United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with the University of Florida, Institute of Food and Agricultural Sciences, Agricultural Experiment Stations, and Soil and Water Science Department, and the Florida Department of Agriculture and Consumer Services

Soil Survey of Dixie County, Florida

How To Use This Soil Survey

General Soil Map

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

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

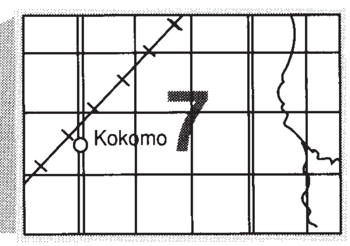
Detailed Soil Maps

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

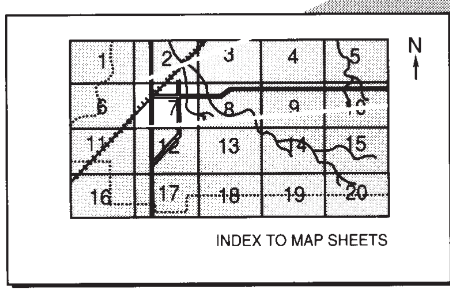
To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

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

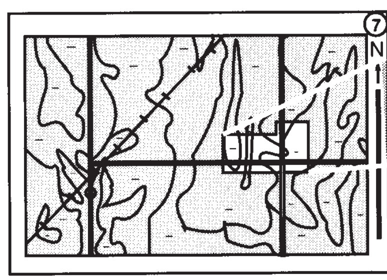
The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



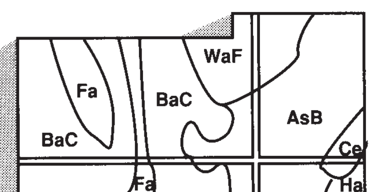
MAP SHEET



INDEX TO MAP SHEETS



MAP SHEET



AREA OF INTEREST

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 1993. Soil names and descriptions were approved in 1998. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1993. This survey was made cooperatively by the Natural Resources Conservation Service; the University of Florida, Institute of Food and Agricultural Sciences, Agricultural Experiment Stations, and Soil and Water Science Department; and the Florida Department of Agriculture and Consumer Services. It is part of the technical assistance furnished to the Dixie County Soil and Water Conservation District. The Dixie County Board of County Commissioners contributed office space for the soil scientist.

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

Cover: The Suwannee River, looking north from U.S. Highway 27A into Dixie County.

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

Contents

Issued 2005

Foreword

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

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

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

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

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

T. Niles Glasgow
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Dixie County, Florida

By Kenneth Liudahl, Robert L. Weatherspoon, and Elmer L. Readle,
Natural Resources Conservation Service

Fieldwork by Adam Hyde, Eddie Cummings, Doug Slabaugh, Joe Falkenberg, Richard Ford, Chris Noble, Juan Vega, Kevin Sullivan, Gordon Green, David Reeves, Bill Anzalone, Steve Herriman, Robert Wegmenn, David Johnson, Dale Sprankle, and Renee Bunning, Natural Resources Conservation Service

Special thanks to Deborah Lee, Area Four Administrative Coordinator,
Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
the University of Florida, Institute of Food and Agricultural Sciences, Agricultural Experiment Stations, and Soil and Water Science Department, and the Florida Department of Agriculture and Consumers Services

DIXIE COUNTY is in the northwestern part of peninsular Florida (fig. 1). It is bordered on the northwest by Taylor County, on the north by Lafayette County, on the east by Gilchrist County, on the south by Levy County, and on the west by the Gulf of Mexico. The northwestern boundary of Dixie County is the line of flow of the Steinhatchee River, and the southern boundary is the line of flow of the Suwannee River.

The survey area encompasses all of Dixie County, covering 448,900 acres, or about 945 square miles. All of this area is composed of land areas and small bodies of water.

In 1998, the population of Dixie County was about 12,959. This was an increase of 16 percent from 1990. During the same period, the population of Cross City, the county seat, decreased by about 1 percent to a total of 1,066 (Gainesville Sun Publishing, 1999). Cross City is in the central part of the county.

The main economic enterprises in the county are agriculturally related. They include the production of timber, hay, livestock, truck crops, and row crops.

General Nature of the County

In this section, environmental and cultural factors that affect the use and management of the soils in Dixie County are described. These factors are history and development, climate, farming, recreation, transportation, and mineral resources.

History and Development

Dixie County was formed on April 25, 1921, and Hitchcock was selected as the county seat. Hitchcock was renamed Cross City in 1908 (Gainesville Sun Publishing, 1999).

Turpentine camps were the original draw to Cross City when the county was being formed. The people working in the turpentine camps needed a nearby place for Saturday night activities, shopping, and socializing. As the community grew, so did the number of businesses. Soon forestry, commercial fishing, and some farming were also underway. In 1924, the town was incorporated. At that time, it boasted five general stores, a restaurant, the Dixie

Figure 1.—Location of Dixie County in Florida.

County State Bank, doctors, a dentist, and a barber. In the 1920s, the Putnam Lumber Company grew to be the largest lumber company in the southeastern United States, employing as many as 1,500 workers.

Today, the timber industry is still a major economic influence in Cross City. Three companies have operations in Dixie County.

Climate

The climate of Dixie County is warm and humid. Temperature extremes are moderated somewhat by the proximity of the county to the Gulf Coast. The average temperature is 54 degrees F from December through February and 80 degrees F from June through August. The average annual rainfall is 57 inches, most of which falls from April through September.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Perry, Florida, in the period 1957 to 1987. 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.

Few differences among the soils in the survey area are caused by climate. The climate, however, aids in rapid decomposition of organic matter and hastens chemical reactions in the soil. The heavy rainfall leaches most plant nutrients from the soils and produces an acid condition in many of the sandy soils. Percolating water also carries many of the less soluble fine particles and humified organic matter downward.

Because of the climatic conditions, many of the soils in the survey area have a low content of organic matter, low natural fertility, and low available water capacity.

Farming

Dixie County is primarily a farming and tree-producing area. The main crops are corn, tobacco, peanuts, watermelon, small grains, and a few vegetables. Most of the crops are grown in the northeastern part of the county.

Most of the soils that are used for crops in Dixie County are very deep, droughty, sandy, and subject to water erosion and wind erosion. Historically, deep plowing and clean cultivation have been used in the county. Gully-control structures, grassed waterways, windbreaks, and permanent vegetative cover are needed to help control erosion.

The enactment of legislation in 1947 to create a soil conservation district stirred the interest of many landowners in Dixie County. Since then, the Dixie County Soil and Water District has promoted farming, tree planting, and other farming practices. The goal of the District has been to assist farmers, public agencies, and other land users with problems related to soil and water conservation. This soil survey is part of that assistance.

For more information about farming, see “Crops and Pasture” in the “Use and Management” section of this publication.

Recreation

Dixie County offers a wide variety of recreational opportunities. Many of these opportunities take advantage of the county’s wide-open spaces and favorable climate.

Dixie County has several parks and boat ramps. Horseshoe Beach and Shired Island are the most popular recreational sites. County parks offer water activities along the Suwannee River and the Gulf of Mexico. Camping, hiking, picnicking, and observing wildlife are popular activities (fig. 2). The rivers in the county provide opportunities for canoeing, kayaking, swimming, diving, bicycling, and sightseeing.

Organized recreational activities are available in and near Cross City, where facilities are available for outdoor games, baseball, tennis, racquetball, and basketball. Civic clubs and church groups sponsor many of these activities.

Figure 2.—A beach along the Gulf of Mexico, which offers excellent sites for camping, picnicking, swimming, and fishing.

Transportation

In Dixie County, many county, State, and Federal highways facilitate the transportation of goods to and from market. The major highways are U.S. Highways 19, 98, and 27A and State Roads 349 and 351.

Mineral Resources

Dixie County contains deposits of several mineral commodities that have economic potential. The most important of these is limestone. Other commodities of lesser potential include dolomite, sand, clay, phosphate, and peat. Each commodity and its economic potential are summarized below.

Limestone

Limestones of the Ocala Group occur near the surface under most of Dixie County. The economic grade varies considerably. High purity, roadbase-quality rock is principally concentrated in the Chiefland Limestone Plain area in the eastern part of the county. Aggregate and secondary roadbase grades occur throughout much of the rest of the county. Limestone was mined extensively in Dixie County in the past, particularly from quarries along U.S. Highway 19. Most of the limestone was used for road construction, but at least two quarries produced building stone (Puri and others, 1967). Although mining potential remains high, limestone is not currently mined in the county.

Dolomite

Near-surface, dolomitized Ocala Group sediments are present in the western part of the county in a band paralleling the gulf coast. The dolomite ranges from about 2 to 10 feet in thickness, making it uneconomical for mining as crushed stone. Thus the potential is low for this commodity in the county.

Sand

A number of shallow private pits in the county are worked for fill sand. Pleistocene quartz sand deposits occur as thin veneers over most of the county. Because of insufficient local demand for sand products, however, the potential is low for commercial mining at this time.

Clay

Clay commonly occurs as a component of the undifferentiated surficial sediments covering the county. Due to the impure nature of this clay, it is not an economically feasible commodity.

Phosphate

Several thin, discontinuous deposits of hard rock phosphate have been recorded in quarries near the community of Hines (Puri, 1957). These deposits overlie the Ocala Group limestone in isolated pockets and are generally less than 5 feet thick. Due to the limited thickness and discontinuous nature of the deposits, they cannot maintain an economically feasible mining operation in the county.

Peat

Peat forms in a wet, reducing environment when the rate of accumulation of organic materials exceeds the rate of decomposition. Shallow wetlands in the Limestone Shelf and Hammocks areas in Dixie County provide potential sites for peat formation. Peat surveys have not been conducted in the county. Studies in adjacent counties, however, indicate that the peat formed in such areas is too thin to be of economic interest (Davis, 1946). The potential for peat mining, therefore, is low in Dixie County.

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.

Map Unit Composition

A map unit delineation on a soil map represents an area dominated by one major kind of soil or an area dominated by two or three kinds of soil. A map unit is identified and named according to the taxonomic classification of the dominant soil or soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural objects, they have a characteristic variability in their properties. 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 soils of other taxonomic classes. Consequently, each map unit is made up of the soil or soils for which it is named and some soils in other taxonomic classes. In the detailed soil map units, the latter soils are called inclusions, included soils, or minor components. In the general soil map units, they are called soils of minor extent.

Most inclusions have properties and behavioral patterns 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 (similar) inclusions. They may or may not be mentioned in the map unit descriptions. Other inclusions, however, have properties and behavior divergent enough to affect use or require different management. These are contrasting (dissimilar) inclusions. They generally occupy small areas and cannot be shown separately on the soil maps because of the scale used in mapping. The inclusions of contrasting soils are mentioned in the map unit descriptions. A few inclusions may not have been observed and consequently are not mentioned in the descriptions, especially where the soil pattern was so complex that it was impractical to make enough observations to identify all of the kinds of soils on the landscape.

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

Ground-Penetrating Radar

In Dixie County, a ground-penetrating radar (GPR) system was used to document the type and variability of the soils in the detailed map units (Doolittle, 1982). Random transects were made with the GPR. Information from notes and ground-truth observations made in the field were used with radar data from this study to classify the soils and to determine the composition of map units. The map units described in section “Detailed Soil Map Units” are based on this data (Johnson and others, 1979).

Confidence Limits of Soil Survey Information

The statements about soil behavior in this survey can be thought of in terms of probability; they are predictions of soil behavior. The behavior of a soil depends not only on its own properties but also on responses to such variables as climate and biological activity. Long-term soil conditions are predictable, reliability is less for any given year. For example, while soil scientists can state that a given soil has a high water table in most years, they cannot say with certainty that the water table will be present in a specific year.

Confidence limits are statistical expressions of the probability that the composition of a map unit or a property of the soil will vary within prescribed limits. Confidence limits can be assigned numerical values based on a random sample. In the absence of specific data to determine confidence limits, the natural variability of soils and the methods used to make soil surveys must be considered. The composition of map units and other information are derived largely from extrapolations made from small samples. Also, the information about the soils does not extend below a depth of 6 feet. The information presented in the soil survey does not eliminate the need for onsite investigation. Soil survey information can be used to select from among alternative practices or to select general designs that may be needed to minimize the possibility of soil-related failures. It cannot be used to interpret specific points on the landscape.

Specific confidence limits for the composition of map units in Dixie County were determined by random transects with GPR across mapped areas. The composition of miscellaneous areas and urban map units was based on the judgment of the soil scientist and by a statistical procedure.

General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils and some minor soils. It is named for the major soils. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Soils on Ridges, Rises, and Knolls

1. Penney-Otela-Ortega and similar soils

Deep and very deep, excessively drained and moderately well drained soils that formed in sandy and loamy marine sediments on the lower Coastal Plain

Setting

Location in the survey area: Northeastern part of the county
Landscape: Gulf coast uplands
Landform position: Ridges and knolls
Slope: 0 to 5 percent

Composition

Percent of the survey area: 5
Penney soils: 47 percent
Otela soils: 25 percent
Ortega soils: 20 percent
Minor soils: 8 percent

Soil Characteristics

Penney
Surface layer: Light brownish gray fine sand
Subsurface: Brown, brownish yellow, and very pale brown fine sand
Subsoil: Light gray fine sand
Depth class: Very deep
Drainage class: Excessively drained
Depth to seasonal high water table: 6 feet or more, January through December
Slope: 0 to 5 percent
Parent material: Sandy marine sediments

Otela
Surface layer: Dark gray fine sand
Subsurface: Light yellowish brown and white fine sand
Subsoil: Light yellowish brown sandy clay loam
Bedrock: Soft, weathered limestone
Depth class: Deep
Drainage class: Moderately well drained
Depth to seasonal high water table: 4 to 6 feet, February through October
Slope: 0 to 5 percent
Parent material: Sandy and loamy marine sediments over limestone

Ortega
Surface layer: Grayish brown fine sand
Substratum: Light yellowish brown, very pale brown, and light gray fine sand
Depth class: Very deep
Drainage class: Moderately well drained
Depth to seasonal high water table: $3^1/_2$ to 5 feet, June through January
Slope: 0 to 5 percent
Parent material: Sandy marine sediments

Minor soils
- Albany, Clara, Oldtown, and Meadowbrook soils in depressions
- Ridgewood soils on the lower uplands

Use and Management

Major uses: Woodland

Woodland
Management concerns: Equipment limitations, seedling mortality, and plant competition

Cropland
Management concerns: Droughtiness and rapid leaching of plant nutrients

Pasture and hayland
Management concerns: Droughtiness and rapid leaching of plant nutrients

Urban development
Management concerns: Penney—cutbanks cave and droughtiness; Otela and Ortega—cutbanks cave, wetness, and droughtiness

2. Otela-Chiefland-Kureb and similar soils

Moderately deep to very deep, moderately well drained and excessively drained soils that formed in sandy marine sediments on the lower Coastal Plain

Setting

Location in the survey area: Northeastern part of the county
Landscape: Gulf Coastal Lowlands
Landform position: Rises and knolls
Slope: 0 to 5 percent

Composition

Percent of the survey area: 3
Otela soils: 45 percent
Chiefland soils: 30 percent
Kureb soils: 20 percent
Minor soils: 5 percent

