not rated		Not rated	

Table 13.--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
Uo:							
Urbo----------	90	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
						Cutbanks cave	0.10
				Hard to pack	0.54		
W:							
Water----------	100	Not rated		Not rated		Not rated	
WcB2:							
Wilcox----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Hard to pack	0.97	Slow refill	1.00
		Depth to bedrock	0.01	Depth to saturated zone	0.95	Cutbanks cave	0.10
						Depth to saturated zone	0.02
				Thin layer	0.11		
WcC:							
Wilcox----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.32	Hard to pack	0.97	Slow refill	1.00
		Depth to bedrock	0.01	Depth to saturated zone	0.95	Cutbanks cave	0.10
						Depth to saturated zone	0.02
				Thin layer	0.11		
WcC2:							
Wilcox----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.92	Hard to pack	0.98	Slow refill	1.00
		Depth to bedrock	0.01	Depth to saturated zone	0.95	Cutbanks cave	0.10
						Depth to saturated zone	0.02
				Thin layer	0.11		
WcD:							
Wilcox----------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Hard to pack	0.97	Slow refill	1.00
		Depth to bedrock	0.01	Depth to saturated zone	0.95	Cutbanks cave	0.10
						Depth to saturated zone	0.02
				Thin layer	0.11		
WcE:							
Wilcox----------	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Hard to pack	0.97	Slow refill	1.00
		Depth to bedrock	0.01	Depth to saturated zone	0.95	Cutbanks cave	0.10
						Depth to saturated zone	0.02
				Thin layer	0.11		

Table 14.--Engineering Properties

[Absence of an entry indicates that the data were not estimated]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
Ab:												
Ariel----------	0-6	Silt loam	ML	A-4	0	0	100	100	96-100	88-94	23-33	7-12
	6-31	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	89-100	81-100	18-38	3-19
	31-80	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	88-100	83-100	22-44	7-25
Ar:												
Arkabutla-------	0-5	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	89-100	81-100	18-41	2-17
	5-80	Silty clay loam	CL	A-6, A-7	0	0	100	100	91-100	87-100	29-45	13-25
FaA:												
Falkner---------	0-4	Silt loam	CL, CL-ML	A-4	0	0	100	100	93-100	80-93	17-35	2-12
	4-17	Silty clay loam	CL	A-6, A-7	0	0	100	100	92-100	87-100	31-46	13-25
	17-80	Silty clay	CH	A-7	0	0	100	100	88-100	85-100	48-69	27-44
Gu:												
Guyton----------	0-31	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	82-100	19-43	3-17
	31-41	Silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	92-100	87-100	29-45	13-25
	41-80	Silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	92-100	87-100	29-44	13-25
Jk:												
Jena----------	0-4	Loam	CL, CL-ML	A-4	0	0	100	100	82-95	58-71	25-41	9-19
	4-52	Loam	CL, CL-ML, SC-SM	A-2-4, A-4	0	0	100	100	---	---	21-31	6-12
	52-80	Fine sandy loam	SM	A-2-4, A-4	0	0	100	100	---	---	16-32	2-13
Kirkville-------	0-10	Loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	100	78-98	54-74	21-43	6-21
	10-80	Sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	100	---	---	20-30	6-12
Ke:												
Kinston---------	0-3	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	98-100	75-99	51-74	20-47	2-18
	3-80	Loam	CL	A-4, A-6, A-7	0	0	100	94-100	77-99	57-77	27-45	12-25
KM:												
Kinston---------	0-12	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	98-100	75-99	51-74	20-47	2-18
	12-50	Loam	CL	A-4, A-6, A-7	0	0	100	94-100	77-99	57-77	27-45	12-25
	50-60	Loam, variable			0	0	100	100	82-99	60-77	27-44	12-25
Mantachie-------	0-8	Loam	CL-ML, ML, SC-SM, SM	A-4	0	0-4	95-100	85-100	69-94	48-68	21-37	4-13
	8-80	Loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-4	95-100	85-100	70-98	51-76	27-44	12-24

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
KM:												
Mooreville------	0-10	Loam	CL, CL-ML, SC, SC-SM	A-4	0	0	100	100	77-99	52-74	17-41	2-19
	10-43	Sandy clay loam	CL, SC	A-6, A-7	0	0	100	100	78-95	42-59	29-47	12-25
	43-60	Loam	CL, SC	A-6, A-7	0	0	100	100	75-100	53-83	22-50	6-29
LaF:												
Lauderdale------	0-4	Fine sandy loam	CL, CL-ML, ML	A-4	0	0	86-100	71-100	65-95	28-45	22-33	6-10
	4-10	Clay loam	CL	A-4, A-6	0	0-1	86-98	67-98	56-97	43-77	31-46	13-25
	10-15	Unweathered bedrock	---	---	---	---	---	---	---	---	0-14	NP
MaF:												
Maben----------	0-4	Silt loam	SC-SM, SM	A-4	0	0	95-100	85-100	72-100	57-82	17-33	2-13
	4-34	Clay	MH	A-7	0	0	90-100	81-100	68-100	55-88	45-65	25-40
	34-40	Stratified loam to weathered bedrock	CH, CL, MH, ML	A-6, A-7	0	0	95-100	78-100	63-96	44-72	24-39	7-19
	40-80	Stratified fine sandy loam to weathered bedrock	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	95-100	78-100	67-96	29-47	16-27	2-10
MaC:												
Maben----------	0-4	Silt loam	SC-SM, SM	A-4	0	0	95-100	85-100	72-100	57-82	17-33	2-13
	4-34	Clay	MH	A-7	0	0	90-100	81-100	68-100	55-88	45-65	25-40
	34-40	Stratified loam to weathered bedrock	CH, CL, MH, ML	A-6, A-7	0	0	95-100	78-100	63-96	44-72	24-39	7-19
	40-80	Stratified fine sandy loam to weathered bedrock	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	95-100	78-100	67-96	29-47	16-27	2-10
Mo:												
Mantachie-------	0-7	Loam	CL-ML, ML, SC-SM, SM	A-4	0	0-4	95-100	85-100	69-94	48-68	21-37	4-13
	7-80	Loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-4	95-100	85-100	70-98	51-76	27-44	12-24
Mn:												
Mantachie-------	0-7	Loam	CL-ML, ML, SC-SM, SM	A-4	0	0-4	95-100	85-100	69-94	48-68	21-37	4-13
	7-80	Loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-4	95-100	85-100	70-98	51-76	27-44	12-24

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				*Pct*	*Pct*					*Pct*	
Mt:												
Mathiston-------	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	89-100	81-100	18-41	2-17
	8-80	Silty clay loam	CL	A-6, A-7	0	0	100	100	91-100	87-100	29-45	13-25
OrC:												
Ora----------	0-6	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	95-100	84-97	37-47	22-35	6-12
	6-18	Sandy clay loam	CL	A-4, A-6, A-7	0	0	100	96-100	76-94	41-57	27-42	12-23
	18-46	Loam	CL	A-4, A-6, A-7	0	0	100	95-100	79-98	60-78	27-42	12-23
	46-80	Sandy clay loam	CL	A-6, A-7	0	0	100	95-100	71-99	34-61	20-44	6-25
OrB2:												
Ora----------	0-6	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	95-100	84-97	37-47	22-35	6-12
	6-18	Loam	CL	A-4, A-6, A-7	0	0	100	95-100	79-98	60-78	27-42	12-23
	18-46	Sandy clay loam	CL	A-4, A-6, A-7	0	0	100	96-100	76-94	41-57	27-42	12-23
	46-80	Sandy clay loam	CL	A-6, A-7	0	0	100	95-100	71-99	34-61	20-44	6-25
OrC2:												
Ora----------	0-4	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	95-100	84-97	37-47	22-35	6-12
	4-16	Loam	CL	A-4, A-6, A-7	0	0	100	95-100	79-98	60-78	27-42	12-23
	16-44	Sandy clay loam	CL	A-4, A-6, A-7	0	0	100	96-100	76-94	41-57	27-42	12-23
	44-80	Sandy clay loam	CL	A-6, A-7	0	0	100	95-100	71-99	34-61	20-44	6-25
OrD2:												
Ora----------	0-4	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	95-100	84-97	37-47	22-35	6-12
	4-16	Loam	CL	A-4, A-6, A-7	0	0	100	95-100	79-98	60-78	27-42	12-23
	16-44	Sandy clay loam	CL	A-4, A-6, A-7	0	0	100	96-100	76-94	41-57	27-42	12-23
	44-80	Sandy clay loam	CL	A-6, A-7	0	0	100	95-100	71-99	34-61	20-44	6-25
Pc:												
Pits.												
Udorthents.												
PrB2:												
Providence------	0-6	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	96-100	83-90	17-30	2-7
	6-29	Silt loam	CL	A-6, A-7	0	0	100	100	93-100	88-100	27-40	12-21
	29-54	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	29-40	13-21
	54-60	Loam	CL, SC	A-4, A-6	0	0	100	95-100	86-100	67-88	22-40	7-21
	60-80	Sandy loam	CL, ML, SC, SM	A-2, A-4	0	0	100	95-100	65-85	29-47	20-37	6-19

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				*Pct*	*Pct*					*Pct*	
Ro:												
Rosebloom-------	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	96-100	89-96	29-41	12-17
	9-80	Silty clay loam	CL	A-4, A-6	0	0	100	100	92-100	87-100	29-45	13-25
RuC:												
Ruston----------	0-5	Fine sandy loam	CL-ML, ML, SM	A-2-4, A-4	0	0	100	85-100	71-100	32-56	0-37	NP-13
	5-37	Sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	86-100	67-95	36-59	27-44	12-25
	37-50	Sandy loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0	100	85-100	61-82	30-45	20-31	6-13
	50-80	Sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	86-100	64-98	33-62	25-46	9-27
RuB2:												
Ruston----------	0-5	Fine sandy loam	CL-ML, ML, SM	A-2-4, A-4	0	0	100	85-100	71-100	32-56	0-37	NP-13
	5-37	Sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	86-100	67-95	36-59	27-44	12-25
	37-50	Sandy loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0	100	85-100	61-82	30-45	20-31	6-13
	50-80	Sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	86-100	64-98	33-62	25-46	9-27
RuC2:												
Ruston----------	0-3	Fine sandy loam	CL-ML, ML, SM	A-2-4, A-4	0	0	100	85-100	71-100	32-56	0-37	NP-13
	3-35	Sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	86-100	67-95	36-59	27-44	12-25
	35-48	Sandy loam	CL-ML, ML, SC-SM, SM	A-2-4, A-4	0	0	100	85-100	61-82	30-45	20-31	6-13
	48-80	Sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	86-100	64-98	33-62	25-46	9-27
SaA:												
Savannah--------	0-6	Fine sandy loam	ML, SM	A-2-4, A-4	0	0	98-100	89-100	76-98	35-52	0-34	NP-10
	6-23	Sandy clay loam	CL, CL-ML, SC	A-4, A-6	0	0	98-100	89-100	70-94	38-57	27-41	12-22
	23-80	Loam	CL, CL-ML, SC	A-2, A-4, A-6, A-7	0	0	96-100	87-100	72-97	53-75	27-41	12-22
SaB2:												
Savannah--------	0-6	Fine sandy loam	ML, SM	A-2-4, A-4	0	0	98-100	89-100	76-98	35-52	0-34	NP-10
	6-23	Sandy clay loam	CL, CL-ML, SC	A-4, A-6	0	0	98-100	89-100	70-94	38-57	27-41	12-22
	23-81	Loam	CL, CL-ML, SC	A-2, A-4, A-6, A-7	0	0	96-100	87-100	72-97	53-75	27-41	12-22
SaC2:												
Savannah--------	0-6	Fine sandy loam	ML, SM	A-2-4, A-4	0	0	98-100	89-100	76-98	35-52	0-34	NP-10
	6-23	Sandy clay loam	CL, CL-ML, SC	A-4, A-6	0	0	98-100	89-100	70-94	38-57	27-41	12-22
	23-80	Loam	CL, CL-ML, SC	A-2, A-4, A-6, A-7	0	0	96-100	87-100	72-97	53-75	27-41	12-22

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
SnF:												
Smithdale-------	0-6	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	85-100	72-98	33-52	0-31	NP-10
	6-51	Loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	85-100	71-98	53-78	27-42	12-23
	51-80	Loam	CL, ML, SC, SM	A-4	0	0	100	85-100	69-96	48-72	22-37	7-19
Sweatman--------	0-3	Fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	35-50	17-35	2-13
	3-16	Clay	MH	A-7	0	0	95-100	90-100	76-100	61-88	43-63	25-40
	16-47	Clay	CH, CL, MH	A-6, A-7	0	0	95-100	77-100	66-100	53-88	43-63	25-40
	47-80	Stratified weathered bedrock to fine sandy loam	MH, ML	A-7	0	0	95-100	73-100	63-96	27-47	18-28	2-10
SmF:												
Smithdale-------	0-6	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	85-100	72-98	33-52	0-31	NP-10
	6-51	Loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	85-100	71-98	53-78	27-42	12-23
	51-80	Loam	CL, ML, SC, SM	A-4	0	0	100	85-100	69-96	48-72	22-37	7-19
SmD:												
Smithdale-------	0-6	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	85-100	72-98	33-52	0-31	NP-10
	6-51	Loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	85-100	71-98	53-78	27-42	12-23
	51-80	Loam	CL, ML, SC, SM	A-4	0	0	100	85-100	69-96	48-72	22-37	7-19
StA:												
Stough----------	0-6	Loam	CL-ML, ML	A-4	0	0	100	100	83-91	58-66	20-35	3-10
	6-16	Loam	CL, CL-ML, ML	A-4	0	0	100	100	82-92	57-67	19-30	4-12
	16-80	Sandy loam	SC	A-4, A-6	0	0	100	100	66-88	30-52	16-37	2-19
SwC:												
Sweatman--------	0-3	Fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	35-50	17-35	2-13
	3-16	Clay	MH	A-7	0	0	95-100	90-100	76-100	61-88	43-63	25-40
	16-47	Clay	CH, CL, MH	A-6, A-7	0	0	95-100	77-100	66-100	53-88	43-63	25-40
	47-80	Stratified weathered bedrock to fine sandy loam	MH, ML	A-7	0	0	95-100	73-100	63-96	27-47	18-28	2-10

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
SwF:												
Sweatman--------	0-3	Fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	35-50	17-35	2-13
	3-16	Clay	MH	A-7	0	0	95-100	90-100	76-100	61-88	43-63	25-40
	16-47	Clay	CH, CL, MH	A-6, A-7	0	0	95-100	77-100	66-100	53-88	43-63	25-40
	47-80	Stratified weathered bedrock to fine sandy loam	MH, ML	A-7	0	0	95-100	73-100	63-96	27-47	18-28	2-10
SwB2:												
Sweatman--------	0-3	Fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	35-50	17-35	2-13
	3-16	Clay	MH	A-7	0	0	95-100	90-100	76-100	61-88	43-63	25-40
	16-47	Clay	CH, CL, MH	A-6, A-7	0	0	95-100	77-100	66-100	53-88	43-63	25-40
	47-80	Stratified weathered bedrock to fine sandy loam	MH, ML	A-7	0	0	95-100	73-100	63-96	27-47	18-28	2-10
SwC2:												
Sweatman--------	0-2	Fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	35-50	17-35	2-13
	2-15	Clay	MH	A-7	0	0	95-100	90-100	76-100	61-88	43-63	25-40
	15-46	Clay	CH, CL, MH	A-6, A-7	0	0	95-100	77-100	66-100	53-88	43-63	25-40
	46-80	Stratified weathered bedrock to fine sandy loam	MH, ML	A-7	0	0	95-100	73-100	63-96	27-47	18-28	2-10
SwD:												
Sweatman--------	0-3	Fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	35-50	17-35	2-13
	3-16	Clay	MH	A-7	0	0	95-100	90-100	76-100	61-88	43-63	25-40
	16-47	Clay	CH, CL, MH	A-6, A-7	0	0	95-100	77-100	66-100	53-88	43-63	25-40
	47-80	Stratified weathered bedrock to fine sandy loam	MH, ML	A-7	0	0	95-100	73-100	63-96	27-47	18-28	2-10