Soil Characteristics

Otela
Surface layer: Dark gray fine sand
Subsurface: Light yellowish brown and white fine sand
Subsoil: Light yellowish brown sandy clay loam
Bedrock: Soft, weathered limestone bedrock
Depth class: Deep
Drainage class: Moderately well drained
Depth to seasonal high water table: 4 to 6 feet, February through October
Slope: 0 to 5 percent
Parent material: Sandy and loamy marine sediments over limestone

Chiefland
Surface layer: Very dark gray fine sand
Subsurface: Grayish brown and pale brown fine sand
Subsoil: Yellowish brown sandy clay loam
Bedrock: Soft, weathered limestone
Depth class: Moderately deep
Drainage class: Moderately well drained
Depth to seasonal high water table: 6 feet or more, January through December
Slope: 0 to 5 percent
Parent material: Sandy and loamy marine sediments over limestone

Kureb
Surface layer: Grayish brown fine sand
Subsurface: White fine sand
Subsoil: Very pale brown fine sand
Depth class: Very deep
Drainage class: Excessively drained
Depth to seasonal high water table: 6 feet or more, January through December
Slope: 0 to 5 percent
Parent material: Sandy marine sediments

Minor soils
- Ortega, Moriah, Albany, and Ridgewood soils on the lower uplands
- Penney soils on rises and knolls

Use and Management

Major uses: Woodland

Woodland
Management concerns: Otela and Chiefland—equipment limitations, seedling mortality, and plant competition; Kureb—equipment limitations and seedling mortality

Cropland
Management concerns: Droughtiness and rapid leaching of plant nutrients

Pasture and hayland
Management concerns: Droughtiness and rapid leaching of plant nutrients

Urban development
Management concerns: Otela—cutbanks cave and wetness; Chiefland—cutbanks cave, depth to rock, and droughtiness; Kureb—cutbanks cave, too acid, and droughtiness

3. Mandarin-Lutterloh-Albany and similar soils

Deep and very deep, somewhat poorly drained soils that formed in sandy and loamy marine sediments on the lower Coastal Plain

Setting

Location in the survey area: Eastern and western parts of the county
Landscape: Gulf Coastal Lowlands
Landform position: Lower rises and knolls
Slope: 0 to 3 percent

Composition

Percent of the survey area: 6
Mandarin soils: 24 percent
Lutterloh soils: 23 percent
Albany soils: 20 percent
Minor soils: 33 percent

Soil Characteristics

Mandarin
Surface layer: Dark gray fine sand
Subsurface: Gray and light gray fine sand
Subsoil: Very dark brown, dark brown, and dark yellowish brown fine sand
Substratum: Dark grayish brown fine sand
Depth class: Very deep
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: 1 1/2 to 3 1/2 feet, June through December
Slope: 0 to 2 percent
Parent material: Sandy marine sediments

Lutterloh
Surface layer: Dark grayish brown fine sand
Subsurface: Light brownish gray fine sand
Subsoil: Light brownish gray sandy clay loam
Bedrock: White and very pale brown, soft, weathered limestone bedrock
Depth class: Deep
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: 1 1/2 to 2 1/2 feet, March through August
Slope: 0 to 3 percent
Parent material: Sandy and loamy marine sediments

Albany
Surface layer: Dark gray sand
Subsurface: Light yellowish brown and light gray sand
Subsoil: Gray sandy clay loam
Depth class: Very deep
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: 1 to 2 1/2 feet, December through March
Slope: 0 to 3 percent
Parent material: Sandy and loamy marine sediments

Minor soils
- Ortega, Otela, and Chiefland soils on rises and knolls
- Moriah, Ridgewood, and Mandarin soils on the lower uplands

Use and Management

Major uses: Woodland

Woodland
Management concerns: Albany and Otela—equipment limitations, seedling mortality, and plant competition

Cropland
Management concerns: Droughtiness and rapid leaching of plant nutrients

Pasture and hayland
Management concerns: Droughtiness and rapid leaching of plant nutrients

Urban development
Management concerns: Cutbanks cave, wetness, and droughtiness

Soils in Areas of Flatwoods and on Flats

4. Leon-Clara-Chaires and similar soils

Very deep, poorly drained and very poorly drained soils that formed in sandy and loamy marine sediments on the lower Coastal Plain

Setting

Location in the survey area: Central and southeastern parts of the county
Landscape: Gulf Coastal Lowlands
Landform position: Leon and Chaires—flatwoods; Clara—flats and depressions
Slope: 0 to 2 percent

Composition

Percent of the survey area: 37
Leon soils: 31 percent
Clara soils: 13 percent
Chaires soils: 11 percent
Minor soils: 45 percent

Soil Characteristics

Leon
Surface layer: Very dark gray fine sand
Subsurface: Gray fine sand
Subsoil: Black and dark brown fine sand
Substratum: Brown fine sand
Depth class: Very deep

Drainage class: Poorly drained
Depth to seasonal high water table: 1/2 to 1 foot, March through September
Slope: 0 to 2 percent
Parent material: Sandy marine sediments

Clara
Surface layer: Very dark gray sand
Subsurface: Dark gray, grayish brown, and light brownish gray sand
Subsoil: Dark brown and brown sand
Substratum: Pale brown and light gray sand
Depth class: Very deep
Drainage class: Very poorly drained
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through December
Slope: Less than 2 percent
Parent material: Sandy marine sediments

Chaires
Surface layer: Very dark gray fine sand
Subsurface: Gray fine sand
Subsoil: Black, yellowish brown, and pale brown fine sand over light olive gray and greenish gray sandy clay loam
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: 1/2 to 1 1/2 feet, March through September
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Minor soils
- Chaires, limestone substratum, soils in areas of flatwoods
- Meadowbrook soils on flats and in depressions
- Tooles soils on flats and in depressions
- Yellowjacket, Chaires, and Meadowbrook soils in depressions

Use and Management

Major uses: Woodland

Woodland
Management concerns: Leon and Chaires—equipment limitations, seedling mortality, and plant competition; Clara—not suited

Cropland
Management concerns: Leon and Chaires—wetness and rapid leaching of plant nutrients; Clara—not suited

Pasture and hayland
Management concerns: Leon and Chaires—wetness and rapid leaching of plant nutrients; Clara—not suited

Urban development
Management concerns: Leon and Chaires—cutbanks cave and wetness; Clara—not suited

5. Bodiford-Wekiva-Tooles and similar soils

Shallow to deep, poorly drained and very poorly drained soils that formed in sandy and loamy marine sediments and highly decomposed organic material on the lower Coastal Plains

Setting

Location in the survey area: Southern part of the county
Landscape: Gulf Coastal Lowlands
Landform position: Bodiford—depressions; Wekiva and Tooles—flats and flood plains
Slope: 0 to 2 percent

Composition

Percent of the survey area: 1
Bodiford soils: 60 percent
Wekiva soils: 25 percent
Tooles soils: 10 percent
Minor soils: 5 percent

Soil Characteristics

Bodiford
Surface layer: Dark reddish brown muck over very dark grayish brown mucky loamy sand
Subsoil: Yellowish brown sand and light brownish gray sandy loam
Bedrock: Soft, weathered limestone
Depth class: Deep
Drainage class: Very poorly drained
Depth to seasonal high water table: At the surface to 2 feet above the surface, February through October
Slope: Less than 1 percent
Parent material: Sandy and loamy marine sediments over limestone

Wekiva
Surface layer: Black fine sand
Subsurface: Yellowish brown fine sand
Subsoil: Yellowish brown fine sandy loam
Substratum: White, soft, gravely marl
Bedrock: Soft, weathered limestone
Depth class: Shallow to moderately deep

Drainage class: Poorly drained
Depth to seasonal high water table: At the surface to a depth of 1 foot, June through March
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments over limestone

Tooles
Surface layer: Dark gray fine sand
Subsurface: Yellowish brown fine sand
Subsoil: Light gray sandy clay loam
Substratum: White, soft, gravely marl
Depth class: Deep
Drainage class: Poorly drained
Depth to seasonal high water table: At the surface to a depth of 1/2 foot, February through September
Slope: Less than 1 percent
Parent material: Sandy and loamy marine sediments over limestone

Minor soils
- Chaires soils in areas of flatwoods and in depressions
- Meadowbrook soils on flats and in depressions

Use and Management

Major uses: Woodland

Woodland
Management concerns: Wekiva and Tooles—equipment limitations, seedling mortality, and plant competition; Bodiford—not suited

Cropland
Management concerns: Wekiva and Tooles—wetness; Bodiford—not suited

Pasture and hayland
Management concerns: Wekiva and Tooles—wetness; Bodiford—not suited

Urban development
Management concerns: Wekiva and Tooles—wetness and corrosivity; Bodiford—not suited

6. Wekiva-Tooles-Chaires and similar soils

Shallow to very deep, poorly drained soils that formed in sandy and loamy marine sediments on the lower Coastal Plain

Setting

Location in the survey area: Western part of the county
Landscape: Gulf Coastal Lowlands
Landform position: Wekiva—flats and flood plains; Tooles—flats; Chaires—flatwoods
Slope: 0 to 2 percent

Composition

Percent of the survey area: 28
Wekiva soils: 20 percent
Tooles soils: 18 percent
Chaires soils: 16 percent
Minor soils: 46 percent

Soil Characteristics

Wekiva
Surface layer: Black fine sand
Subsurface: Yellowish brown fine sand
Subsoil: Yellowish brown fine sandy loam
Bedrock: Soft, weathered limestone
Depth class: Shallow to moderately deep
Drainage class: Poorly drained
Depth to seasonal high water table: At the surface to a depth of 1 foot, June through March
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments over limestone

Tooles
Surface layer: Dark gray fine sand
Subsurface: Yellowish brown fine sand
Subsoil: Light gray sandy clay loam
Substratum: White, soft, gravely marl
Depth class: Deep
Drainage class: Poorly drained
Depth to seasonal high water table: At the surface to a depth of 1/2 foot, February through September
Slope: Less than 1 percent
Parent material: Sandy and loamy marine sediments over limestone

Chaires
Surface layer: Very dark gray fine sand
Subsurface: Gray fine sand
Subsoil: Black, yellowish brown, and pale brown fine sand over light olive gray and greenish gray sandy clay loam
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: 1/2 to 1 1/2 feet, March through September
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Minor soils
- Meadowbrook and Clara soils on flats and in depressions
- Chaires soils in depressions
- Leon soils in areas of flatwoods and in depressions

Use and Management

Major uses: Woodland

Woodland
Management concerns: Equipment limitations, seedling mortality, and plant competition

Cropland
Management concerns: Wetness

Pasture and hayland
Management concerns: Wetness

Urban development
Management concerns: Wetness and corrosivity

7. Meadowbrook-Chaires-Leon and similar soils

Very deep, poorly drained soils that formed in sandy and loamy marine sediments on the lower Coastal Plain

Setting

Location in the survey area: Northwestern part of the county
Landscape: Gulf Coastal Lowlands
Landform position: Chaires—flatwoods and depressions; Meadowbrook—flats and depressions; Leon—flatwoods, flats, and depressions
Slope: 0 to 2 percent

Composition

Percent of the survey area: 10
Meadowbrook soils: 35 percent
Chaires soils: 25 percent
Leon soils: 15 percent
Minor soils: 25 percent

Soil Characteristics

Meadowbrook
Surface layer: Very dark gray fine sand
Subsurface: Reddish yellow, very pale brown, and light gray fine sand
Subsoil: Gray sandy clay loam
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: At the surface to a depth of 1 foot, January through December
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Chaires
Surface layer: Very dark gray fine sand
Subsurface: Gray fine sand
Subsoil: Black, yellowish brown, and pale brown fine sand over light olive gray and greenish gray sandy clay loam
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: $^1/_2$ to $1^1/_2$ feet, March through September
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Leon
Surface layer: Very dark gray fine sand
Subsurface: Gray fine sand
Subsoil: Black and dark brown fine sand
Substratum: Brown fine sand
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: $^1/_2$ to 1 foot, March through September
Slope: 0 to 2 percent
Parent material: Sandy marine sediments

Minor soils
- Clara, Tooles, and Leon soils on flats and in depressions
- Meadowbrook soils in depressions
- Wekiva and Shired soils on flats

Use and Management

Major uses: Woodland

Woodland
Management concerns: Equipment limitations, seedling mortality, and plant competition

Cropland
Management concerns: Wetness

Pasture and hayland
Management concerns: Wetness

Urban development
Management concerns: Wetness and corrosivity

8. Clara-Wesconnett-Chaires and similar soils

Very deep, poorly drained and very poorly drained soils that formed in sandy and loamy marine sediments on the lower Coastal Plain

Setting

Location in the survey area: Northern part of the county
Landscape: Gulf Coastal Lowlands
Landform position: Chaires—flatwoods and

depressions; Clara—flats and depressions; Wesconnett—depressions
Slope: 0 to 2 percent

Composition

Percent of the survey area: 1
Clara soils: 65 percent
Wesconnett soils: 20 percent
Chaires soils: 10 percent
Minor soils: 5 percent

Soil Characteristics

Clara
Surface layer: Very dark gray sand
Subsurface: Dark gray, grayish brown, and light brownish gray sand
Subsoil: Dark brown and brown sand
Substratum: Pale brown and light gray sand
Depth class: Very deep
Drainage class: Very poorly drained
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through December
Slope: Less than 2 percent
Parent material: Sandy marine sediments

Wesconnett
Surface layer: Black fine sand
Subsoil: Very dark gray, dark reddish brown, and brown fine sand
Substratum: Light gray fine sand
Depth class: Very deep
Drainage class: Very poorly drained
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through September
Slope: 0 to 2 percent
Parent material: Sandy marine sediments

Chaires
Surface layer: Very dark gray fine sand
Subsurface: Gray fine sand
Subsoil: Black, yellowish brown, and pale brown fine sand over light olive gray sandy clay loam
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: $^1/_2$ to $1^1/_2$ feet, March through September
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Minor soils
- Leon soils in areas of flatwoods, flats, depressions, and flood plains
- Lynn Haven soils in depressions
- Meadowbrook soils on flats, in depressions, and on flood plains
- Oldtown soils in depressions and on flood plains
- Clara soils on flats

Use and Management

Major uses: Woodland

Woodland
Management concerns: Equipment limitations, seedling mortality, and plant competition

Cropland
Management concerns: Wetness and flooding

Pasture and hayland
Management concerns: Wetness and flooding

Urban development
Management concerns: Wetness, flooding, and corrosivity

Soils in Depressions, on Flood Plains, and in Tidal Marshes

9. Garcon-Osier-Clara and similar soils

Very deep, somewhat poorly drained, poorly drained, and very poorly drained soils that formed in sandy and loamy marine sediments on the lower Coastal Plain

Setting

Location in the survey area: Northeastern part of the county
Landscape: Gulf Coastal Lowlands
Landform position: Garcon—lower rises and knolls on flood plains; Osier and Clara—flats and flood plains
Slope: 0 to 2 percent

Composition

Percent of the survey area: 1
Garcon soils: 30 percent
Osier soils: 28 percent
Clara soils: 25 percent
Minor soils: 17 percent

Soil Characteristics

Garcon
Surface layer: Very dark grayish brown fine sand
Subsurface: Pale brown fine sand
Subsoil: Yellowish brown fine sandy loam over gray fine sand

Substratum: Gray loamy fine sand and light gray loamy fine sand
Depth class: Very deep
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: $1^1/_2$ to 3 feet, December through April
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Osier
Surface layer: Very dark grayish brown fine sand
Substratum: Dark grayish brown, light brownish gray, and light gray fine sand
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: At the surface to a depth of $^1/_2$ foot, November through April
Slope: 0 to 2 percent
Parent material: Sandy marine sediments

Clara
Surface layer: Very dark gray sand
Subsurface: Dark gray, grayish brown, and light brownish gray sand
Subsoil: Dark brown and brown sand
Substratum: Pale brown and light gray sand
Depth class: Very deep
Drainage class: Very poorly drained
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through December
Slope: Less than 2 percent
Parent material: Sandy marine sediments

Minor soils
- Ousley and Mandarin soils on the lower uplands
- Leon soils in areas of flatwoods, on flats, and in depressions

Use and Management

Major uses: Woodland

Woodland
Management concerns: Garcon—flooding, seedling mortality, and plant competition; Clara and Osier soils—not suited

Cropland
Management concerns: Garcon—wetness, flooding, and rapid leaching of plant nutrients; Osier and Clara—not suited

Pasture and hayland
Management concerns: Garcon—wetness, flooding, and rapid leaching of plant nutrients; Osier and Clara—not suited

Urban development
Management concerns: Not suited

10. Bayvi

Very deep, very poorly drained soils that formed in deposits of hydrophytic plant material over sandy marine sediments on the lower Coastal Plain

Setting

Location in the survey area: Southern and western parts of the county bordering the Gulf of Mexico
Landscape: Coastal swamps on the Gulf Coastal Lowlands
Landform position: Tidal salt marshes (fig. 3)
Slope: 0 to 1 percent

Composition

Percent of the survey area: 5
Bayvi soils: 75 percent
Minor soils: 25 percent

Soil Characteristics

Bayvi
Surface layer: Black muck
Subsurface: Very dark gray loamy sand
Substratum: Grayish brown sand
Bedrock: Hard limestone bedrock
Depth class: Very deep
Drainage class: Very poorly drained
Depth to seasonal high water table: At the surface to a depth of 1 foot, January through December
Slope: Less than 1 percent
Parent material: Deposits of hydrophytic plant material over sandy and loamy marine sediments over limestone

Minor soils
- Chaires soils in areas of flatwoods and in depressions
- Leon soils on flats, in depressions, and on flood plains
- Shired, Wekiva, and Wulfert soils on flood plains

Use and Management

Major uses: Not suited to woodland, cropland, pasture, hayland, or urban development due to flooding

11. Yellowjacket-Wulfert-Clara and similar soils

Very deep, very poorly drained soils that formed in sandy marine sediments and highly decomposed organic material on the lower Coastal Plain

Figure 3.—Needlegrass marsh along the Gulf of Mexico in an area of Bayvi muck, frequently flooded. An area of Wulfert muck that is dominated by cabbage palm is in the background.

Setting

Location in the survey area: Southern and southeastern parts of the county
Landscape: Gulf Coastal Lowlands and swamps
Landform position: Flats, depressions, and flood plains
Slope: 0 to 2 percent

Composition

Percent of the survey area: 3
Yellowjacket soils: 32 percent
Wulfert soils: 17 percent
Clara soils: 6 percent
Minor soils: 45 percent

Soil Characteristics

Yellowjacket
Surface layer: Black muck
Subsoil: Very dark gray fine sand
Subsurface: Dark grayish brown fine sand
Depth class: Very deep
Drainage class: Very poorly drained
Depth to seasonal high water table: At the surface to 2 feet above the surface, February to October
Slope: Less than 2 percent
Parent material: Highly decomposed organic materials over sandy marine sediments

Wulfert
Surface layer: Very dark brown muck
Substratum: Very dark gray mucky loamy fine sand and very dark gray fine sand
Depth class: Very deep
Drainage class: Very poorly drained
Depth to seasonal high water table: At the surface to a depth of $^{1}/_{2}$ foot, January through December
Slope: Less than 2 percent
Parent material: Thick deposits of hydrophytic plant material over sandy marine sediments

Clara
Surface layer: Very dark gray sand
Subsurface: Dark gray, grayish brown, and light brownish gray sand
Subsoil: Dark brown and brown sand
Substratum: Pale brown and light gray sand
Depth class: Very deep
Drainage class: Very poorly drained
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through December
Slope: Less than 2 percent
Parent material: Sandy marine sediments

Minor soils
- Albany soils on the lower rises and knolls

• Leon soils in areas of flatwoods, flats, depressions, and flood plains
• Oldtown and Meadowbrook soils in depressions and on flood plains
• Maurepas soils on flood plains

Use and Management

Major uses: Unsuited to woodland, cropland, pasture, and urban uses due to flooding

Woodland
Management concerns: Not suited

Cropland
Management concerns: Not suited

Pasture and hayland
Management concerns: Not suited

Urban development
Management concerns: Not suited

Broad Land Use Considerations

The soils in the Dixie County vary in their suitability for major land uses. About 87 percent of the acreage is used for the production of pine trees (woodland). Much of the acreage in general soil map units 4, 5, 6, 7, and 8 is used for woodland. The seasonal high water table is the main limitation. Because of the wetness, the equipment limitations are moderate or severe on these soils. The wetness can be overcome by harvesting only during the drier periods or by using special equipment.

The soils in general soil map units 9, 10, and 11 are frequently flooded, ponded, or both, mainly in winter and summer. Flooding, ponding, and wetness are the major limitation affecting the use of these map units for most uses.

Only a small acreage in the county is used for pasture. General soil map units 4, 5, 6, 7, and 8 are best suited for grasses. Soils in map units 1, 2, and 3 are generally unsuited to grasses because of droughtiness.

Only a small part of the county is developed for urban uses. In general, the moderately well drained and excessively drained soils are well suited to building site development. The Albany, Penney, Chiefland, Kureb, Ortega, Otela, Lutterloh, and Mandarin soils in general soil map units 1, 2, and 3 are examples. In most of the other map units, the shallow seasonal high water table, the hazard of ponding, and the slope are the main management concerns. The soils on flood plains and depressions, such as those in map units 9, 10, and 11, are generally unsuited as sites for buildings because of flooding and ponding.

Penney soils are well suited to septic tank absorption fields, and Otela soils are moderately suited. The seasonal high water table is a major limitation in all of the general soil map units in the county. Alternative waste disposal systems (mounded septic tank absorption fields) are used.

The suitability of the soils for recreational uses ranges from poorly suited to well suited, depending on the intensity of the expected use. General soil map units 9, 10, and 11 are very poorly suited to many of these uses because of wetness, flooding, and ponding. All of the map units are suitable for some recreational uses, such as paths and trails for hiking or horseback riding. Small areas that are suitable for intensive recreational uses generally are available in the map units that otherwise have severe limitations.

The suitability for wildlife habitat generally is good throughout the county. All of the general soil map units have soils that are generally well suited to habitat for openland wildlife, woodland wildlife, or both. Areas in map units 9, 10, and 11 and scattered areas in map units 2, 3, 4, 5, 6, 7, and 8 are suitable for wetland habitat.

Detailed Soil Map Units

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

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Penney fine sand, 0 to 5 percent slopes, is a phase of the Penney 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. Steinhatchee-Tenille 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. Bodiford and Meadowbrook, limestone substratum, 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. Pits 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.

2—Penney fine sand, 0 to 5 percent slopes

Setting

Landscape: Lower Coastal Plain
Landform: Sandy uplands
Landform position: Higher ridges and rises
Shape of areas: Irregular
Size of areas: 10 to more than 1,000 acres

Composition

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

Typical Profile

Surface layer:
0 to 4 inches—light brownish gray fine sand

Subsurface layer:
4 to 8 inches—brown fine sand that has brownish gray stripped areas
8 to 40 inches—brownish yellow fine sand that has streaks in shades of brown and yellow
40 to 62 inches—very pale brown fine sand

Subsoil:
62 to 80 inches—light gray fine sand that has yellowish lamellae

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Available water capacity: Very Low
Depth to seasonal high water table: 6 feet or more, January through December
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Very strongly acid to slightly acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils:
• Blanton, Chiefland, Otela, and Wadley soils in landform positions similar to those of the Penny soil
• Blanton and Otela soils in the lower landform positions

Similar soils:
• Penney-like soils that do not have lamellae within a depth of 80 inches and that are in landform positions similar to those of the Penney soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Sand pine and slash pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Poor
Commonly grown crops: Corn, peanuts, and watermelons
Management concerns: Droughtiness and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.

- Good tilth and nutrient management are required for maximum yields.
- Special erosion-control practices are not normally needed.
- The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Moderate
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness and fast intake
Management considerations:
- Nutrient management maximizes yields.
- Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, and droughtiness
Management considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.
- Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
- Lawns need irrigation during periods of low rainfall.
- Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 4s
Woodland ordination symbol: 8S for sand pine
Ecological community: Longleaf Pine-Turkey Oak Hills

4—Penney-Otela, limestone substratum, complex, 0 to 5 percent slopes

Setting

Landscape: Lower Coastal Plain
Landform: Sandy uplands
Landform position: Knolls and ridges
Shape of areas: Irregular
Size of areas: 10 to more than 1,000 acres

Composition

Penney and similar soils: 55 percent
Ortega and similar soils: 40 percent
Dissimilar soils: 5 percent

Typical Profile

Penney
Surface layer:
0 to 4 inches—light brownish gray fine sand

Subsurface layer:
4 to 8 inches—brown fine sand that has brownish gray stripped areas
8 to 40 inches—brownish yellow fine sand that has streaks in shades of brown and yellow
40 to 62 inches—very pale brown fine sand

Subsoil:
62 to 80 inches—light gray fine sand that has yellowish brown lamellae

Otela
Surface layer:
0 to 8 inches—dark gray fine sand

Subsurface layer:
8 to 16 inches—light yellowish brown fine sand that has splotches in shades of gray and brown
16 to 40 inches—light yellowish brown fine sand that has brown stripped areas
40 to 52 inches—white fine sand that has mottles in shades of brown and yellow

Subsoil:
52 to 61 inches—light yellowish brown sandy clay loam that has streaks in shades of brown
61 to 69 inches—light yellowish brown sandy clay loam that has streaks in shades of brown

Bedrock:
69 inches—soft, weathered limestone

Soil Properties and Qualities

Penney
Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Available water capacity: Very Low
Depth to seasonal high water table: 6 feet or more, January through December
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Very strongly acid to slightly acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Otela
Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Rapid in the surface layer and subsurface layer and moderately slow and slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: 4 to 6 feet, February through October

Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Very strongly acid in the surface layer and subsurface layer and extremely acid to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 60 to 80 inches

Minor Components

Dissimilar soils:
• Blanton and Chiefland soils in landform positions similar to those of the Penney and Otela soils
• Ridgewood soils that are in the slightly lower landform positions

Similar soils:
• Penney-like soils that do not have lamellae within a depth of 80 inches
• Otela-like soils that have limestone bedrock at a depth of 40 to 80 inches and that are in landform positions similar to those of the Penney and Otela soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Slash pine and sand pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Moderate
Commonly grown crops: Corn, peanuts, and watermelons
Management concerns: Droughtiness and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Moderate
Management concerns: Penney—poor filter, seepage, too sandy, cutbanks cave, and droughtiness; Otela—wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and percs slowly
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Penney—4s; Otela—3s
Woodland ordination symbol: Penney—8S for slash pine; Otela—10S for slash pine
Ecological community: Penney—Longleaf pine-Turkey Oak hills; Otela—Upland Hardwood Hammocks

6—Albany-Ridgewood complex

Setting

Landscape: Lower Coastal Plain
Landform: Lower sandy uplands
Landform position: Rises and knolls

Shape of areas: Irregular
Size of areas: 10 to more than 1,000 acres

Composition

Albany and similar soils: 56 percent
Ridgewood and similar soils: 36 percent
Dissimilar soils: 8 percent

Typical Profile

Albany
Surface layer:
0 to 7 inches—dark gray sand

Subsurface layer:
7 to 24 inches—light yellowish brown sand
24 to 49 inches—light gray sand that has mottles in shades of yellow and brown

Subsoil:
49 to 80 inches—gray sandy clay loam that has mottles in shades of yellow, brown, and red

Ridgewood
Surface layer:
0 to 6 inches—gray fine sand

Substratum:
6 to 15 inches—light yellowish brown fine sand that has gray stripped areas and has mottles in shades of brown and yellow
15 to 30 inches—pale brown fine sand that has gray stripped areas and has mottles in shades of brown and yellow
30 to 80 inches—light gray fine sand that has mottles in shades of brown, gray, and yellow

Soil Properties and Qualities

Albany
Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: 1 to 2½ feet, December through March
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Extremely acid to slightly acid in the surface layer and extremely acid to moderately acid in the subsurface layer and subsoil
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Ridgewood
Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: 2 to 3½ feet, June through November
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Very strongly acid to neutral
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
- Clara, Oldtown, and Meadowbrook soils in the lower landform positions

Similar soils:
- Otela and Ortega on the higher landform positions

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Moderate
Commonly grown crops: Corn, peanuts, and tobacco
Management concerns: Wetness, droughtiness, and fast intake

Management considerations:
• Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Moderate
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Moderate
Management concerns: Wetness, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Albany—3w; Ridgewood—4s
Woodland ordination symbol: 10W for slash pine
Ecological community: Upland Hardwood Hammocks

7—Garcon-Ousley-Albany complex, occasionally flooded

Setting

Landscape: Lower Coastal Plain
Landform: Terraces on flood plains
Landform position: Lower knolls and rises
Shape of areas: Irregular
Size of areas: 10 to more than 1,000 acres

Composition

Garcon and similar soils: 43 percent
Ousley and similar soils: 27 percent
Albany and similar soils: 20 percent
Dissimilar soils: 10 percent

Typical Profile

Garcon
Surface layer:
0 to 4 inches—very dark grayish brown fine sand

Subsurface layer:
4 to 21 inches—pale brown fine sand that has mottles in shades of gray

Subsoil:
21 to 29 inches—yellowish brown fine sandy loam that has streaks in shades of yellow, brown, and gray
29 to 50 inches—gray fine sandy clay loam that has mottles in shades of yellow and brown

Substratum:
50 to 60 inches—gray loamy fine sand that has mottles in shades of yellow and brown
60 to 80 inches—light gray loamy fine sand that has mottles in shades of yellow and brown

Ousley
Surface layer:
0 to 4 inches—very dark gray fine sand that has brown stripped areas

Substratum:
4 to 45 inches—very pale brown fine sand that has splotches in shades of gray and brown
45 to 80 inches—light gray fine sand that has mottles in shades of brown

Albany
Surface layer:
0 to 7 inches—dark gray sand

Subsurface layer:
7 to 24 inches—light yellowish brown sand
24 to 49 inches—light gray sand that has mottles in shades of yellow and brown

Subsoil:
49 to 80 inches—gray sandy clay loam that has mottles in shades of brown, yellow, and red

Soil Properties and Qualities

Garcon
Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the surface layer and

subsurface layer and moderate and moderately slow in the subsoil
Available water capacity: High
Depth to seasonal high water table: 1 $^{1}/_{2}$ to 3 feet, December through April
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Very strongly acid and strongly acid
Parent material: Sandy and loamy marine sediments on flood plains
Depth to bedrock: More than 60 inches