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
SwD2:												
Sweatman--------	0-2	Fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	35-50	17-35	2-13
	2-15	Clay	MH	A-7	0	0	95-100	90-100	76-100	61-88	43-63	25-40
	15-46	Clay	CH, CL, MH	A-6, A-7	0	0	95-100	77-100	66-100	53-88	43-63	25-40
	46-80	Stratified weathered bedrock to fine sandy loam	MH, ML	A-7	0	0	95-100	73-100	63-96	27-47	18-28	2-10
Ub:												
Urban land.												
Uo:												
Urbo----------	0-8	Silt loam	CL	A-6	0	0	100	100	84-100	73-96	24-49	7-24
	8-80	Silty clay	CH, CL	A-7	0	0	100	100	89-100	85-100	43-63	25-40
W:												
Water.												
WcC:												
Wilcox----------	0-3	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	86-100	75-100	29-55	10-29
	3-20	Clay	CH, MH	A-7	0	0	100	100	82-100	71-91	50-69	29-44
	20-60	Clay	CH	A-7	0	0	100	100	81-100	71-100	50-78	29-51
	60-80	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
WcE:												
Wilcox----------	0-3	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	86-100	75-100	29-55	10-29
	3-20	Clay	CH, MH	A-7	0	0	100	100	82-100	71-91	50-69	29-44
	20-60	Clay	CH	A-7	0	0	100	100	81-100	71-100	50-78	29-51
	60-80	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
WcB2:												:
Wilcox----------	0-3	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	86-100	75-100	29-55	10-29
	3-20	Clay	CH, MH	A-7	0	0	100	100	82-100	71-91	50-69	29-44
	20-60	Clay	CH	A-7	0	0	100	100	81-100	71-100	50-78	29-51
	60-80	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
WcC2:												
Wilcox----------	0-2	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	86-100	75-100	29-55	10-29
	2-19	Clay	CH, MH	A-7	0	0	100	100	82-100	71-91	50-69	29-44
	19-59	Clay	CH	A-7	0	0	100	100	81-100	71-100	50-78	29-51
	59-80	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
WcD:												
Wilcox----------	0-3	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	86-100	75-100	29-55	10-29
	3-20	Clay	CH, MH	A-7	0	0	100	100	82-100	71-91	50-69	29-44
	20-60	Clay	CH	A-7	0	0	100	100	81-100	71-100	50-78	29-51
	60-80	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 15.--Physical Properties of the Soils

Map symbol and soil name	Depth	Clay	Moist bulk density	Ksat	Available water Capacity	Linear extensi- bility	Organic matter	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	*Pct*	*g/cc*	*µm/sec*	*In/in*	*Pct*	*Pct*					
Ab:												
Ariel----------	0-6	12-18	1.40-1.50	4.23-14.11	0.20-0.22	0.0-2.9	0.5-2.0	.43	.43	5	5	48
	6-31	7-27	1.45-1.70	1.41-4.23	0.14-0.23	0.0-2.9	0.1-0.5	.43	.43			
	31-80	12-35	1.45-1.70	1.41-4.23	0.14-0.23	0.0-2.9	0.1-0.2	.43	.43			
Ar:												
Arkabutla-------	0-5	5-25	1.40-1.50	4.23-14.11	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	48
	5-80	20-35	1.45-1.55	4.23-14.11	0.18-0.21	0.0-2.9	0.1-0.8	.32	.32			
FaA:												
Falkner---------	0-4	5-18	1.40-1.55	1.41-4.23	0.21-0.24	0.0-2.9	0.5-3.0	.49	.49	4	5	48
	4-17	20-35	1.40-1.60	1.41-4.23	0.19-0.22	3.0-5.9	0.1-0.3	.43	.43			
	17-80	38-60	1.40-1.50	0.42-1.41	0.16-0.18	6.0-8.9	0.1-0.3	.24	.24			
Gu:												
Guyton----------	0-31	7-25	1.35-1.65	4.23-14.11	0.20-0.23	0.0-2.9	0.5-4.0	.43	.43	5	5	48
	31-41	20-35	1.35-1.70	0.42-1.41	0.15-0.22	0.0-2.9	0.1-1.0	.37	.37			
	41-80	20-35	1.35-1.70	0.42-1.41	0.15-0.22	0.0-2.9	0.1-0.5	.37	.37			
Jk:												
Jena----------	0-4	14-27	1.30-1.70	4.23-14.11	0.12-0.20	0.0-2.9	0.5-2.0	.37	.37	5	5	48
	4-52	10-18	1.30-1.70	4.23-14.11	0.10-0.20	0.0-2.9	0.5-1.0	.28	.28			
	52-80	5-20	1.35-1.65	14.11-42.34	0.08-0.14	0.0-2.9	0.0-0.5	.24	.24			
Kirkville-------	0-10	10-30	1.30-1.50	4.23-14.11	0.15-0.15	0.0-2.9	0.5-2.0	.28	.28	5	5	48
	10-80	10-18	1.35-1.55	4.23-14.11	0.10-0.15	0.0-2.9	0.1-0.8	.28	.28			
Ke:												
Kinston---------	0-3	5-27	1.30-1.50	4.23-14.11	0.14-0.20	0.0-2.9	2.0-5.0	.37	.37	5	5	48
	3-80	18-35	1.30-1.50	4.23-14.11	0.14-0.18	0.0-2.9	0.0-0.9	.32	.32			
KM:												
Kinston---------	0-12	5-27	1.30-1.50	4.23-14.11	0.14-0.20	0.0-2.9	2.0-5.0	.37	.37	5	5	48
	12-50	18-35	1.30-1.50	4.23-14.11	0.14-0.18	0.0-2.9	0.1-0.9	.32	.32			
	50-60	18-35	1.30-1.50	4.23-14.11	0.14-0.18	0.0-2.9	0.1-0.2	.32	.32			
Mantachie-------	0-8	8-20	1.50-1.60	4.23-14.11	0.16-0.20	0.0-2.9	1.0-3.0	.28	.28	5	5	48
	8-80	18-34	1.50-1.60	4.23-14.11	0.14-0.20	0.0-2.9	0.1-0.9	.28	.28			
Mooreville------	0-10	5-27	1.40-1.50	4.23-14.11	0.14-0.20	0.0-2.9	0.5-2.0	.37	.37	5	5	48
	10-43	18-35	1.40-1.50	4.23-14.11	0.14-0.18	3.0-5.9	0.1-0.9	.28	.28			
	43-60	10-40	1.40-1.60	4.23-14.11	0.14-0.18	3.0-5.9	0.1-0.5	.28	.28			