Ousley
Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: 1 $^{1}/_{2}$ to 3 feet, December through May
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Very strongly acid to moderately acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Albany
Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: 1 to 2 $^{1}/_{2}$ feet, November through March
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Extremely acid to slightly acid in the surface layer and subsurface layer and extremely acid to moderately acid in the subsoil
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Elloree soils in the lower landform positions

Similar soils:
• Garcon-like soils that do not have a loamy layer to a depth of 80 inches or that have a loamy subsoil within a depth of 20 inches; in landform positions similar to those of the major soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Garcon—slash pine; Ousley and Albany—slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Poor
Commonly grown crops: Corn, peanuts, and tobacco
Management concerns: Wetness, droughtiness, occasional flooding, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Moderate
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake

Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Not suited due to occasional flooding, wetness, seepage, cutbanks cave, and droughtiness

Interpretive Groups

Land capability classification: Garcon—2w; Ousley and Albany—3w
Woodland ordination symbol: Garcon and Albany—10W for slash pine; Ousley—8w for slash pine
Ecological community: Garcon—North Florida Flatwoods; Albany and Ousley—Upland Hardwood Hammocks

9—Otela, limestone substratum-Chiefland-Kureb complex, 0 to 5 percent slopes

Setting

Landscape: Lower Coastal Plain
Landform: Sandy uplands
Landform position: Higher rises and knolls
Shape of areas: Irregular
Size of areas: 10 to more than 1,000 acres

Composition

Ortela and similar soils: 40 percent
Chiefland and similar soils: 25 percent
Kureb and similar soils: 22 percent
Dissimilar soils: 13 percent

Typical Profile

Otela
Surface layer:
0 to 8 inches—dark gray fine sand

Subsurface layer:
8 to 16 inches—light yellowish brown fine sand that has splotches in shades of gray and brown
16 to 40 inches—light yellowish brown fine sand that has brown stripped areas
40 to 52 inches—white fine sand that has mottles in shades of brown and yellow

Subsoil:
52 to 61 inches—light yellowish brown sandy clay loam that has streaks in shades of brown
61 to 69 inches—light yellowish brown sandy clay loam that has streaks in shades of brown

Bedrock:
69 inches—soft, weathered limestone

Chiefland
Surface layer:
0 to 5 inches—very dark gray fine sand

Subsurface layer:
5 to 17 inches—grayish brown fine sand that has splotches in shades of brown and gray
17 to 26 inches—pale brown fine sand that has mottles in shades of yellow and brown

Subsoil:
26 to 35 inches—yellowish brown sandy clay loam

Bedrock:
35 inches—soft, weathered limestone

Kureb
Surface layer:
0 to 5 inches—grayish brown fine sand

Subsurface layer:
5 to 20 inches—white fine sand

Subsoil:
20 to 35 inches—yellowish brown fine sand

Substratum:
35 to 42 inches—very pale brown fine sand that has mottles in shades of brown and yellow
42 to 80 inches—very pale brown fine sand

Soil Properties and Qualities

Otela
Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Rapid in the surface layer and subsurface layer and moderately slow and slow in the subsoil
Available water capacity: Very Low
Depth to seasonal high water table: 4 to 6 feet, February through October
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low and moderately low
Reaction: Very strongly acid in the surface layer and subsurface layer and extremely acid to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 60 to 80 inches

Chiefland
Depth class: Moderately deep

Drainage class: Well drained
Permeability: Rapid in the surface and subsurface layers, moderate in the subsoil, and very slow in the limestone
Available water capacity: Low and very low
Depth to seasonal high water table: 6 feet or more, January through December
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low and moderately low
Reaction: Very strongly acid to neutral in the surface layer and moderately acid to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 20 to 40 inches

Kureb
Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Available water capacity: Very low
Depth to seasonal high water table: 6 feet or more, January through December
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Very strongly acid to neutral throughout
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils:
- Albany soils in the lower landform positions

Similar soils:
- Penney and Blanton soils in landform positions similar to those of the major soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Otela—slash pine; Chiefland and Kureb—loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Poor
Commonly grown crops: Corn, peanuts, and watermelons
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
- The cover crops and all crop residue should be returned to the soil.
- Good tilth and nutrient management are required for maximum yields.
- Special erosion-control practices are not normally needed.
- The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Moderate
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- Nutrient management maximizes yields.
- Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, and droughtiness
Management considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.
- Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
- Lawns need irrigation during periods of low rainfall.
- Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Otela and Chiefland—3s; Kureb—7s
Woodland ordination symbol: Otela—10S for slash pine; Chiefland—11S for slash pine; Kureb—6S for slash pine
Ecological community: Otela and Chiefland—Upland Hardwood Hammocks; Kureb—Sand Pine Scrub

10—Osier-Elloree complex, frequently flooded

Setting

Landscape: Lower Coastal Plain
Landform: Flood plains
Landform position: Broad flats
Shape of areas: Elongated
Size of areas: 5 to more than 100 acres

Composition

Osier and similar soils: 50 percent
Elloree and similar soils: 37 percent
Dissimilar soils: 13 percent

Typical Profile

Osier
Surface layer:
0 to 5 inches—very dark grayish brown fine sand

Substratum:
5 to 18 inches—dark grayish brown fine sand
18 to 25 inches—light brownish gray fine sand
25 to 50 inches—light brownish gray fine sand
50 to 80 inches—light gray fine sand

Elloree
Surface layer:
0 to 5 inches—very dark grayish brown loamy sand

Subsurface layer:
5 to 12 inches—light brownish gray loamy sand
12 to 30 inches—light brownish gray sand that has mottles in shades of yellow and splotches in shades of gray
30 to 35 inches—dark gray sand

Subsoil:
35 to 60 inches—dark gray sandy loam
60 to 70 inches—dark gray sandy clay loam
70 to 80 inches—light gray sandy loam

Soil Properties and Qualities

Osier
Depth class: Deep
Drainage class: Poorly drained
Permeability: Rapid
Available water capacity: Very low
Depth to seasonal high water table: At the surface to a depth of 1/2 foot, November though April. Areas of this map unit are flooded by the adjacent river for 1 to 4 months during most years.
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate and high
Reaction: Extremely acid to moderately acid
Parent material: Sandy marine sediments on flood plains
Depth to bedrock: More than 80 inches

Elloree
Depth class: Deep
Drainage class: Poorly drained
Permeability: Moderately rapid
Available water capacity: Very low
Depth to seasonal high water table: At the surface to a depth of 1 foot, November though April. Areas of this map unit are flooded by the adjacent river for 1 to 4 months during most years.
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate and high
Reaction: Very strongly acid to neutral in the surface layer and subsurface layer and strongly acid to moderately alkaline in the subsoil
Parent material: Sandy marine sediments on flood plains
Depth of bedrock: More than 80 inches

Minor Components

Dissimilar soils:
• Albany, Garcon, and Ousley soils in the higher landform positions

Similar soils:
• Osier-like soils that have a dark colored surface layer that is more than 10 inches thick and that are in the lower landform positions
• Elloree-like soils that have dark, clayey surface and subsoil layers or that have an organic-stained subsoil; in the lower landscape plains

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to flooding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: Osier—5w; Elloree—6w
Woodland ordination symbol: Osier—11W for slash pine; Elloree—9W for slash pine
Ecological community: Swamp Hardwoods

11—Clara and Meadowbrook soils, frequently flooded

Setting

Landscape: Lower Coastal Plain
Landform: Flood plains
Landform position: Flats
Shape of areas: Irregular
Size of areas: 10 to more than 1,000 acres

Composition

Clara and similar soils: 50 percent
Meadowbrook and similar soils:40 percent
Dissimilar soils: 10 percent

Typical Profile

Clara
Surface layer:
0 to 4 inches—very dark gray sand that has patches of mucky sand

Subsurface layer:
4 to 9 inches—dark gray sand
9 to 18 inches—grayish brown sand that has splotches in shades of gray
18 to 29 inches—light brownish gray sand that has splotches in shades of gray and brown

Subsoil:
29 to 34 inches—dark brown sand
34 to 46 inches—brown sand

Substratum:
46 to 65 inches—pale brown sand
65 to 80 inches—light gray sand

Meadowbrook
Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 36 inches—reddish yellow fine sand that has mottles in shades of brown
36 to 42 inches—very pale brown fine sand that has mottles in shades of brown
42 to 60 inches—light gray fine sand that has mottles in shades of brown

Subsoil:
60 to 80 inches—gray sandy clay loam

Soil Properties and Qualities

Clara
Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1 foot, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low to high
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Meadowbrook
Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and moderate and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1 foot, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Clara-like soils that have a surface layer consisting of up to 8 inches of highly decomposed organic matter and that are in the lower landform positions

Similar soils:
• Leon and Osier soils in landform positions similar to those of the Clara and Meadowbrook soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to flooding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: 6w
Woodland ordination symbol: 11W
Ecological community: Swamp Hardwoods

12—Clara, Oldtown, and Meadowbrook soils, depressional

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Depressions
Landform position: Depressions
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 10 to more than 1,000 acres

Composition

Clara and similar soils: 40 percent
Oldtown and similar soils: 30 percent
Meadowbrook and similar soils: 20 percent
Dissimilar soils: 10 percent

Typical Profile

Clara
Surface layer:
0 to 4 inches—very dark gray sand that has pockets of mucky sand

Subsurface layer:
4 to 9 inches—dark gray sand
9 to 18 inches—grayish brown sand that has splotches in shades of gray
18 to 29 inches—light brownish gray sand that has splotches in shades of gray and brown

Subsoil:
29 to 34 inches—dark brown sand
34 to 46 inches—brown sand

Substratum:
46 to 65 inches—pale brown sand
65 to 80 inches—light gray sand

Oldtown
Surface layer:
0 to 12 inches—black muck
12 to 18 inches—black sand that has gray stripped areas

Subsurface layer:
18 to 27 inches—light brownish gray sand that has splotches in shades of gray

Subsoil:
27 to 45 inches—light yellowish brown sand
45 to 70 inches—yellowish brown sand

Substratum:
70 to 80 inches—light gray sand

Meadowbrook
Surface layer:
0 to 4 inches—black fine sand

Subsurface layer:
4 to 18 inches—strong brown fine sand
18 to 36 inches—reddish yellow fine sand that has mottles in shades of brown
36 to 45 inches—very pale brown fine sand that has mottles in shades of brown
45 to 55 inches—light gray fine sand that has mottles in shades of brown

Subsoil:
55 to 80 inches—gray sandy clay loam

Soil Properties and Qualities

Clara
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low to high
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Oldtown
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: At the surface to 2 feet above the surface, February through October
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None

Extent of rock outcrop: None
Content of organic matter in the surface layer: High
Reaction: Very strongly acid to moderately alkaline in the surface layer and strongly acid to moderately alkaline in the subsoil
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Meadowbrook
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through September
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
- Bodiford, Tooles, and Wekiva or similar soils in the higher landform positions

Similar soils:
- Chaires and Osier soils in landform positions similar to those of the major soils
- Chaires and Leon soils in areas of flatwoods

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: Clara—6w; Oldtown and Meadowbrook—7w
Woodland ordination symbol: Clara and Oldtown—2W; Meadowbrook—7W
Ecological community: Swamp Hardwoods

14—Rawhide mucky loamy fine sand, depressional

Setting

Landscape: Lower Coastal Plain
Landform: Depressions
Landform position: Depressions
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 20 to more than 1,000 acres

Composition

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

Typical Profile

Surface layer:
0 to 6 inches—black mucky loamy fine sand

Subsoil:
6 to 18 inches—black sandy clay loam
18 to 26 inches—very dark gray sandy clay loam that has mottles in shades of gray
26 to 40 inches—gray sandy clay loam that has mottles in shades of brown
40 to 65 inches—gray sandy clay loam that has mottles in shades of brown
65 to 80 inches—gray sandy clay loam that has pockets of white fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid in the surface horizon and slow and very slow in the subsoil
Available water capacity: Moderate
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Reaction: Moderately acid to slightly acid in the surface layer and slightly acid to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 40 inches

Minor Components

Dissimilar soils:
- Bodiford soils in landform positions similar to those of the Rawhide soil

• Chaires, Talquin, Tooles, and Osier soils in the higher landform positions

Similar soils:
• Wekiva soils in landform positions similar to those of the Rawhide soil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: 7w
Woodland ordination symbol: 2W
Ecological community: Swamp Hardwoods

15—Leon mucky fine sand, frequently flooded

Setting

Landscape: Lower Coastal Plain
Landform: Flood plains
Landform position: Flats
Shape of areas: Elongated
Size of areas: 10 to more than 200 acres

Composition

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

Typical Profile

Surface layer:
0 to 3 inches—black mucky fine sand
3 to 8 inches—black fine sand

Subsurface layer:
8 to 13 inches—gray fine sand
13 to 20 inches—light gray fine sand

Subsoil:
20 to 30 inches—black fine sand
30 to 45 inches—dark reddish brown fine sand that has splotches in shades of gray

Substratum:
45 to 65 inches—yellowish brown fine sand that has splotches in shades of gray
65 to 80 inches—light brownish gray fine sand that has splotches in shades of gray

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately rapid in the subsoil
Available water capacity: High
Depth to seasonal high water table: At the surface to a depth of 1 foot, March through September
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Reaction: Very strongly acid to moderately alkaline
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Bodiford, Chaires, Leon, Oldtown, and Yellowjacket soils, all having a surface layer of muck where they are in the lower landform positions

Similar soils:
• Clara soils in landform positions similar to those of the Leon soil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to flooding

Cropland, pasture, hayland, and urban development
Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: 6w
Woodland ordination symbol: 8W for slash pine
Ecological community: Swamp Hardwoods

16—Penney-Wadley complex, 0 to 5 percent slopes

Setting

Landscape: Lower Coastal Plain
Landform: Sandy uplands
Landform position: Knolls and ridges
Shape of areas: Irregular
Size of areas: 7 to more than 1,000 acres
Slope: 0 to 5 percent

Composition

Penney and similar soils: 50 percent
Wadley and similar soils: 40 percent
Dissimilar soils: 10 percent

Typical Profile

Penney

Surface layer:
0 to 4 inches—light brownish gray fine sand

Subsurface layer:
4 to 8 inches—brown fine sand that has brownish gray stripped areas
8 to 40 inches—brownish yellow fine sand that has streaks in shades of brown and yellow
40 to 62 inches—very pale brown fine sand

Subsoil:
62 to 80 inches—light gray fine sand that has yellowish lamellae

Wadley

Surface layer:
0 to 2 inches—light brownish gray fine sand

Subsurface layer:
2 to 30 inches—very pale brown fine sand that has streaks in shades of gray
30 to 54 inches—very pale brown fine sand that has mottles in shades of yellow

Subsoil:
54 to 72 inches—light gray fine sand that has thin horizontal lenses of yellowish brown lamellae
72 to 80 inches—yellowish brown fine sandy loam that has streaks in shades of brown

Soil Properties and Qualities

Penney

Depth class: Deep
Drainage class: Excessively drained
Permeability: Rapid
Available water capacity: Very low and low
Depth to seasonal high water table: 6 feet or more, January through December
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Very strongly acid to slightly acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Wadley

Depth class: Deep
Drainage class: Well drained and somewhat excessively drained
Permeability: Rapid in the surface layer and moderate in the subsoil
Available water capacity: Very low and low
Depth to seasonal high water table: 6 feet or more, January through December
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Very strongly acid to moderately acid
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Blanton and Chiefland soils in landform positions similar to those of the Penney and Wadley soils and Clara soils in the lower landform positions

Similar soils:
• Penney-like soils that do not have lamellae within a depth of 80 inches and that are in landform positions similar to those of the Penney and Wadley soils
• Blanton soils in landform positions similar to those of the Penney and Wadley soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderate
Trees to plant: Penney—sand pine and slash pine; Wadley—slash pine, loblolly pine, longleaf pine, and sand pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Moderate
Commonly grown crops: Corn, peanuts, and watermelons
Management concerns: Droughtiness and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, and droughtiness
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Penney—4s; Wadley—3s
Woodland ordination symbol: Penney—8S for slash pine; Wadley—11S for slash pine
Ecological community: Penney—Longleaf Pine-Turkey Oak Hills; Wadley—Upland Hardwood Hammocks

17—Leon-Leon, depressional, complex

Setting

Landscape: Lower Coastal Plain
Landform: Sandy flatwoods and depressions
Landform position: Flatwoods and depressions
Shape of areas: Irregular
Size of areas: 8 to more than 800 acres

Composition

Leon and similar soils: 50 percent
Leon, depressional, and similar soils: 40 percent
Dissimilar soils: 10 percent

Typical Profile

Leon
Surface layer:
0 to 7 inches—very dark gray fine sand

Subsurface layer:
7 to 20 inches—gray fine sand

Subsoil:
20 to 30 inches—black fine sand
30 to 40 inches—dark brown fine sand that has splotches in shades of gray

Substratum:
40 to 80 inches—brown fine sand that has splotches in shades of gray

Leon, depressional
Surface layer:
0 to 3 inches—black mucky fine sand
3 to 8 inches—black fine sand

Subsurface layer:
8 to 13 inches—gray fine sand
13 to 20 inches—light gray fine sand

Subsoil:
20 to 30 inches—black fine sand
30 to 45 inches—dark reddish brown fine sand that has splotches in shades of gray

Substratum:
45 to 65 inches—yellowish brown fine sand that has splotches in shades of gray
65 to 80 inches—light brownish gray fine sand that has splotches in shades of gray

Soil Properties and Qualities

Leon
Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: $^1/_2$ to $1^1/_2$ feet, March through September
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None

Content of organic matter in the surface layer: Low
Reaction: Very strongly acid to alkaline throughout
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Leon, depressional
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through September
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate
Reaction: Very strongly acid to alkaline throughout
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Chaires soils in landform positions similar to those of the Leon soils
• Ousley and Meadowbrook soils in the higher landform positions

Similar soils:
• Clara soils in landform positions similar to those of the Leon soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Leon—high; Leon, depressional—not suited due to ponding
Trees to plant: Leon—slash pine; Leon, depressional—not suited due to ponding
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland
Suitability: Leon—poor; Leon, depressional—not suited due to ponding
Commonly grown crops: Corn
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland
Suitability: Leon—well suited; Leon, depressional—not suited due to ponding
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Leon—poor; Leon, depressional—not suited due to ponding
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.

• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Leon—4w; Leon, depressional—7w
Woodland ordination symbol: Leon—10W for slash pine; Leon, depressional—2W
Ecological community: Leon—North Florida Flatwoods; Leon, depressional—Swamp Hardwoods

18—Chaires-Chaires, depressional, complex

Setting

Landscape: Lower Coastal Plain
Landform: Sandy flatwoods and depressions
Landform position: Flatwoods and depressions
Shape of areas: Irregular
Size of areas: 10 to more than 500 acres

Composition

Chaires and similar soils: 50 percent
Chaires, depressional, and similar soils: 40 percent
Dissimilar soils: 10 percent

Typical Profile

Chaires
Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 15 inches—gray fine sand

Subsoil:
15 to 20 inches—black fine sand
20 to 32 inches—yellowish brown fine sand that has streaks in shades of brown
32 to 47 inches—pale brown fine sand that has mottles in shades of brown
47 to 60 inches—light olive gray sandy clay loam
60 to 80 inches—greenish gray sandy clay loam

Chaires, depressional
Surface layer:
0 to 8 inches—black muck

Subsurface layer:
8 to 12 inches—gray fine sand
12 to 28 inches—light brownish gray fine sand

Subsoil:
28 to 32 inches—very dark grayish brown fine sand that has streaks in shades of brown
32 to 65 inches—brown fine sand that has mottles in shades of brown
65 to 70 inches—light brownish gray fine sandy loam
70 to 80 inches—light olive gray sandy clay loam

Soil Properties and Qualities

Chaires
Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and moderate in the subsoil layers
Available water capacity: Low and moderate
Depth to seasonal high water table: $^1/_2$ to $1^1/_2$ feet, March through September
Shrink-swell potential: Moderate
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Extremely acid to strongly acid in the surface layer, subsurface layer, and the upper part of the subsoil and very strongly acid to neutral in the lower part of the subsoil
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Chaires, depressional
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate in the subsoil
Available water capacity: Low and moderate
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through September
Shrink-swell potential: Moderate
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: High
Reaction: Extremely acid to strongly acid in the surface layer, subsurface layer, and the upper part of the subsoil and very strongly acid to neutral in the lower part of the subsoil
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Small areas of Tooles and Meadowbrook soils in landform positions similar to those of the Chaires soils

Figure 4.—Planted pine in a area of Chaires-Chaires, depressional. Due to the limited depth to the water table, this map unit needs to be bedded prior to planting. The depressional area of the complex is dominated by baldcypress and swamp hardwoods.

Similar soils:
- Leon and Clara soils in landform positions similar to those of the Chaires soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Chaires—high; Chaires, depressional—not suited due to ponding
Trees to plant: Chaires—slash pine and loblolly pine; Chaires, depressional—not suited due to ponding
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate (fig. 4).
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
- Trees in areas of this map unit respond well to applications of fertilizer.

Cropland
Suitability: Chaires—Poor; Chaires, depressional—not suited due to ponding

Commonly grown crops: Corn
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland
Suitability: Chaires—well suited; Chaires, depressional—not suited due to ponding
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Chaires—Poor; Chaires, depressional—not suited due to ponding
Management concerns: Wetness, percs slowly, poor filter, seepage, too sandy, cutbanks cave, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Chaires—4w; Chaires, depressional—7w
Woodland ordination symbol: Chaires—10W for slash pine; Chaires, depressional—2W
Ecological community: Chaires—North Florida Flatwoods; Chaires, depressional—Swamp Hardwoods

19—Wekiva-Shired-Tooles complex, occasionally flooded

Setting

Landscape: Lower Coastal Plain
Landform: Flood plains
Landform position: Wekiva—flats; Shired—depressions; Tooles—flats
Shape of areas: Irregular
Size of areas: 10 to more than 1,000 acres

Composition

Wekiva and similar soils: 39 percent
Shired and similar soils: 31 percent
Tooles and similar soils: 24 percent
Dissimilar soils: 6 percent

Typical Profile

Wekiva
Surface layer:
0 to 6 inches—black fine sand

Subsurface layer:
6 to 14 inches—yellowish brown fine sand

Subsoil:
14 to 20 inches—yellowish brown fine sandy loam

Bedrock:
20 inches—soft, weathered limestone

Shired
Surface layer:
0 to 3 inches—dark reddish brown muck

Subsurface layer:
3 to 16 inches—black sandy loam
16 to 21 inches—very dark gray sandy loam that has gray stripped areas
21 to 50 inches—grayish brown sandy clay loam that has mottles in shades of brown

Subsoil:
50 to 56 inches—grayish brown sandy clay loam that has mottles in shades of brown

Bedrock:
56 inches—soft, weathered limestone

Tooles

Surface layer:
0 to 8 inches—dark gray fine sand

Subsurface layer:
8 to 23 inches—yellowish brown fine sand
23 to 35 inches—yellowish brown fine sand that has streaks in shades of brown and yellow.

Subsoil:
35 to 46 inches—light gray sandy clay loam that has mottles in shades of brown and yellow

Substratum:
46 to 55 inches—white, soft, gravelly marl that has mottles in shades of brown and yellow

Bedrock:
55 inches—soft, weathered limestone

Soil Properties and Qualities

Wekiva

Depth class: Shallow and moderately deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1 foot, June through March
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate and high
Reaction: Moderately acid to neutral
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 10 to 20 inches

Shired

Depth class: Deep
Drainage class: Very poorly drained
Permeability: Moderately slow
Available water capacity: Low
Depth to seasonal high water table: At the surface to 2 feet above the surface, February through October
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate and high
Reaction: Moderately acid to moderately alkaline in the surface layer and subsurface layer and neutral to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 45 to 60 inches

Tooles

Depth class: Deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1/2 foot, February through September
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low and moderate
Reaction: Extremely acid to neutral in the surface layer and subsurface layer and neutral to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 41 to 60 inches

Minor Components

Dissimilar soils:
• Shired-like soils that do not have a dark surface, Chaires soils, and Leon soils; in landform positions similar to those of the major soils

Similar soils:
• Clara-like soils that have limestone below a depth of 60 inches, Meadowbrook soils, Tennille-like soils that have an organic-stained subsoil, and Wekiva-like soils that do not have a loamy subsoil; in landform positions similar to those of the major soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Poorly suited due to wetness at the surface and flooding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to wetness at the surface and flooding

Interpretive Groups

Land capability classification: Wekiva—5w; Shired—7w; Tooles—4w

Woodland ordination symbol: Wekiva—8W for slash pine; Shired—2W; Tooles—10W for slash pine
Ecological community: Shrub Bogs-Bay Swamps

20—Chaires, limestone substratum-Leon complex

Setting

Landscape: Lower Coastal Plain
Landform: Broad sandy flatwoods
Landform position: Flatwoods
Shape of areas: Irregular
Size of areas: 5 to more than 300 acres
Slope: 0 to 2 percent

Composition

Chaires and similar soils: 50 percent
Leon and similar soils: 40 percent
Dissimilar soils: 10 percent

Typical Profile

Chaires
Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 18 inches—gray fine sand

Subsoil:
18 to 24 inches—dark reddish brown fine sand
24 to 35 inches—brown fine sand that has mottles in shades of brown
35 to 61 inches—grayish brown sandy clay loam

Bedrock:
61 inches—soft, weathered limestone

Leon
Surface layer:
0 to 7 inches—very dark gray fine sand

Subsurface layer:
7 to 20 inches—gray fine sand

Subsoil:
20 to 30 inches—black fine sand
30 to 40 inches—dark brown fine sand that has splotches in shades of gray

Substratum:
40 to 80 inches—brown fine sand that has splotches in shades of gray

Soil Properties and Qualities

Chaires, limestone substratum
Depth class: Deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderately slow in the subsoil
Available water capacity: Low and moderate
Depth to seasonal high water table: $^1/_2$ to $1^1/_2$ feet, March through September
Shrink-swell potential: Moderate
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Extremely acid to strongly acid in the surface layer and subsurface layer and very strongly acid to neutral in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: More than 60 inches

Leon
*Depth class:*Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer, moderate and moderately slow in the subsoil, and rapid in the substratum
Available water capacity: Low and moderate
Depth to seasonal high water table: $^1/_2$ to $1^1/_2$ feet, March through September
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Extremely acid to slightly acid
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Small area of Chaires, Leon, and Meadowbrook soils in the lower landform positions

Similar soils:
• Chaires soils that are more than 80 inches deep over limestone and Clara soils; in landform positions similar to those of the Chaires and Leon soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Chaires—slash pine and loblolly pine; Leon—slash pine

Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland
Suitability: Poor
Commonly grown crops: Corn
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Poor
Management concerns: Wetness, percs slowly, depth to rock, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 4w
Woodland ordination symbol: 10W for slash pine
Ecological community: North Florida Flatwoods

21—Meadowbrook fine sand

Setting

Landscape: Lower Coastal Plain
Landform: Broad sandy flats
Landform position: Flats
Shape of areas: Irregular
Size of areas: 10 to more than 500 acres

Composition

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

Typical Profile

Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 36 inches—reddish yellow fine sand that has mottles in shades of brown
36 to 42 inches—very pale brown fine sand that has mottles in shades of brown
42 to 60 inches—light gray fine sand that has mottles in shades of brown

Subsoil:
60 to 80 inches—gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and

subsurface layer and moderate and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1 foot, August through March
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Meadowbrook, Chaires, Oldtown, and Clara soils in the lower landform positions

Similar soils:
• Albany soils in the higher landform positions

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: High
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland
Suitability: Poor
Commonly grown crops: None assigned
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland
Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Poor
Management concerns: Wetness, percs slowly, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 4w
Woodland ordination symbol: 11W for slash pine
Ecological community: North Florida Flatwoods

22—Lutterloh, limestone substratum-Moriah complex

Setting

Landscape: Lower Coastal Plain
Landform: Low, sandy uplands
Landform position: Lower rises and knolls
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 5 to more than 50 acres

Composition

Lutterloh and similar soils: 55 percent
Moriah and similar soils: 35 percent
Dissimilar soils: 10 percent

Typical Profile

Lutterloh
Surface layer:
0 to 6 inches—dark grayish brown fine sand
6 to 19 inches—dark grayish brown fine sand that has gray stripped areas

Subsurface layer:
19 to 32 inches—light brownish gray fine sand that has light gray stripped areas
32 to 50 inches—light brownish gray fine sand that has grayish brown stripped areas

Subsoil:
50 to 70 inches—light brownish gray sandy clay loam that has mottles in shades of yellow and brown

Bedrock:
70 inches—soft, weathered limestone

Moriah
Surface layer:
0 to 5 inches—dark gray fine sand

Subsurface layer:
5 to 9 inches—light brownish gray fine sand
9 to 31 inches—white fine sand
31 to 34 inches—pinkish gray fine sand

Subsoil:
34 to 57 inches—light gray sandy clay loam

Bedrock:
57 inches—soft, weathered limestone

Soil Properties and Qualities

Lutterloh
Depth class: Deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate to very slow in the subsoil
Available water capacity: Low and moderate
Depth to seasonal high water table: $1^{1}/_{2}$ to $2^{1}/_{2}$ feet, March through August
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Very strongly acid to moderately acid in the surface layer and subsurface layer and very strongly acid to neutral in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: More than 60 inches

Moriah
Depth class: Deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the upper part and moderate to slow in the subsoil
Available water capacity: Low and moderate
Depth to seasonal high water table: $1^{1}/_{2}$ to 3 feet, February through June
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Extremely acid and very strongly acid in the surface layer and subsurface layer and neutral to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 40 to 60 inches

Minor Components

Dissimilar soils:
- Mandarin and Matmon soils in landform positions similar to those of the Lutterloh and Moriah soils
- Tooles, Chaires, Leon, and Steinhatchee soils in the lower landform positions

Similar soils:
- Lutterloh soils that have limestone below a depth of 80 inches and Lutterloh-like soils that have a loamy subsoil within a depth of 40 inches; in landform positions similar to those of the Lutterloh and Moriah soils
- Moriah soils that have limestone below a depth of 60 inches and that are in landform positions similar to those of the Lutterloh and Moriah soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderately high
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Moderate
Commonly grown crops: Corn, peanuts, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Fair
Management concerns: Wetness, poor filter, seepage, depth to rock, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Lutterloh—3w; Moriah—3s
Woodland ordination symbol: Lutterloh—10W for slash pine; Moriah—11S for slash pine
Ecological community: Lutterloh—North Florida Flatwoods; Moriah—Upland Hardwood Hammocks