Table 15.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Ksat	Available water Capacity	Linear extensi- bility	Organic matter	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	*Pct*	*g/cc*	*µm/sec*	*In/in*	*Pct*	*Pct*					
LaF:												
Lauderdale------	0-4	10-15	1.40-1.50	4.23-14.11	0.15-0.20	0.0-2.9	1.0-3.0	.28	.28	2	3	86
	4-10	20-35	1.40-1.50	1.41-4.23	0.15-0.20	3.0-5.9	0.1-0.3	.32	.37			
	10-15	0-0	---	0.07-0.42	---	---	0.1-0.2	---	---			
MaF:												
Maben----------	0-4	5-20	1.40-1.50	4.23-14.11	0.12-0.16	0.0-2.9	0.5-1.0	.28	.28	3	5	48
	4-34	35-55	1.45-1.55	1.41-4.23	0.14-0.18	6.0-8.9	0.1-0.3	.28	.28			
	34-40	12-27	1.45-1.55	1.41-4.23	0.14-0.18	3.0-5.9	0.1-0.3	.28	.28			
	40-80	5-15	1.45-1.55	1.41-4.23	0.10-0.15	0.0-2.9	0.1-0.2	.28	.28			
MaC:												
Maben----------	0-4	5-20	1.40-1.50	4.23-14.11	0.12-0.16	0.0-2.9	0.5-1.0	.28	.28	3	5	48
	4-34	35-55	1.45-1.55	1.41-4.23	0.14-0.18	6.0-8.9	0.1-0.3	.28	.28			
	34-40	12-27	1.45-1.55	1.41-4.23	0.14-0.18	3.0-5.9	0.1-0.3	.28	.28			
	40-80	5-15	1.45-1.55	1.41-4.23	0.10-0.15	0.0-2.9	0.1-0.2	.28	.28			
Mo:												
Mantachie-------	0-7	8-20	1.50-1.60	4.23-14.11	0.16-0.20	0.0-2.9	1.0-3.0	.28	.28	5	5	48
	7-80	18-34	1.50-1.60	4.23-14.11	0.14-0.20	0.0-2.9	0.1-0.9	.28	.28			
Mn:												
Mantachie-------	0-7	8-20	1.50-1.60	4.23-14.11	0.16-0.20	0.0-2.9	1.0-3.0	.28	.28	5	5	48
	7-80	18-34	1.50-1.60	4.23-14.11	0.14-0.20	0.0-2.9	0.1-0.9	.28	.28			
Mt:												
Mathiston-------	0-8	5-25	1.40-1.50	4.23-14.11	0.18-0.22	0.0-2.9	1.0-3.0	.37	.37	5	5	48
	8-80	20-35	1.45-1.55	4.23-14.11	0.18-0.22	0.0-2.9	0.1-0.6	.37	.37			
OrC:												
Ora----------	0-6	10-18	1.45-1.55	14.11-42.34	0.10-0.13	0.0-2.9	1.0-3.0	.28	.28	4	3	86
	6-18	18-33	1.70-1.80	1.41-4.23	0.05-0.10	0.0-2.9	0.1-0.2	.32	.32			
	18-46	18-33	1.45-1.60	4.23-14.11	0.12-0.18	0.0-2.9	0.1-0.3	.37	.37			
	46-80	10-35	1.65-1.75	4.23-14.11	0.10-0.15	0.0-2.9	0.1-0.2	.37	.37			
OrB2:												
Ora----------	0-6	10-18	1.45-1.55	14.11-42.34	0.10-0.13	0.0-2.9	1.0-3.0	.28	.28	4	3	86
	6-18	18-33	1.45-1.60	4.23-14.11	0.12-0.18	0.0-2.9	0.1-0.3	.37	.37			
	18-46	18-33	1.70-1.80	1.41-4.23	0.05-0.10	0.0-2.9	0.1-0.2	.32	.32			
	46-80	10-35	1.65-1.75	4.23-14.11	0.10-0.15	0.0-2.9	0.1-0.2	.37	.37			
OrC2:												
Ora----------	0-4	10-18	1.45-1.55	14.11-42.34	0.10-0.13	0.0-2.9	1.0-3.0	.28	.28	4	3	86
	4-16	18-33	1.45-1.60	4.23-14.11	0.12-0.18	0.0-2.9	0.1-0.3	.37	.37			
	16-44	18-33	1.70-1.80	1.41-4.23	0.05-0.10	0.0-2.9	0.1-0.2	.32	.32			
	44-80	10-35	1.65-1.75	4.23-14.11	0.10-0.15	0.0-2.9	0.1-0.2	.37	.37			

Table 15.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Ksat	Available water Capacity	Linear extensi-bility	Organic matter	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	*Pct*	*g/cc*	*µm/sec*	*In/in*	*Pct*	*Pct*					
OrD2:												
Ora----------	0-4	10-18	1.45-1.55	14.11-42.34	0.10-0.13	0.0-2.9	1.0-3.0	.28	.28	4	3	86
	4-16	18-33	1.45-1.60	4.23-14.11	0.12-0.18	0.0-2.9	0.1-0.3	.37	.37			
	16-44	18-33	1.70-1.80	1.41-4.23	0.05-0.10	0.0-2.9	0.1-0.2	.32	.32			
	44-80	10-35	1.65-1.75	4.23-14.11	0.10-0.15	0.0-2.9	0.1-0.2	.37	.37			
Pc:												
Pits.												
Udorthents.												
PrB2:												
Providence------	0-6	5-12	1.30-1.40	4.23-14.11	0.20-0.22	0.0-2.9	0.5-3.0	.49	.49	4	5	48
	6-29	18-30	1.40-1.50	4.23-14.11	0.20-0.22	0.0-2.9	0.1-0.3	.43	.43			
	29-54	20-30	1.40-1.60	1.41-4.23	0.08-0.10	0.0-2.9	0.1-0.3	.32	.32			
	54-60	12-30	1.40-1.60	1.41-4.23	0.08-0.10	0.0-2.9	0.1-0.3	.32	.32			
	60-80	10-27	1.40-1.60	4.23-14.11	0.10-0.15	0.0-2.9	0.1-0.2	.32	.32			
Ro:												
Rosebloom-------	0-9	18-25	1.40-1.55	4.23-14.11	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	48
	9-80	20-35	1.40-1.55	4.23-14.11	0.20-0.22	0.0-2.9	0.1-0.8	.37	.37			
RuC:												
Ruston----------	0-5	2-20	1.30-1.70	4.23-14.11	0.09-0.16	0.0-2.9	0.5-3.0	.28	.28	5	3	86
	5-37	18-35	1.40-1.70	4.23-14.11	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	37-50	10-20	1.30-1.70	4.23-14.11	0.12-0.15	0.0-2.9	0.1-0.3	.28	.32			
	50-80	15-38	1.40-1.70	4.23-14.11	0.12-0.17	0.0-2.9	0.1-0.2	.28	.28			
RuB2:												
Ruston----------	0-5	2-20	1.30-1.70	4.23-14.11	0.09-0.16	0.0-2.9	0.5-3.0	.28	.28	5	3	86
	5-37	18-35	1.40-1.70	4.23-14.11	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	37-50	10-20	1.30-1.70	4.23-14.11	0.12-0.15	0.0-2.9	0.1-0.3	.28	.32			
	50-80	15-38	1.40-1.70	4.23-14.11	0.12-0.17	0.0-2.9	0.1-0.2	.28	.28			
RuC2:												
Ruston----------	0-3	2-20	1.30-1.70	4.23-14.11	0.09-0.16	0.0-2.9	0.5-3.0	.28	.28	5	3	86
	3-35	18-35	1.40-1.70	4.23-14.11	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	35-48	10-20	1.30-1.70	4.23-14.11	0.12-0.15	0.0-2.9	0.1-0.3	.28	.32			
	48-80	15-38	1.40-1.70	4.23-14.11	0.12-0.17	0.0-2.9	0.1-0.2	.28	.28			
SaA:												
Savannah--------	0-6	3-16	1.50-1.60	4.23-14.11	0.13-0.16	0.0-2.9	0.5-3.0	.24	.24	4	3	86
	6-23	18-32	1.45-1.65	4.23-14.11	0.11-0.17	0.0-2.9	0.1-0.3	.28	.28			
	23-80	18-32	1.60-1.80	1.41-4.23	0.05-0.10	0.0-2.9	0.1-0.2	.24	.24			

Table 15.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Ksat	Available water Capacity	Linear extensi- bility	Organic matter	Erosion factors K	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	*Pct*	*g/cc*	*µm/sec*	*In/in*	*Pct*	*Pct*					
SaB2:												
Savannah--------	0-6	3-16	1.50-1.60	4.23-14.11	0.13-0.16	0.0-2.9	0.5-3.0	.24	.24	4	3	86
	6-23	18-32	1.45-1.65	4.23-14.11	0.11-0.17	0.0-2.9	0.1-0.3	.28	.28			
	23-81	18-32	1.60-1.80	1.41-4.23	0.05-0.10	0.0-2.9	0.1-0.2	.24	.24			
SaC2:												
Savannah--------	0-6	3-16	1.50-1.60	4.23-14.11	0.13-0.16	0.0-2.9	0.5-3.0	.24	.24	4	3	86
	6-23	18-32	1.45-1.65	4.23-14.11	0.11-0.17	0.0-2.9	0.1-0.3	.28	.28			
	23-80	18-32	1.60-1.80	1.41-4.23	0.05-0.10	0.0-2.9	0.1-0.2	.24	.24			
SnF:												
Smithdale-------	0-6	2-15	1.40-1.50	14.11-42.34	0.14-0.16	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	6-51	18-33	1.40-1.55	4.23-14.11	0.15-0.17	0.0-2.9	0.1-0.3	.24	.24			
	51-80	12-27	1.40-1.55	14.11-42.34	0.14-0.16	0.0-2.9	0.1-0.2	.28	.28			
Sweatman--------	0-3	5-20	1.40-1.60	4.23-14.11	0.20-0.22	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	3-16	35-55	1.40-1.50	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.3	.28	.28			
	16-47	35-55	1.40-1.55	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.2	.28	.32			
	47-80	5-15	1.40-1.55	1.41-4.23	0.10-0.18	3.0-5.9	0.1-0.2	.28	.28			
SmF:												
Smithdale-------	0-6	2-15	1.40-1.50	14.11-42.34	0.14-0.16	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	6-51	18-33	1.40-1.55	4.23-14.11	0.15-0.17	0.0-2.9	0.1-0.3	.24	.24			
	51-80	12-27	1.40-1.55	14.11-42.34	0.14-0.16	0.0-2.9	0.1-0.2	.28	.28			
SmD:												
Smithdale-------	0-6	2-15	1.40-1.50	14.11-42.34	0.14-0.16	0.0-2.9	0.5-2.0	.28	.28	5	3	86
	6-51	18-33	1.40-1.55	4.23-14.11	0.15-0.17	0.0-2.9	0.1-0.3	.24	.24			
	51-80	12-27	1.40-1.55	14.11-42.34	0.14-0.16	0.0-2.9	0.1-0.2	.28	.28			
StA:												
Stough----------	0-6	7-15	1.45-1.55	4.23-14.11	0.12-0.18	0.0-2.9	1.0-4.0	.37	.37	3	5	48
	6-16	8-18	1.45-1.50	1.41-4.23	0.07-0.11	0.0-2.9	0.1-0.6	.37	.37			
	16-80	5-27	1.55-1.65	1.41-4.23	0.07-0.11	0.0-2.9	0.1-0.4	.37	.37			
SwC:												
Sweatman--------	0-3	5-20	1.40-1.60	4.23-14.11	0.20-0.22	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	3-16	35-55	1.40-1.50	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.3	.28	.28			
	16-47	35-55	1.40-1.55	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.2	.28	.32			
	47-80	5-15	1.40-1.55	1.41-4.23	0.10-0.18	3.0-5.9	0.1-0.2	.28	.28			
SwF:												
Sweatman--------	0-3	5-20	1.40-1.60	4.23-14.11	0.20-0.22	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	3-16	35-55	1.40-1.50	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.3	.28	.28			
	16-47	35-55	1.40-1.55	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.2	.28	.32			
	47-80	5-15	1.40-1.55	1.41-4.23	0.10-0.18	3.0-5.9	0.1-0.2	.28	.28			

Table 15.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Ksat	Available water Capacity	Linear extensi- bility	Organic matter	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	*Pct*	*g/cc*	*µm/sec*	*In/in*	*Pct*	*Pct*					
SwB2:												
Sweatman--------	0-3	5-20	1.40-1.60	4.23-14.11	0.20-0.22	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	3-16	35-55	1.40-1.50	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.3	.28	.28			
	16-47	35-55	1.40-1.55	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.2	.28	.32			
	47-80	5-15	1.40-1.55	1.41-4.23	0.10-0.18	3.0-5.9	0.1-0.2	.28	.28			
SwC2:												
Sweatman--------	0-2	5-20	1.40-1.60	4.23-14.11	0.20-0.22	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	2-15	35-55	1.40-1.50	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.3	.28	.28			
	15-46	35-55	1.40-1.55	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.2	.28	.32			
	46-80	5-15	1.40-1.55	1.41-4.23	0.10-0.18	3.0-5.9	0.1-0.2	.28	.28			
SwD:												
Sweatman--------	0-3	5-20	1.40-1.60	4.23-14.11	0.20-0.22	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	3-16	35-55	1.40-1.50	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.3	.28	.28			
	16-47	35-55	1.40-1.55	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.2	.28	.32			
	47-80	5-15	1.40-1.55	1.41-4.23	0.10-0.18	3.0-5.9	0.1-0.2	.28	.28			
SwD2:												
Sweatman--------	0-2	5-20	1.40-1.60	4.23-14.11	0.20-0.22	0.0-2.9	0.5-2.0	.28	.28	3	3	86
	2-15	35-55	1.40-1.50	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.3	.28	.28			
	15-46	35-55	1.40-1.55	1.41-4.23	0.16-0.20	3.0-5.9	0.1-0.2	.28	.32			
	46-80	5-15	1.40-1.55	1.41-4.23	0.10-0.18	3.0-5.9	0.1-0.2	.28	.28			
Ub:												
Urban land.												
Uo:												
Urbo----------	0-8	12-35	1.40-1.50	0.42-1.41	0.19-0.21	0.0-2.9	1.0-3.0	.49	.49	5	5	48
	8-80	35-55	1.45-1.55	0.00-0.42	0.18-0.20	3.0-5.9	0.1-0.6	.28	.28			
W:												
Water.												
WcC:												
Wilcox----------	0-3	15-40	1.40-1.45	0.42-1.41	0.15-0.21	6.0-8.9	0.5-2.0	.37	.37	4	7	86
	3-20	35-60	1.40-1.50	0.00-0.42	0.18-0.20	6.0-8.9	0.1-0.6	.32	.32			
	20-60	40-70	1.40-1.55	0.00-0.42	0.15-0.18	6.0-8.9	0.1-0.5	.28	.28			
	60-80	---	---	0.00-0.42	---	---	0.1-0.4	---	---			
WcE:												
Wilcox----------	0-3	15-40	1.40-1.45	0.42-1.41	0.15-0.21	6.0-8.9	0.5-2.0	.37	.37	4	7	86
	3-20	35-60	1.40-1.50	0.00-0.42	0.18-0.20	6.0-8.9	0.1-0.6	.32	.32			
	20-60	40-70	1.40-1.55	0.00-0.42	0.15-0.18	6.0-8.9	0.1-0.5	.28	.28			
	60-80	---	---	0.00-0.42	---	---	0.1-0.4	---	---			

Table 15.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Ksat	Available water Capacity	Linear extensi- bility	Organic matter	Erosion factors K	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	*Pct*	*g/cc*	*µm/sec*	*In/in*	*Pct*	*Pct*					
WcB2:												
Wilcox----------	0-3	15-40	1.40-1.45	0.42-1.41	0.15-0.21	6.0-8.9	0.5-2.0	.37	.37	4	7	86
	3-20	35-60	1.40-1.50	0.00-0.42	0.18-0.20	6.0-8.9	0.1-0.6	.32	.32			
	20-60	40-70	1.40-1.55	0.00-0.42	0.15-0.18	6.0-8.9	0.1-0.5	.28	.28			
	60-80	---	---	0.00-0.42	---	---	0.1-0.4	---	---			
WcC2:												
Wilcox----------	0-2	15-40	1.40-1.45	0.42-1.41	0.15-0.21	6.0-8.9	0.5-2.0	.37	.37	4	7	86
	2-19	35-60	1.40-1.50	0.00-0.42	0.18-0.20	6.0-8.9	0.1-0.6	.32	.32			
	19-59	40-70	1.40-1.55	0.00-0.42	0.15-0.18	6.0-8.9	0.1-0.5	.28	.28			
	59-80	---	---	0.00-0.42	---	---	0.1-0.4	---	---			
WcD:												
Wilcox----------	0-3	15-40	1.40-1.45	0.42-1.41	0.15-0.21	6.0-8.9	0.5-2.0	.37	.37	4	7	86
	3-20	35-60	1.40-1.50	0.00-0.42	0.18-0.20	6.0-8.9	0.1-0.6	.32	.32			
	20-60	40-70	1.40-1.55	0.00-0.42	0.15-0.18	6.0-8.9	0.1-0.5	.28	.28			
	60-80	---	---	0.00-0.42	---	---	0.1-0.4	---	---			