25—Meadowbrook-Meadowbrook, depressional, complex, occasionally flooded

Setting

Landscape: Lower Coastal Plain
Landform: Flood plains
Landform position: Flats and depressions
Shape of areas: Irregular
Size of areas: 10 to more than 1,000 acres

Composition

Meadowbrook and similar soils: 45 percent
Meadowbrook, depressional, and similar soils: 35 percent
Dissimilar soils: 20 percent

Typical Profile

Meadowbrook

Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 36 inches—reddish yellow fine sand that has mottles in shades of brown
36 to 42 inches—very pale brown fine sand that has mottles in shades of brown
42 to 60 inches—light gray fine sand that has mottles in shades of brown

Subsoil:
60 to 80 inches—gray sandy clay loam

Meadowbrook, depressional

Surface layer:
0 to 4 inches—black fine sand

Subsurface layer:
4 to 18 inches—strong brown fine sand
18 to 36 inches—reddish yellow fine sand that has mottles in shades of brown

36 to 45 inches—very pale brown fine sand that has mottles in shades of brown
45 to 55 inches—light gray fine sand that has mottles in shades of brown

Subsoil:
55 to 80 inches—gray sandy clay loam

Soil Properties and Qualities

Meadowbrook
Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1 foot, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Meadowbrook, depressional
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid in the surface layer and subsurface layer and slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through September
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Chaires, Clara, Tooles, Oldtown, and Leon soils in landform positions similar to those of the Meadowbrook soils

Similar soils:
• Albany soils in the higher landform positions

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Meadowbrook—slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, ponding, flooding, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland, pasture, hayland, and urban development
Suitability: Not suited due to ponding and flooding

Interpretive Groups

Land capability classification: Meadowbrook—4w; Meadowbrook, depressional—7w
Woodland ordination symbol: Meadowbrook—11W for slash pine; Meadowbrook, depressional—7W for slash pine
Ecological community: Meadowbrook—North Florida Flatwoods; Meadowbrook, depressional—Swamp Hardwoods

27—Steinhatchee-Tennille complex

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Broad sandy flats
Landform position: Flats
Shape of areas: Irregular
Size of areas: 10 to more than 500 acres

Composition

Steinhatchee and similar soils: 52 percent
Tennille and similar soils: 32 percent
Dissimilar soils: 16 percent

Typical Profile

Steinhatchee
Surface layer:
0 to 5 inches—dark gray fine sand

Subsurface layer:
5 to 18 inches—gray fine sand that has splotches and streaks in shades of gray and brown

Subsoil:
18 to 22 inches—black fine sand that has streaks in shades of brown
22 to 25 inches—dark brown fine sand
25 to 29 inches—yellowish brown fine sand that has splotches and streaks in shades of gray and brown
29 to 35 inches—gray sandy clay loam that has mottles in shades of yellow, brown, and red

Bedrock:
35 inches—soft, weathered limestone

Tennille
Surface layer:
0 to 6 inches—black fine sand

Substratum:
6 to 14 inches—brown and dark grayish brown fine sand that has mottles in shades of yellow

Bedrock:
14 inches—soft, weathered limestone

Soil Properties and Qualities

Steinhatchee
Depth class: Moderately deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: $^{1}/_{2}$ to $1^{1}/_{2}$ feet, March through September
Content of organic matter in the surface layer: Low
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Reaction: Very strongly acid to moderately acid
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 24 to 40 inches

Tennille
Depth class: Very shallow and shallow
Drainage class: Poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: $^{1}/_{2}$ to $1^{1}/_{2}$ feet, March through September
Shrink-swell potential: Moderate
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Slightly acid and neutral
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 6 to 20 inches

Minor Components

Dissimilar soils:
• Meadowbrook and Tooles soils in landform positions similar to those of the Steinhatchee and Tennille soils
• Lutterloh soils in the higher landform positions

Similar soils:
• Steinhatchee-like soils that have bedrock below a depth of 40 inches and that are in landform positions similar to those of the Steinhatchee and Tennille soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: High
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland
Suitability: Poor
Commonly grown crops: None assigned
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland
Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Poor
Management concerns: Wetness, percs slowly, seepage, depth to rock, too sandy, cutbanks cave, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Steinhatchee—3w; Tennille—4w
Woodland ordination symbol: Steinhatchee—11W for slash pine; Tennille—8W for slash pine
Ecological community: Wetland Hardwood Hammocks

28—Tooles-Meadowbrook complex

Setting

Landscape: Lower Coastal Plain
Landform: Broad sandy flats
Landform position: Flats
Shape of areas: Irregular
Size of areas: 10 to more than 500 acres

Composition

Tooles and similar soils: 55 percent
Meadowbrook and similar soils: 35 percent
Dissimilar soils: 10 percent

Typical Profile

Tooles
Surface layer:
0 to 8 inches—dark gray fine sand

Subsurface layer:
8 to 23 inches—yellowish brown fine sand
23 to 35 inches—yellowish brown fine sand that has streaks in shades of brown and yellow

Subsoil:
35 to 46 inches—light gray sandy clay loam that has mottles in shades of brown and yellow

Substratum:
46 to 55 inches—white, soft, gravelly marl that has mottles in shades of brown and yellow

Bedrock:
55 inches—soft, weathered limestone

Meadowbrook
Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 36 inches—reddish yellow fine sand that has mottles in shades of brown
36 to 45 inches—very pale brown fine sand that has mottles in shades of brown
42 to 60 inches—light gray fine sand that has mottles in shades of brown

Subsoil:
60 to 80 inches—gray sandy clay loam

Soil Properties and Qualities

Tooles
Depth class: Deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: $^1/_2$ to 1 foot, February through September
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low
Reaction: Extremely acid to neutral in the surface and subsurface layers and neutral to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 41 to 60 inches

Meadowbrook
Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1 foot, August through March
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
- Leon, Chaires, and Moriah soils in landform positions similar to those of the Tooles and Meadowbrook soils

Similar soils:
- Albany soils in the higher landform positions

Use and Management

Dominant uses: Timber production and wildlife habitat

Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: High
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
- Trees in areas of this map unit respond well to applications of fertilizer.

Cropland
Suitability: Poor
Commonly grown crops: None assigned
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
- The cover crops and all crop residue should be returned to the soil.
- Good tilth and nutrient management are required for maximum yields.
- Special erosion-control practices are not normally needed.
- Irrigation is not normally used for crops on this soil.

Pasture and hayland
Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
- A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.

• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Poor
Management concerns: Wetness, percs slowly, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Tooles—3w; Meadowbrook—4w
Woodland ordination symbol: 11W for slash pine
Ecological community: North Florida Flatwoods

29—Tooles fine sand, depressional

Setting

Landscape: Lower Coastal Plain
Landform: Depressions
Landform position: Depressions
Shape of areas: Irregular
Size of areas: 10 to more than 1,000 acres

Composition

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

Typical Profile

Surface layer:
0 to 8 inches—dark gray fine sand

Subsurface layer:
8 to 23 inches—yellowish brown fine sand
23 to 35 inches—yellowish brown fine sand that has streaks in shades of brown and yellow

Subsoil:
35 to 46 inches—light gray sandy clay loam that has mottles in shades of brown and yellow

Substratum:
46 to 55 inches—white, soft, gravelly marl that has mottles in shades of brown and yellow

Bedrock:
55 inches—soft, weathered limestone

Soil Properties and Qualities

Depth class: Deep
Drainage class: Very poorly drained
Permeability: Rapid in the surface layer and subsurface layer and slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through September
Shrink-swell potential: Moderate
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low
Reaction: Extremely acid to neutral in the surface layer and subsurface layer and neutral to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments
Depth to bedrock: 41 to 60 inches

Minor Components

Dissimilar soils:
• Chaires, Clara, Leon, and Meadowbrook soils in landform positions similar to those of the Tooles soil or higher

Similar soils:
• Tooles-like soils that have limestone below a depth of 80 inches and that are in landform positions similar to those of the Tooles soil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: 7w
Woodland ordination symbol: 2W
Ecological community: Swamp Hardwoods

30—Yellowjacket muck, depressional

Setting

Landscape: Lower Coastal Plain
Landform: Depressions
Landform position: Depressions
Shape of areas: Irregular
Size of areas: 10 to more than 1,000 acres

Composition

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

Typical Profile

Surface layer:
0 to 42 inches—black muck

Subsurface layer:
42 to 60 inches—very dark gray fine sand

Substratum:
60 to 80 inches—dark grayish brown fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Available water capacity: High
Depth to seasonal high water table: At the surface to 2 feet above the surface, February through October
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Reaction: Moderately acid to moderately alkaline in the surface layer and neutral to moderately alkaline in the subsurface layer and substratum
Parent material: Highly decomposed organic material over sandy marine sediments
Depth to bedrock: 40 to more than 80 inches

Minor Components

Dissimilar soils:
- Maurepas and Tooles soils in landform positions similar to those of the Yellowjacket soil

Similar soils:
- Yellowjacket-like soils that have limestone within a depth of less than 50 inches

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: 7w
Woodland ordination symbol: 2W
Ecological community: Swamp Hardwoods

31—Clara sand, occasionally ponded

Setting

Landscape: Lower Coastal Plain
Landform: Depressions
Landform position: Depressions
Shape of areas: Irregular
Size of areas: 10 to more than 800 acres

Composition

Clara and similar soils: 81 percent
Dissimilar soils: 19 percent

Typical Profile

Surface layer:
0 to 4 inches—very dark gray sand that has pockets of mucky sand

Subsurface layer:
4 to 9 inches—dark gray sand
9 to 18 inches—grayish brown sand that has splotches in shades of gray
18 to 29 inches—light brownish gray sand that has splotches in shades of gray and brown

Subsoil:
29 to 34 inches—dark brown sand
34 to 46 inches—brown sand

Substratum:
46 to 65 inches—pale brown sand
65 to 80 inches—light gray sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid

Available water capacity: Low
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low to high
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Meadowbrook and Chaires soils in landform positions similar to those of the Clara soil
• Chaires, Leon, and Steinhatchee soils in the higher landform positions

Similar soils:
• Clara-like soils that have limestone below a depth of 60 inches and that are in landform positions similar to those of the Clara soil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: 6w
Woodland ordination symbol: 2W
Ecological community: Swamp Hardwoods

32—Bayvi muck, frequently flooded

Setting

Landscape: Coastal swamps on the lower Coastal Plain
Landform: Flood plains
Landform position: Tidal salt marshes
Shape of areas: Long and narrow or irregular
Size of areas: 10 to more than 2,000 acres

Composition

Bayvi and similar soils: 81 percent
Dissimilar soils: 19 percent

Typical Profile

Surface layer:
0 to 6 inches—black muck

Subsurface layer:
6 to 40 inches—very dark gray loamy sand

Substratum:
40 to 64 inches—grayish brown sand that has splotches in shades of gray

Bedrock:
64 inches—hard limestone

Soil Properties and Qualities

Depth class: Deep
Drainage class: Very poorly drained
Permeability: Rapid throughout
Available water capacity: Very low
Depth to seasonal high water table: At the surface to a depth of 1 foot, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for very brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Reaction: Slightly acid to moderately alkaline in the natural wet state and very strongly acid and extremely acid when dry
Parent material: Deposits of hydrophytic plant materials over sandy and loamy marine sediments overlying limestone
Depth to bedrock: 60 to 80 inches

Minor Components

Dissimilar soils:
• Bayvi soils that do not have limestone bedrock within a depth of 80 inches; Leon-like, Lynn Haven-like, and Nutall-like soils that have tidal influence; Bayvi-like soils that have a dark, organic-stained subsoil, a loamy subsoil, or limestone at a depth of 40 to 60 inches; and Tennille-like soils, some that have a thick, dark surface layer; all in landform positions similar to those of the Bayvi soil

Similar soils:
• Bayvi-like soils that have limestone below a depth of 60 inches and that are in landform positions similar to those of the Bayvi soil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to flooding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: 8w
Woodland ordination symbol: Not assigned
Ecological community: Salt Marsh

34—Ortega-Blanton complex, 0 to 5 percent slopes

Setting

Landscape: Lower Coastal Plain
Landform: Sandy uplands
Landform position: Rises and knolls
Shape of areas: Irregular
Size of areas: 10 to more than 1,000 acres

Composition

Ortega and similar soils: 55 percent
Blanton and similar soils: 35 percent
Dissimilar soils: 10 percent

Typical Profile

Ortega
Surface layer:
0 to 8 inches—grayish brown fine sand

Substratum:
8 to 32 inches—light yellowish brown fine sand that has mottles in shades of brown and yellow
32 to 48 inches—very pale brown and light gray fine sand that has mottles in shades of brown and yellow
48 to 62 inches—light gray and very pale brown fine sand that has mottles in shades of brown and yellow
62 to 80 inches—light gray fine sand that has mottles in shades of brown and yellow

Blanton
Surface layer:
0 to 4 inches—grayish brown fine sand
4 to 10 inches—pale brown fine sand

Subsurface layer:
10 to 28 inches—very pale brown fine sand that has stripped areas in shades of gray
28 to 42 inches—very pale brown fine sand that has stripped areas in shades of gray
42 to 54 inches—light gray fine sand that has mottles in shades of brown

Subsoil:
54 to 70 inches—yellowish brown sandy clay loam that has mottles in shades of yellow and brown
70 to 77 inches—brown sandy clay loam that has mottles in shades of brown and gray
77 to 80 inches—brownish yellow fine sandy loam

Soil Properties and Qualities

Ortega
Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Rapid throughout
Available water capacity: Low
Depth to seasonal high water table: 3$^1/_2$ to 5 feet, June through January
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Very strongly acid to slightly acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Blanton
Depth class: Very deep
Drainage class: Somewhat excessively drained to moderately well drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: 4 to 6 feet, March through August
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Very strongly acid to slightly acid
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
- Albany and Ridgewood soils in the lower landform positions

Similar soils:
- Penny soils in the higher landform positions

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Moderate
Commonly grown crops: Corn, peanuts, watermelons, and tobacco
Management concerns: Droughtiness and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Moderate
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, and droughtiness
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 3s
Woodland ordination symbol: Ortega—10S for slash pine; Blanton—11S for slash pine
Ecological community: Longleaf Pine-Turkey Oak Hills

36—Pits

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats, flatwoods, rises, and knolls
Shape of areas: Generally, square or rectangular
Size of areas: 5 to more than 20 acres

Composition

Pits: 98 percent
Dissimilar areas: 2 percent

Typical Condition

This map unit consists of excavations from which soil and other geologic material have been removed for use in road construction, foundations, septic tank absorption fields, or other purposes. The sides of the excavations have short, steep side slopes. Most pits are abandoned. Areas that have been excavated below the normal seasonal high water table usually contain water.