Table 16.--Chemical Properties of the Soils

[Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Gypsum	Sodium adsorp-tion ratio
	In	*meq/100 g*	*meq/100 g*	*pH*	*Pct*	
Ab:						
Ariel----------	0-6	---	3.1-5.7	4.5-5.5	0	0
	6-31	---	1.9-12	4.5-5.5	0	0
	31-80	---	4.0-16	4.5-5.5	0	0
Ar:						
Arkabutla----------	0-5	---	1.1-7.7	5.0-6.0	0	0
	5-80	---	6.1-16	4.5-5.5	0	0
FaA:						
Falkner----------	0-4	---	1.1-5.7	4.5-6.0	0	0
	4-17	---	6.8-16	4.5-6.0	0	0
	17-80	19-31	---	4.5-6.5	0	0
Gu:						
Guyton----------	0-31	---	1.5-8.3	4.5-5.5	0	0
	31-41	---	5.9-16	4.5-5.0	0-5	0
	41-80	10-18	---	4.5-5.0	0-5	0-10
Jk:						
Jena----------	0-4	---	3.6-9.1	4.5-6.0	0	0
	4-52	---	2.7-5.7	4.5-5.5	0	0
	52-80	---	1.3-9.5	4.5-5.5	0	0
Kirkville----------	0-10	---	2.5-10	4.5-5.5	0	0
	10-80	---	2.7-7.4	4.5-5.5	0	0
Ke:						
Kinston----------	0-3	---	0.8-4.9	4.5-5.5	0	0
	3-80	---	3.3-8.4	4.5-5.5	0	0
KM:						
Kinston----------	0-12	---	0.8-4.9	4.5-5.5	0	0
	12-50	---	3.3-7.9	4.5-5.5	0	0
	50-60	---	3.6-7.9	4.5-5.5	0	0
Mantachie----------	0-8	---	1.8-5.9	4.5-5.5	0	0
	8-80	---	5.3-15	4.5-5.5	0	0
Mooreville----------	0-10	---	1.1-9.1	4.5-6.0	0	0
	10-43	---	5.3-16	4.5-5.5	0	0
	43-60	---	2.9-19	4.5-5.5	0	0
LaF:						
Lauderdale----------	0-4	---	---	4.5-5.5	0	0
	4-10	---	---	4.5-5.5	0	0
	10-15	---	---	---	---	---
MaC:						
Maben----------	0-4	2.7-11	---	5.0-6.0	0	0
	4-34	---	13-27	4.5-6.0	0	0
	34-40	---	---	4.5-6.0	0	0
	40-80	---	---	4.5-6.0	0	0

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Gypsum	Sodium adsorp- tion ratio
	In	*meq/100 g*	*meq/100 g*	*pH*	*Pct*	
MaF:						
Maben----------	0-4	2.7-11	---	5.0-6.0	0	0
	4-34	---	13-27	4.5-6.0	0	0
	34-40	---	---	4.5-6.0	0	0
	40-80	---	---	4.5-6.0	0	0
Mn:						
Mantachie----------	0-7	---	1.8-5.9	4.5-5.5	0	0
	7-80	---	5.3-15	4.5-5.5	0	0
Mo:						
Mantachie----------	0-7	---	1.8-5.9	4.5-5.5	0	0
	7-80	---	5.3-15	4.5-5.5	0	0
Mt:						
Mathiston----------	0-8	---	1.1-7.7	4.5-5.5	0	0
	8-80	---	6.3-16	4.5-5.5	0	0
OrB2:						
Ora----------	0-6	---	1.7-3.3	4.5-5.5	0	0
	6-18	---	3.6-7.5	4.5-5.5	0	0
	18-46	---	3.6-7.5	4.5-5.5	0	0
	46-80	---	2.0-7.9	4.5-5.5	0	0
OrC:						
Ora----------	0-6	---	1.7-3.3	4.5-5.5	0	0
	6-18	---	3.6-7.5	4.5-5.5	0	0
	18-46	---	3.6-7.5	4.5-5.5	0	0
	46-80	---	2.0-7.9	4.5-5.5	0	0
OrC2:						
Ora----------	0-4	---	1.7-3.3	4.5-5.5	0	0
	4-16	---	3.6-7.5	4.5-5.5	0	0
	16-44	---	3.6-7.5	4.5-5.5	0	0
	44-80	---	2.0-7.9	4.5-5.5	0	0
OrD2:						
Ora----------	0-4	---	1.7-3.3	4.5-5.5	0	0
	4-16	---	3.6-7.5	4.5-5.5	0	0
	16-44	---	3.6-7.5	4.5-5.5	0	0
	44-80	---	2.0-7.9	4.5-5.5	0	0
Pc:						
Pits.						
Udorthents.						
PrB2:						
Providence----------	0-6	---	1.1-3.6	4.5-6.0	0	0
	6-29	---	6.0-13	4.5-6.0	0	0
	29-54	---	6.8-13	4.5-6.0	0	0
	54-60	---	3.8-13	4.5-6.0	0	0
	60-80	---	3.2-12	4.5-6.0	0	0
Ro:						
Rosebloom----------	0-9	---	4.6-7.7	4.5-5.5	0	0
	9-80	---	6.1-16	4.5-5.5	0	0

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Gypsum	Sodium adsorp- tion ratio
	In	*meq/100 g*	*meq/100 g*	*pH*	*Pct*	
RuB2:						
Ruston----------	0-5	0.8-7.4	---	4.5-5.5	0	0
	5-37	---	3.5-7.9	4.5-5.5	0	0
	37-50	---	1.9-4.4	4.5-5.5	0	0
	50-80	---	3.0-8.6	4.5-5.5	0	0
RuC:						
Ruston----------	0-5	0.8-7.4	---	4.5-5.5	0	0
	5-37	---	3.5-7.9	4.5-5.5	0	0
	37-50	---	1.9-4.4	4.5-5.5	0	0
	50-80	---	3.0-8.6	4.5-5.5	0	0
RuC2:						
Ruston----------	0-3	0.8-7.4	---	4.5-5.5	0	0
	3-35	---	3.5-7.9	4.5-5.5	0	0
	35-48	---	1.9-4.4	4.5-5.5	0	0
	48-80	---	3.0-8.6	4.5-5.5	0	0
SaA:						
Savannah----------	0-6	---	0.5-3.1	4.5-5.5	0	0
	6-23	---	3.6-7.2	4.5-5.5	0	0
	23-80	---	3.6-7.2	4.5-5.5	0	0
SaB2:						
Savannah----------	0-6	---	0.5-3.1	4.5-5.5	0	0
	6-23	---	3.6-7.2	4.5-5.5	0	0
	23-81	---	3.6-7.2	4.5-5.5	0	0
SaC2:						
Savannah----------	0-6	---	0.5-3.1	4.5-5.5	0	0
	6-23	---	3.6-7.2	4.5-5.5	0	0
	23-80	---	3.6-7.2	4.5-5.5	0	0
SmD:						
Smithdale----------	0-6	---	---	4.5-5.5	0	0
	6-51	---	---	4.5-5.5	0	0
	51-80	---	---	4.5-5.5	0	0
SmF:						
Smithdale----------	0-6	---	---	4.5-5.5	0	0
	6-51	---	---	4.5-5.5	0	0
	51-80	---	---	4.5-5.5	0	0
SnF:						
Smithdale----------	0-6	---	---	4.5-5.5	0	0
	6-51	---	---	4.5-5.5	0	0
	51-80	---	---	4.5-5.5	0	0
Sweatman----------	0-3	---	0.8-3.9	4.5-5.5	0	0
	3-16	---	7.1-13	4.5-5.5	0	0
	16-47	---	7.3-13	4.5-5.5	0	0
	47-80	---	1.0-3.3	4.5-5.5	0	0
StA:						
Stough----------	0-6	---	1.1-2.7	4.5-5.5	0	0
	6-16	---	1.5-3.9	4.5-5.5	0	0
	16-80	---	0.9-6.0	4.5-5.5	0	0

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Gypsum	Sodium adsorp- tion ratio
	In	*meq/100 g*	*meq/100 g*	*pH*	*Pct*	
SwB2:						
Sweatman----------	0-3	---	0.8-3.9	4.5-5.5	0	0
	3-16	---	7.1-13	4.5-5.5	0	0
	16-47	---	7.3-13	4.5-5.5	0	0
	47-80	---	1.0-3.3	4.5-5.5	0	0
SwC:						
Sweatman----------	0-3	---	0.8-3.9	4.5-5.5	0	0
	3-16	---	7.1-13	4.5-5.5	0	0
	16-47	---	7.3-13	4.5-5.5	0	0
	47-80	---	1.0-3.3	4.5-5.5	0	0
SwC2:						
Sweatman----------	0-2	---	0.8-3.9	4.5-5.5	0	0
	2-15	---	7.1-13	4.5-5.5	0	0
	15-46	---	7.3-13	4.5-5.5	0	0
	46-80	---	1.0-3.3	4.5-5.5	0	0
SwD:						
Sweatman----------	0-3	---	0.8-3.9	4.5-5.5	0	0
	3-16	---	7.1-13	4.5-5.5	0	0
	16-47	---	7.3-13	4.5-5.5	0	0
	47-80	---	1.0-3.3	4.5-5.5	0	0
SwD2:						
Sweatman----------	0-2	---	0.8-3.9	4.5-5.5	0	0
	2-15	---	7.1-13	4.5-5.5	0	0
	15-46	---	7.3-13	4.5-5.5	0	0
	46-80	---	1.0-3.3	4.5-5.5	0	0
SwF:						
Sweatman----------	0-3	---	0.8-3.9	4.5-5.5	0	0
	3-16	---	7.1-13	4.5-5.5	0	0
	16-47	---	7.3-13	4.5-5.5	0	0
	47-80	---	1.0-3.3	4.5-5.5	0	0
Ub:						
Urban land.						
Uo:						
Urbo----------	0-8	---	2.9-11	4.5-5.5	0	0
	8-80	---	12-27	4.5-5.5	0	0
W:						
Water.						
WcB2:						
Wilcox----------	0-3	---	7.8-24	4.5-5.5	0	0
	3-20	---	16-36	3.6-5.5	0	0
	20-60	---	16-42	3.6-5.5	0	0
	60-80	---	---	---	---	---
WcC:						
Wilcox----------	0-3	---	7.8-24	4.5-5.5	0	0
	3-20	---	16-36	3.6-5.5	0	0
	20-60	---	16-42	3.6-5.5	0	0
	60-80	---	---	---	---	---

Table 16.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Gypsum	Sodium adsorp- tion ratio
	In	*meq/100 g*	*meq/100 g*	*pH*	*Pct*	
WcC2:						
Wilcox----------	0-2	---	7.8-24	4.5-5.5	0	0
	2-19	---	16-36	3.6-5.5	0	0
	19-59	---	16-42	3.6-5.5	0	0
	59-80	---	---	---	---	---
WcD:						
Wilcox----------	0-3	---	7.8-24	4.5-5.5	0	0
	3-20	---	16-36	3.6-5.5	0	0
	20-60	---	16-42	3.6-5.5	0	0
	60-80	---	---	---	---	---
WcE:						
Wilcox----------	0-3	---	7.8-24	4.5-5.5	0	0
	3-20	---	16-36	3.6-5.5	0	0
	20-60	---	16-42	3.6-5.5	0	0
	60-80	---	---	---	---	---

Table 17.--Soil Features

[See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		*In*	*In*			
Ab:								
Ariel	---	---	---	0	---	None	Low	Moderate
Ar:								
Arkabutla	---	---	---	0	---	None	High	High
FaA:								
Falkner	---	---	---	0	---	None	High	Moderate
Gu:								
Guyton	---	---	---	0	---	None	High	High
Jk:								
Jena	---	---	---	---	---	---	Low	High
Kirkville	---	---	---	---	---	---	Moderate	High
Ke:								
Kinston	---	---	---	0	---	None	High	High
KM:								
Kinston	---	---	---	---	---	---	High	High
Mantachie	---	---	---	---	---	---	High	High
Mooreville	---	---	---	---	---	---	Moderate	High
LaF:								
Lauderdale	Paralithic bedrock	12-20	Moderately cemented	0	---	None	Low	Moderate
MaF:								
Maben	---	---	---	0	---	None	High	Moderate
MaC:								
Maben	---	---	---	0	---	None	High	Moderate
Mo:								
Mantachie	---	---	---	0	---	None	High	High
Mn:								
Mantachie	---	---	---	0	---	None	High	High

Table 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		*In*	*In*			
Mt:								
Mathiston	---	---	---	0	---	None	High	High
OrC:								
Ora	Fragipan	18-42	---	0	---	None	Moderate	High
OrB2:								
Ora	Fragipan	18-42	---	0	---	None	Moderate	High
OrC2:								
Ora	Fragipan	18-42	---	0	---	None	Moderate	High
OrD2:								
Ora	Fragipan	18-42	---	0	---	None	Moderate	High
Pc:								
Pits.								
Udorthents.								
PrB2:								
Providence	Fragipan	18-38	Noncemented	0	---	None	Moderate	Moderate
Ro:								
Rosebloom	---	---	---	0	---	None	High	Moderate
RuC:								
Ruston	---	---	---	0	---	None	Moderate	Moderate
RuB2:								
Ruston	---	---	---	0	---	None	Moderate	Moderate
RuC2:								
Ruston	---	---	---	0	---	None	Moderate	Moderate
SaA:								
Savannah	Fragipan	16-38	Noncemented	0	---	None	Moderate	High
SaB2:								
Savannah	Fragipan	16-38	Noncemented	0	---	None	Moderate	High
SaC2:								
Savannah	Fragipan	16-38	Noncemented	0	---	None	Moderate	High
SnF:								
Smithdale	---	---	---	0	---	None	Low	Moderate

Table 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		*In*	*In*			
SnF:								
Sweatman----------	---	---	---	0	---	None	High	High
SmF:								
Smithdale----------	---	---	---	0	---	None	Low	Moderate
SmD:								
Smithdale----------	---	---	---	0	---	None	Low	Moderate
StA:								
Stough----------	---	---	---	0	---	None	Moderate	High
SwC:								
Sweatman----------	---	---	---	0	---	None	High	High
SwF:								
Sweatman----------	---	---	---	0	---	None	High	High
SwB2:								
Sweatman----------	---	---	---	0	---	None	High	High
SwC2:								
Sweatman----------	---	---	---	0	---	None	High	High
SwD:								
Sweatman----------	---	---	---	0	---	None	High	High
SwD2:								
Sweatman----------	---	---	---	0	---	None	High	High
Ub:								
Urban land----------	---	---	---	---	---	---	---	---
Uo:								
Urbo----------	---	---	---	0	---	None	High	High
W:								
Water.								
WcC:								
Wilcox----------	Paralithic bedrock	40-60	Strongly cemented	0	---	None	High	High
WcE:								
Wilcox----------	Paralithic bedrock	40-60	Strongly cemented	0	---	None	High	High

Table 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		*In*	*In*			
WcB2:								
Wilcox	Paralithic bedrock	40-60	Strongly cemented	0	---	None	High	High
WcC2:								
Wilcox	Paralithic bedrock	40-60	Strongly cemented	0	---	None	High	High
WcD:								
Wilcox	Paralithic bedrock	40-60	Strongly cemented	0	---	None	High	High

Table 18.--Water Features

[Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
Ab:									
Ariel-------	C								
		Jan-Apr	2.5-4.0	>6.0	---	---	None	Brief	Occasional
		May-Dec	---	---	---	---	None	---	None
Ar:									
Arkabutla---	C								
		Jan-Apr	1.0-1.5	>6.0	---	---	None	Brief	Frequent
		May-Dec	---	---	---	---	None	---	None
FaA:									
Falkner-----	C								
		Jan-Mar	1.5-2.5	1.5-2.5	---	---	None	---	None
		Apr-Dec	---	---	---	---	None	---	None
Gu:									
Guyton------	D								
		Jan-Apr	0.0-1.5	0.0-1.5	0.0-0.8	Brief	Occasional	Brief	Occasional
		May	0.0-1.5	0.0-1.5	---	---	None	---	None
		Jun-Nov	---	---	---	---	None	---	None
		December	0.0-1.5	0.0-1.5	---	---	None	Brief	None
Jk:									
Jena--------	B								
		Jan-June	---	---	---	---	None	Brief	Occasional
		Jul-Oct	---	---	---	---	None	---	None
		Nov-Dec	---	---	---	---	None	Brief	Occasional
Kirkville---	C								
		Jan-Apr	1.5-2.5	>6.0	---	---	None	Brief	Occasional
		May-Nov	---	---	---	---	None	---	None
		December	---	---	---	---	None	Brief	Occasional
Ke:									
Kinston-----	B/D								
		Jan-June	0.0-1.0	>6.0	---	---	None	Brief	Frequent
		Jul-Oct	---	---	---	---	None	---	None
		November	0.0-1.0	>6.0	---	---	None	---	None
		December	0.0-1.0	>6.0	---	---	None	Brief	Frequent
KM:									
Kinston-----	B/D								
		Jan-June	0.0-1.0	>6.0	---	---	None	Brief	Frequent
		Jul-Oct	---	---	---	---	None	---	None
		Nov-Dec	0.0-1.0	>6.0	---	---	None	Brief	Frequent
Mantachie---	C								
		Jan-Mar	1.0-1.5	>6.0	---	---	None	Brief	Frequent
		Apr-June	---	---	---	---	None	Brief	Frequent
		Jul-Oct	---	---	---	---	None	---	None
		November	---	---	---	---	None	Brief	Frequent
		December	1.0-1.5	>6.0	---	---	None	Brief	Frequent

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
KM:									
Mooreville--	C								
		Jan-Mar	1.5-3.0	>6.0	---	---	None	Brief	Frequent
		Apr-June	---	---	---	---	None	Brief	Frequent
		Jul-Oct	---	---	---	---	None	---	None
		Nov-Dec	---	---	---	---	None	Brief	Frequent
LaF:									
Lauderdale--	D								
		Jan-Dec	---	---	---	---	None	---	None
MaC:									
Maben-------	C								
		Jan-Dec	---	---	---	---	None	---	None
MaF:									
Maben-------	C								
		Jan-Dec	---	---	---	---	None	---	None
Mn:									
Mantachie---	C								
		Jan-Mar	1.0-1.5	>6.0	---	---	None	Brief	Occasional
		Apr-Nov	---	---	---	---	None	---	None
		December	1.0-1.5	>6.0	---	---	None	---	None
Mo:									
Mantachie---	C								
		Jan-Mar	1.0-1.5	>6.0	---	---	None	Brief	Frequent
		Apr-Nov	---	---	---	---	None	---	None
		December	1.0-1.5	>6.0	---	---	None	---	None
Mt:									
Mathiston---	C								
		Jan-Apr	1.5-2.5	>6.0	---	---	None	Brief	Occasional
		May-Dec	---	---	---	---	None	---	None
OrB2:									
Ora---------	C								
		Jan-Apr	2.0-3.5	2.0-3.5	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None
OrC:									
Ora---------	C								
		Jan-Apr	2.0-3.5	2.0-3.5	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None
OrC2:									
Ora---------	C								
		Jan-Apr	2.0-3.5	2.0-3.5	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None
OrD2:									
Ora---------	C								
		January	---	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	2.0-3.5	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
Pc:									
Pits--------	---								
		Jan-Dec	---	---	---	---	None	---	None
Udorthents--	---								
		Jan-Dec	---	---	---	---	None	---	None
PrB2:									
Providence--	C								
		Jan-Mar	1.5-3.0	1.5-3.0	---	---	None	---	None
		Apr-Dec	---	---	---	---	None	---	None
Ro:									
Rosebloom---	D								
		Jan-Mar	0.0-1.0	>6.0	---	---	None	Brief	Frequent
		Apr-Nov	---	---	---	---	None	---	None
		December	0.0-1.0	>6.0	---	---	None	Brief	Frequent
RuB2:									
Ruston------	B								
		Jan-Dec	---	---	---	---	None	---	None
RuC:									
Ruston------	B								
		Jan-Dec	---	---	---	---	None	---	None
RuC2:									
Ruston------	B								
		Jan-Dec	---	---	---	---	None	---	None
SaA:									
Savannah----	C								
		Jan-Mar	1.5-3.0	1.5-3.0	---	---	None	---	None
		Apr-Dec	---	---	---	---	None	---	None
SaB2:									
Savannah----	C								
		Jan-Apr	1.5-3.0	1.5-3.0	---	---	None	---	None
		Mar-Dec	---	---	---	---	None	---	None
SaC2:									
Savannah----	C								
		Jan-Apr	1.5-3.0	1.5-3.0	---	---	None	---	None
		Mar-Dec	---	---	---	---	None	---	None
SmD:									
Smithdale---	B								
		Jan-Dec	---	---	---	---	None	---	None
SmF:									
Smithdale---	B								
		Jan-Dec	---	---	---	---	None	---	None
SnF:									
Smithdale---	B								
		Jan-Dec	---	---	---	---	None	---	None
Sweatman----	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	*Ft*	*Ft*				
StA:									
Stough------	C								
		Jan-Apr	1.0-1.5	1.0-1.5	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None
SwB2:									
Sweatman----	C								
		Jan-Dec	---	---	---	---	None	---	None
SwC:									
Sweatman----	C								
		Jan-Dec	---	---	---	---	None	---	None
SwC2:									
Sweatman----	C								
		Jan-Dec	---	---	---	---	None	---	None
SwD:									
Sweatman----	C								
		Jan-Dec	---	---	---	---	None	---	None
SwD2:									
Sweatman----	C								
		Jan-Dec	---	---	---	---	None	---	None
SwF:									
Sweatman----	C								
		Jan-Dec	---	---	---	---	None	---	None
Ub:									
Urban land--	---								
		Jan-Dec	---	---	---	---	None	---	None
Uo:									
Urbo--------	D								
		Jan-Mar	1.0-2.0	>6.0	---	---	None	Brief	Occasional
		Apr-Nov	---	---	---	---	None	---	None
		December	---	---	---	---	None	Brief	Occasional
W:									
Water.									
WcB2:									
Wilcox------	D								
		Jan-Apr	1.5-3.0	1.5-3.0	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None
WcC:									
Wilcox------	D								
		Jan-Apr	1.5-3.0	1.5-3.0	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None
WcC2:									
Wilcox------	D								
		Jan-Apr	1.5-3.0	1.5-3.0	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None

Table 18.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	*Ft*	*Ft*				
WcD:									
Wilcox------	D								
		Jan-Apr	1.5-3.0	1.5-3.0	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None
WcE:									
Wilcox------	D								
		Jan-Apr	1.5-3.0	1.5-3.0	---	---	None	---	None
		May-Dec	---	---	---	---	None	---	None

Table 19.--Taxonomic Classification of the Soils

Soil name	Family or higher taxonomic class
Ariel	Coarse-silty, mixed, active, thermic Fluventic Dystrudepts
Arkabutla	Fine-silty, mixed, active, acid, thermic Fluventic Endoaquepts
Falkner	Fine-silty, siliceous, active, thermic Aquic Paleudalfs
Guyton	Fine-silty, siliceous, active, thermic Typic Glossaqualfs
Jena	Coarse-loamy, siliceous, active, thermic Fluventic Dystrudepts
Kinston	Fine-loamy, siliceous, semiactive, acid, thermic Fluvaquentic Endoaquepts
Kirkville	Coarse-loamy, siliceous, active, thermic Fluvaquentic Dystrudepts
Lauderdale	Loamy, mixed, active, thermic, shallow Typic Hapludults
Maben	Fine, mixed, active, thermic Ultic Hapludalfs
Mantachie	Fine-loamy, siliceous, active, acid, thermic Fluventic Endoaquepts
Mathiston	Fine-silty, siliceous, active, acid, thermic Aeric Fluvaquents
Mooreville	Fine-loamy, siliceous, active, thermic Fluvaquentic Dystrudepts
Ora	Fine-loamy, siliceous, semiactive, thermic Typic Fragiudults
Providence	Fine-silty, mixed, active, thermic Oxyaquic Fragiudalfs
Rosebloom	Fine-silty, mixed, active, acid, thermic Fluvaquentic Endoaquepts
Ruston	Fine-loamy, siliceous, semiactive, thermic Typic Paleudults
Savannah	Fine-loamy, siliceous, semiactive, thermic Typic Fragiudults
Smithdale	Fine-loamy, siliceous, subactive, thermic Typic Hapludults
Stough	Coarse-loamy, siliceous, semiactive, thermic Fragiaquic Paleudults
Sweatman	Fine, mixed, semiactive, thermic Typic Hapludults
Urbo	Fine, mixed, active, acid, thermic Vertic Epiaquepts
Wilcox	Very-fine, smectitic, thermic Chromic Dystruderts

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