Soil Properties and Qualities

Depth class: Variable
Drainage class: Poorly drained and very poorly drained
Permeability: Variable
Available water capacity: Variable
Depth to seasonal high water table: Variable
Shrink-swell potential: Variable
Slope class: Nearly level
Flooding: Variable
Extent of rock outcrop: Variable
Content of organic matter in the surface layer: Variable
Reaction: Variable
Parent material: Sandy and loamy marine sediments, in places overlying limestone
Depth to bedrock: Variable

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to wetness at the surface and ponding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to wetness at the surface and ponding

Interpretive Groups

Land capability classification: 8s
Woodland ordination symbol: Not assigned
Ecological community: Not assigned

38—Quartzipsamments, 0 to 5 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Dredged, sandy lowlands
Landform position: Lower rises and knolls
Shape of areas: Elongated and blocky
Size of areas: 3 to more than 200 acres

Composition

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

Typical Profile

Surface layer:
0 to 4 inches—light gray fine sand

Subsurface layer:
4 to 31 inches—very pale brown fine sand

Subsoil:
31 to 58 inches—light gray fine sand
58 to 80 inches—gray fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderately slow and moderate in the subsoil
Available water capacity: Low
Depth to seasonal high water table: Variable
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Variable
Parent material: Dredged sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
- Meadowbrook soils in depressions

Similar soils:
- None

Use and Management

Dominant uses: Variable due to dredge and fill conditions
Other uses: Urban development

Woodland
Potential productivity: Not suited due to fill and to site conditions

Cropland, hayland, and pasture
Suitability: Not suited due to fill and to site conditions

Urban development
Suitability: Variable due to dredge and fill materials
Management concerns: Wetness, percs slowly, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.
- Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
- Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.

Interpretive Groups

Land capability classification: 6s
Woodland ordination symbol: Not assigned
Ecological community: Not assigned

39—Rosota sand, 0 to 5 percent slopes

Setting

Landscape: Lower Coastal Plain
Landform: Sandy uplands
Landform position: Rises and knolls
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 20 to more than 100 acres

Composition

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

Typical Profile

Surface layer:
0 to 3 inches—gray sand

Subsurface layer:
3 to 13 inches—white sand that has streaks in shades of gray

Subsoil:
13 to 19 inches—strong brown sand
19 to 37 inches—brownish yellow sand that has splotches in shades of gray
37 to 55 inches—very pale brown sand that has mottles in shades of brown and yellow

Substratum:
55 to 80 inches—light gray fine sand that has mottles in shades of brown and yellow

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very rapid
Available water capacity: Very low
Depth to seasonal high water table: 3½ to 5 feet, December through April
Shrink-swell potential: None
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Extremely acid to slightly acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils:
• Leon soils in the lower landform positions

Similar soils:
• Ortega and Mandarin soils in landform positions similar to those of the Resota soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Pasture and urban development

Woodland
Potential productivity: Low
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland
Suitability: Not suited

Pasture and hayland
Suitability: Poor
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness, low fertility, and fast intake

Urban development
Suitability: Moderate
Management concerns: Poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 6s
Woodland ordination symbol: 8S for slash pine
Ecological community: Upland Hardwood Hammocks

41—Mandarin-Lutterloh, limestone substratum, complex

Setting

Landscape: Lower Coastal Plain
Landform: Sandy uplands
Landform position: Rises and knolls
Shape of areas: Irregular
Size of areas: 40 to more than 1,000 acres

Composition

Mandarin and similar soils: 50 percent
Lutterloh and similar soils: 30 percent
Dissimilar soils: 20 percent

Typical Profile

Mandarin
Surface layer:
0 to 6 inches—dark gray fine sand

Subsurface layer:
6 to 15 inches—gray fine sand
15 to 20 inches—light gray fine sand

Subsoil:
20 to 30 inches—very dark brown fine sand
30 to 45 inches—very dark brown fine sand that has mottles in shades of yellow and brown
45 to 56 inches—dark yellowish brown fine sand that has mottles in shades of yellow and brown

Substratum:
56 to 80 inches—dark grayish brown fine sand

Lutterloh
Surface layer:
0 to 6 inches—dark grayish brown fine sand
6 to 19 inches—dark grayish brown fine sand that has gray stripped areas

Subsurface layer:
19 to 32 inches—light brownish gray fine sand that has light gray stripped areas
32 to 50 inches—light brownish gray fine sand that has grayish brown stripped areas

Subsoil:
50 to 70 inches—light brownish gray sandy clay loam that has mottles in shades of yellow and brown

Bedrock:
70 inches—soft, weathered limestone

Soil Properties and Qualities

Mandarin
Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate in the subsoil
Available water capacity: Low
Depth to seasonal high water table: $1^1/_2$ to $3^1/_2$ feet, June through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Extremely acid to moderately acid in the surface layer and subsurface layer and extremely acid to neutral in the subsoil
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Lutterloh
Depth class: Deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate to very slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: $1^1/_2$ to $2^1/_2$ feet, March through August
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Very strongly acid to moderately acid in the surface layer and subsurface layer and very strongly acid to neutral in the subsoil
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Clara and Meadowbrook soils in the lower landform positions

Similar soils:
• Mandarin-like soils that have a weak, organic-stained subsoil and Lutterloh-like soils that have a weak, stained subsoil; in the lower landform positions or in landform positions similar to those of the Mandarin and Lutterloh soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderately high
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to

overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Moderate
Commonly grown crops: Corn, peanuts, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Fair
Management concerns: Wetness, poor filter, seepage, depth to rock, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Mandarin—6s; Lutterloh—3w
Woodland ordination symbol: Mandarin—8S for slash pine; Lutterloh—10W for slash pine
Ecological community: North Florida Flatwoods

42—Tooles-Wekiva complex

Setting

Landscape: Lower Coastal Plain
Landform: Broad, sandy flats
Landform position: Flats
Shape of areas: Irregular
Size of areas: 40 to more than 200 acres

Composition

Tooles and similar soils: 60 percent
Wekiva and similar soils: 30 percent
Dissimilar soils: 10 percent

Typical Profile

Tooles
Surface layer:
0 to 8 inches—dark gray fine sand

Subsurface layer:
8 to 23 inches—yellowish brown fine sand
23 to 35 inches—yellowish brown fine sand that has streaks in shades of brown and yellow

Subsoil:
35 to 46 inches—light gray sandy clay loam that has mottles in shades of brown and yellow

Substratum:
46 to 55 inches—white, soft, gravelly marl that has mottles in shades of brown and yellow

Bedrock:
55 inches—soft, weathered limestone

Wekiva
Surface layer:
0 to 6 inches—black fine sand

Subsurface layer:
6 to 14 inches—yellowish brown fine sand

Subsoil:
14 to 20 inches—yellowish brown fine sandy loam

Bedrock:
20 inches—soft, weathered limestone

Soil Properties and Qualities

Tooles
Depth class: Deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: $^{1}/_{2}$ to 1 foot, February through September

Figure 5.—Limestone being excavated for road construction and maintenance in an area of Tooles-Wekiva complex. The soft, weathered limestone bedrock is saturated with water during much of the year.

Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Extremely acid to neutral in the surface layer and subsurface layer and neutral to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 41 to 60 inches

Wekiva
Depth class: Very shallow and shallow
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1 foot, June through March
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Moderately acid to neutral
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 10 to 20 inches (fig. 5)

Minor Components

Dissimilar soils:
• Meadowbrook soils in landform positions similar to those of the Tooles and Wekiva soils
• Moriah soils in the higher landform positions

Similar soils:
• Tooles-like soils that have a loamy subsoil below a depth of 40 inches and that are in landform positions similar to those of the Tooles and Wekiva soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderately high
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, windthrow, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland
Suitability: Poor
Commonly grown crops: None assigned
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on these soils.

Pasture and hayland
Suitability: Moderate
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Poor
Management concerns: Tooles—wetness, percs slowly, poor filter, seepage, depth to rock, too sandy, cutbanks cave, and corrosivity; Wekiva—depth to rock, wetness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Tooles—3w; Wekiva—4w
Woodland ordination symbol: Tooles—11W for slash pine; Wekiva—8W for slash pine
Ecological community: Upland Hardwood Hammocks

44—Bodiford and Meadowbrook, limestone substratum, soils, frequently flooded

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Flood plains
Landform position: Bodiford—depressions; Meadowbrook—flats

Shape of areas: Irregular
Size of areas: 10 to more than 200 acres

Composition

Bodiford and similar soils: 50 percent
Meadowbrook and similar soils: 40 percent
Dissimilar soils: 10 percent

Typical Profile

Bodiford
Surface layer:
0 to 11 inches—dark reddish brown muck
11 to 15 inches—very dark grayish brown mucky loamy sand

Subsoil:
15 to 32 inches—yellowish brown sand
32 to 48 inches—light brownish gray sandy loam

Bedrock:
48 inches—soft, weathered limestone

Meadowbrook
Surface layer:
0 to 4 inches—black sand

Subsurface layer:
4 to 29 inches—pale brown sand
29 to 40 inches—yellowish brown sand that has mottles in shades of brown
40 to 58 inches—brown sand that has mottles in shades of brown

Subsoil:
58 to 65 inches—gray sandy loam

Bedrock:
65 inches—soft, weathered limestone

Soil Properties and Qualities

Bodiford
Depth class: Deep
Drainage class: Very poorly drained
Permeability: Rapid in the surface layer and slow in the subsoil
Available water capacity: Moderate
Depth to seasonal high water table: At the surface to 2 feet above the surface, February through October
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Reaction: Moderately acid to neutral in the surface layer and neutral to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 40 to 60 inches

Meadowbrook
Depth class: Deep
Drainage class: Very poorly drained
Permeability: Rapid in the surface layer and moderate and moderately slow in the subsoil
Available water capacity: Moderate
Depth to seasonal high water table: At the surface to a depth of 1/2 foot, June through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Leon and Tooles-like soils having a mucky surface layer; in landform positions similar to those of the Bodiford and Meadowbrook soils

Similar soils:
• Meadowbrook soils that are more than 80 inches deep over limestone and that are in landform positions similar to those of the Bodiford and Meadowbrook soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to flooding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: Bodiford—7w; Meadowbrook—5w
Woodland ordination symbol: 7W
Ecological community: Swamp Hardwoods

47—Lutterloh, limestone substratum-Moriah-Matmom complex, occasionally flooded

Setting

Landscape: Lower Coastal Plain
Landform: Flood plains
Landform position: Lower rises and knolls
Shape of areas: Irregular
Size of areas: 10 to more than 40 acres

Composition

Lutterloh and similar soils: 30 percent
Moriah and similar soils: 30 percent
Matmon and similar soils: 30 percent
Dissimilar soils: 10 percent

Typical Profile

Lutterloh
Surface layer:
0 to 6 inches—dark grayish brown fine sand
6 to 19 inches—dark grayish brown fine sand that has gray stripped areas

Subsurface layer:
19 to 32 inches—light brownish gray fine sand that has light gray stripped areas
32 to 50 inches—light brownish gray fine sand that has grayish brown stripped areas

Subsoil:
50 to 70 inches—light brownish gray sandy clay loam that has mottles in shades of yellow and brown

Bedrock:
70 inches—soft, weathered limestone

Moriah
Surface layer:
0 to 5 inches—dark gray fine sand

Subsurface layer:
5 to 9 inches—light brownish gray fine sand
9 to 31 inches—white fine sand
31 to 34 inches—pinkish gray fine sand

Subsoil:
34 to 57 inches—light gray sandy clay loam

Bedrock:
57 inches—soft, weathered limestone

Matmom
Surface layer:
0 to 4 inches—very dark grayish brown fine sand

Subsurface layer:
4 to 11 inches—yellowish brown fine sand

Subsoil layer:
11 to 19 inches—yellowish brown fine sandy loam

Bedrock:
19 inches—soft, weathered limestone

Soil Properties and Qualities

Lutterloh
Depth class: Deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate to very slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: $1^1/_2$ to $2^1/_2$ feet, March through August
Shrink-swell potential: Moderate
Slope class: Nearly level
Flooding: Occasional for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low to moderate
Reaction: Very strongly acid to moderately acid in the surface layer and very strongly acid to neutral in subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: More than 60 inches

Moriah
Depth class: Deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate to slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: $1^1/_2$ to 3 feet, January through June
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low and moderately low
Reaction: Extremely acid and very strongly acid in the surface layer and subsurface layer and neutral to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 40 to 60 inches

Matmom
Depth class: Very shallow and shallow

Drainage class: Somewhat poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: 1 to 2 feet, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate and high
Reaction: Strongly acid to slightly alkaline in the surface layer and slightly acid to slightly alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: Less than 20 inches

Minor Components

Dissimilar soils:
• Meadowbrook soil in depressions
• Meadowbrook and Chaires soils in landform positions similar to those of the major soils

Similar soils:
• Mandarin-like soils that have an organic stained subsoil below a depth of 30 inches
• Moriah-like soils that have a shallow, loamy subsoil and that are in landform positions similar to those of the major soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, flooding, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Lutterloh—moderately well suited; Moriah and Matmon—poor
Commonly grown crops: Corn, peanuts, and tobacco
Management concerns: Wetness, droughtiness, flooding, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Moderate
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Poor
Management concerns: Wetness, poor filter, flooding, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Lutterloh—3w; Moriah—3s; Matmon—4s
Woodland ordination symbol: Lutterloh—10W for slash pine; Moriah—11W for slash pine; Matmom—9W for slash pine
Ecological community: Upland Hardwood Hammocks

48—Psammaquents-Rock outcrop complex, frequently flooded

Setting

Landscape: Lower Coastal Plain
Landform: Tidal marshes
Landform position:
Shape of areas: Generally, square or rectangular
Size of areas: 5 to more than 40 acres

Composition

Psammaquents and similar soils: 68 percent
Rock outcrop: 30 percent
Dissimilar soils: 2 percent

Typical Profile

Psammaquents
Surface layer:
0 to 11 inches—yellowish brown sand

Subsurface layer:
11 to 25 inches—pinkish gray sand
25 to 35 inches—dark grayish brown loamy sand
35 inches—hard limestone bedrock

Soil Properties and Qualities

Psammaquents
Depth class: Very shallow to moderately deep
Drainage class: Very poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1 foot, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for very brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Moderately alkaline
Parent material: Sandy and loamy marine sediments
Depth to bedrock: 6 to 35 inches

Minor Components

Dissimilar soils:
- Chaires and Leon soils in landform positions similar to those of the Psammaquents
- Bayvi soils in the lower landform positions

Similar soils:
- None

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to flooding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: Psammaquents—8w; Rock outcrop—8s
Woodland ordination symbol: Not assigned
Ecological community: Not assigned

49—Chaires, limestone substratum-Meadowbrook complex

Setting

Landscape: Lower Coastal Plain
Landform: Sandy flats and flatwoods
Landform position: Flats and flatwoods
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 20 to more than 200 acres

Composition

Chaires and similar soils: 60 percent
Meadowbrook and similar soils: 25 percent
Dissimilar soils: 15 percent

Typical Profile

Chaires
Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 18 inches—gray fine sand

Subsoil:
18 to 24 inches—dark reddish brown fine sand that has streaks in shades of brown
24 to 35 inches—brown fine sand that has mottles in shades of brown
35 to 61 inches—grayish brown sandy clay loam

Bedrock:
61 inches—soft, weathered limestone

Meadowbrook
Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 36 inches—reddish yellow fine sand that has mottles in shades of brown
36 to 42 inches—very pale brown fine sand that has mottles in shades of brown

42 to 60 inches—light gray fine sand that has mottles in shades of brown

Subsoil:
60 to 80 inches—gray sandy clay loam

Soil Properties and Qualities

Chaires
Depth class: Deep
Drainage class: Poorly drained
Permeability: Rapid in the surface and subsurface layers and moderate to slow in the subsoil
Available water capacity: Low
Depth to seasonal nigh water table: 1/2 to 1 1/2 feet, March through September
Shrink-swell potential: Moderate
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate and high
Reaction: Extremely acid to strongly acid in the surface layer and subsurface layer and very strongly acid to neutral in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: More than 40 inches

Meadowbrook
Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface and subsurface layers and moderate and moderately slow in the subsoil
Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1 foot, August through March
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low and moderate
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Chaires, Clara, Leon, Tooles, Lynn Haven, and Meadowbrook soils in the lower landform positions

Similar soils:
• Chaires soils that are more than 80 inches deep over limestone

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland
Suitability: Poor
Commonly grown crops: None assigned
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on these soils.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.

• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Poor
Management concerns: Wetness, percs slowly, poor filter, seepage, depth to rock, too sandy, cutbanks cave, droughtiness, and corrosivity

Interpretive Groups

Land capability classification: 4w
Woodland ordination symbol: Chaires—10W for slash pine; Meadowbrook—11W for slash pine
Ecological community: North Florida Flatwoods

50—Wulfert muck, frequently flooded

Setting

Landscape: Coastal swamps on the lower Coastal Plain
Landform: Flood plains
Landform position: Tidal salt marshes
Shape of areas: Long and narrow or irregular
Size of areas: 10 to more than 200 acres

Composition

Wulfert and similar soils: 81 percent
Dissimilar soils: 19 percent

Typical Profile

Surface layer:
0 to 30 inches—very dark brown muck

Substratum:
30 to 56 inches—very dark gray mucky loamy fine sand that has streaks in shades of gray and brown
56 to 80 inches—very dark gray fine sand that has streaks in shades of gray and brown

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Available water capacity: Very low
Depth to seasonal high water table: At the surface to a depth of 1/2 foot, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for very long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Reaction: Extremely acid to neutral in the surface layer and extremely acid to mildly alkaline in the substratum
Parent material: Thick deposits of hydrophytic plant material underlain by sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Bayvi soils that have limestone bedrock within a depth of 80 inches and that are in landform positions similar to those of the Wulfert soil
• Leon-like, Lynn Haven-like, and Nutall-like soils that have tidal influence and that are in landform positions similar to those of the Wulfert soil
• Soils that have dark, organic-stained subsoils, loamy subsoils, and limestone at a depth of 40 to 60 inches; in landform positions similar to those of the Wulfert soil
• Soils that have a loamy subsoil over limestone at a depth of 40 to 60 inches; in landform positions similar to those of the Wulfert soil
• Tennille-like soils that have a thick, dark surface layer and that are in landform positions similar to those of the Wulfert soil

Similar soils:
• Wulfert-like soils that are less than 60 inches deep over limestone and that are in landform positions similar to those of the Wulfert soil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to flooding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: 8w
Woodland ordination symbol: Not assigned
Ecological community: Salt Marsh

51—Yellowjacket and Maurepas soils, frequently flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains
Landform position: Yellowjacket—flats; Maurepas—depressions
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 10 to more than 100 acres

Composition

Yellowjacket and similar soils: 45 percent
Maurepas and similar soils: 45 percent
Dissimilar soils: 10 percent

Typical Profile

Yellowjacket
Surface layer:
0 to 42 inches—black muck

Subsurface layer:
42 to 60 inches—very dark gray fine sand

Substratum:
60 to 80 inches—dark grayish brown fine sand

Maurepas
Surface layer:
0 to 10 inches—very dark brown muck

Subsurface layer:
10 to 80 inches—very dark brown muck

Soil Properties and Qualities

Yellowjacket
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Available water capacity: High
Depth to seasonal high water table: At the surface to a depth of 1/2 foot, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Reaction: Moderately acid to moderately alkaline
Parent material: Highly decomposed organic materials over sandy marine sediments
Depth to bedrock: More than 60 inches

Maurepas
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Available water capacity: Very high
Depth to seasonal high water table: At the surface to 1 foot above the surface, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Reaction: Slightly acid to moderately alkaline
Parent material: Highly decomposed organic materials over sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
- Yellowjacket-like soils that have limestone below a depth of 50 inches and that are in landform positions similar to those of the Yellowjacket soil

Similar soils:
- Yellowjacket-like soils that have 8 to 16 inches of surface organic materials and that are in landform positions similar to those of the Yellowjacket soil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to wetness and flooding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to wetness and flooding

Interpretive Groups

Land capability classification: Yellowjacket—7w; Maurepas—8w
Woodland ordination symbol: Yellowjacket—7W; Maurepas—not assigned
Ecological community: Swamp Hardwoods

52—St. Augustine sand, organic substratum, rarely flooded

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Smooth residential and developed areas along the Suwannee River or tidal marshes

Landform position: Narrow flats and slight ridges and knolls
Shape of areas: Narrow or irregular
Size of areas: 3 to more than 20 acres

Composition

St. Augustine and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 9 inches—dark grayish brown sand that has mottles in shades of yellow and brown

Substratum:
9 to 18 inches—light brownish gray sand that has mottles in shades of yellow and brown and splotches in shades of gray and brown
18 to 23 inches—pale brown sand that has mottles in shades of yellow and splotches in shades of gray and brown
23 to 32 inches—light brownish gray sand that has splotches in shades of brown
32 to 37 inches—gray sand that has splotches in shades of brown
37 to 42 inches—very dark brown muck
42 to 80 inches—very dark brown muck that has gray pockets of sand and shell fragments

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: 2 to 3 feet, June through October
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Rare for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Moderately alkaline to moderately acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils:
• Bayvi, Wulfert, and Lynn Haven soils in depressional landform positions
• Clara and Osier soils on flats
• Chaires, Leon, and Mandarin soils in areas of flatwoods
• Albany, Lutterloh, Ortega, and Resota soils in the higher landform positions

Similar soils:
• Ridgewood-like soils that do not have a buried organic horizon and that are in landform positions similar to those of the St. Augustine soil

Use and Management

Dominant uses: Urban development
Other uses: None

Woodland, pasture, and hayland
Suitability: Not suited due to fill material

Urban development
Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 7s
Woodland ordination symbol: Not assigned
Ecological community: Not assigned

54—Ridgewood fine sand

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Lower sandy uplands
Landform position: Lower rises and knolls
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 3 to more than 200 acres

Composition

Ridgewood and similar soils: 77 percent
Dissimilar soils: 23 percent

Typical Profile

Surface layer:
0 to 6 inches—gray fine sand

Substratum:
6 to 15 inches—light yellowish brown fine sand that

has gray stripped areas and has mottles in shades of brown and yellow
15 to 30 inches—pale brown fine sand that has gray stripped areas and has mottles in shades of brown and yellow
30 to 80 inches—light gray fine sand that has mottles in shades of brown, gray, and yellow

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: 2 to 3 1/2 feet, June through November
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low
Reaction: Very strongly acid to neutral
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Clara, Lynn Haven, and Osier soils on flats
• Chaires and Leon soils in areas of flatwoods
• Albany, Lutterloh, Ortega, and Resota soils in landform positions similar to those of the Ridgewood soil

Similar soils:
• Mandarin soils in landform positions similar to those of the Ridgewood soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Slash pine and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Poor
Commonly grown crops: None assigned
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 4s
Woodland ordination symbol: 10W for slash pine
Ecological community: Upland Hardwood Hammocks

55—Tooles-Nutall complex, frequently flooded

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Flood plains
Landform position: Flats
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 10 to more than 800 acres

Composition

Tooles and similar soils: 60 percent
Nutall and similar soils: 30 percent
Dissimilar soils: 10 percent

Typical Profile

Tooles
Surface layer:
0 to 8 inches—dark gray fine sand

Subsurface layer:
8 to 23 inches—yellowish brown fine sand
23 to 35 inches—yellowish brown fine sand that has streaks in shades of brown and yellow.

Subsoil:
35 to 46 inches—light gray sandy clay loam that has mottles in shades of brown and yellow

Substratum:
46 to 55 inches—white, soft, gravelly marl that has mottles in shades of brown and yellow

Bedrock:
55 inches—soft, weathered limestone

Nutall
Surface layer:
0 to 4 inches—black fine sand

Subsurface layer:
4 to 9 inches—very dark gray and light gray fine sand
9 to 13 inches—light gray fine sand that has mottles in shades of brown
13 to 17 inches—brown fine sand that has mottles in shades of gray

Subsoil:
17 to 30 inches—light greenish gray sandy clay loam that has mottles in shades of yellow and red

Bedrock:
30 inches—soft, weathered limestone

Soil Properties and Qualities

Tooles
Depth class: Deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and slow in the subsoil
Available water capacity: Low and moderate
Depth to seasonal high water table: At the surface to a depth of $^{1}/_{2}$ foot, February through September
Shrink-swell potential: Moderate
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low
Reaction: Extremely acid to neutral in the surface layer and subsurface layer and neutral to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 41 to 60 inches

Nutall
Depth class: Moderately deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and slow in the subsoil
Available water capacity: Moderate to high
Depth to seasonal high water table: At the surface to a depth of 1 foot, February through September
Shrink-swell potential: Moderate
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low and moderate
Reaction: Very strongly acid to neutral in the surface layer and subsurface layer and neutral to moderately alkaline in the subsoil
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock: 20 to 40 inches

Minor Components

Dissimilar soils:
- Tennille and Meadowbrook soils in landform positions similar to those of the Tooles and Nutall soils

Similar soils:
- Tooles-like soils that have a thick, dark surface layer and Nutall-like soils that have a surface layer of muck; in landform positions similar to those of the Tooles and Nutall soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to flooding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: 5w
Woodland ordination symbol: Tooles—7W; Nutall—6W for slash pine
Ecological community: Swamp Hardwoods

56—Ortega fine sand

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Sandy uplands
Landform position: Rises and knolls
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 5 to more than 500 acres

Composition

Ortega and similar soils: 78 percent
Dissimilar soils: 22 percent

Typical Profile

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

Substratum:
8 to 32 inches—light yellowish brown fine sand that has mottles in shades of brown and yellow
32 to 48 inches—very pale brown and light gray fine sand that has mottles in shades of brown and yellow
48 to 62 inches—light gray and very pale brown fine sand that has mottles in shades of brown and yellow
62 to 80 inches—light gray fine sand that has mottles in shades of brown and yellow

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: $3^{1}/_{2}$ to 5 feet, June through January
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Very strongly acid to slightly acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Lynn Haven, Ridgewood, and Leon soils in the lower landform positions
• Penney soils in the higher landform positions

Similar soils:
• Resota soils in landform positions similar to those of the Ortega soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Poor
Commonly grown crops: None assigned
Management concerns: Droughtiness and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.

• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, and droughtiness
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 3s
Woodland ordination symbol: 10S for slash pine
Ecological community: Longleaf Pine-Turkey Oak Hills

57—Clara-Oldtown complex, frequently flooded

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Flood plains
Landform position: Clara—flats; Oldtown—depressions
Shape of areas: Irregular
Size of areas: 10 to more than 200 acres

Composition

Clara and similar soils: 50 percent
Oldtown and similar soils: 40 percent
Dissimilar soils: 10 percent

Typical Profile

Clara
Surface layer:
0 to 4 inches—very dark gray sand that has pockets of mucky sand

Subsurface layer:
4 to 9 inches—dark gray sand
9 to 18 inches—grayish brown sand that has splotches in shades of gray
18 to 29 inches—light brownish gray sand that has splotches in shades of gray and brown

Subsoil:
29 to 34 inches—dark brown sand
34 to 46 inches—brown sand

Substratum:
46 to 65 inches—pale brown sand
65 to 80 inches—light gray sand

Oldtown
Surface layer:
0 to 12 inches—black muck

Subsurface layer:
12 to 18 inches—black sand that has gray stripped areas
18 to 27 inches—light brownish gray sand that has splotches in shades of gray

Subsoil:
27 to 45 inches—light yellowish brown sand
45 to 70 inches—yellowish brown sand

Substratum:
70 to 80 inches—light gray sand

Soil Properties and Qualities

Clara
Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1 foot, June through March
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Oldtown
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: At the surface to 2 feet above the surface, February through October

Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: High
Reaction: Very strongly acid to moderately alkaline in the surface layer and subsurface layer and strongly acid to moderately alkaline in the subsoil
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
- Clara-like soils that have 8 to 16 inches of highly decomposed organic matter and Leon, Elloree, and Meadowbrook soils; in landform positions similar to those of the Clara and Oldtown soils

Similar soils:
- Osier soils in landform positions similar to those of the Clara and Oldtown soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to flooding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: Clara—6w; Oldtown—7w
Woodland ordination symbol: Clara—11W for slash pine; Oldtown—7W
Ecological community: Swamp Hardwoods

58—Talquin-Meadowbrook complex, occasionally flooded

Setting

Landscape: Lower Coastal Plain
Landform: Flood plains
Landform position: Flatwoods and flats
Shape of areas: Irregular
Size of areas: 10 to more than 40 acres

Composition

Talquin and similar soils: 45 percent
Meadowbrook and similar soils: 30 percent
Dissimilar soils: 25 percent

Typical Profile

Talquin
Surface layer:
0 to 5 inches—very dark gray fine sand

Subsurface layer:
5 to 21 inches—light brownish gray fine sand

Subsoil:
21 to 23 inches—very dark gray fine sand
23 to 33 inches—dark brown fine sand

Substratum:
33 to 60 inches—brown fine sand
50 to 80 inches—very pale brown fine sand

Meadowbrook
Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 36 inches—reddish yellow fine sand that has mottles in shades of brown
36 to 42 inches—very pale brown fine sand that has mottles in shades of brown
42 to 60 inches—light gray fine sand that has mottles in shades of brown

Subsoil:
60 to 80 inches—gray sandy clay loam

Soil Properties and Qualities

Talquin
Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately rapid in the subsoil
Available water capacity: Low
Depth to seasonal high water table: $^1/_2$ to $1^1/_2$ feet, March through September
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate
Reaction: Extremely acid to strongly acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Meadowbrook
Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately slow in the subsoil

Available water capacity: Low
Depth to seasonal high water table: At the surface to a depth of 1 foot, January through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate
Reaction: Extremely acid to moderately alkaline
Parent material: Sandy and loamy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
- Chaires-like, Clara-like, and Tooles-like soils, all that have a loamy subsoil that is less than 20 inches
- Meadowbrook-like soils that have a weak, organic-stained subsoil directly below the surface layer and that are in landform positions similar to those of the Talquin and Meadowbrook soils

Similar soils:
- Leon soils in landform positions similar to those of the Talquin and Meadowbrook soils

Use and Management

Dominant uses: Timber production and wildlife habitat

Woodland
Potential productivity: Poorly suited due to wetness at the surface and flooding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: 6w
Woodland ordination symbol: Talquin—10W for slash pine; Meadowbrook—11W for slash pine
Ecological community: North Florida Flatwoods

59—Talquin fine sand, occasionally flooded

Setting

Landscape: Lower Coastal Plain
Landform: Flood plains
Landform position: Flatwoods
Shape of areas: Irregular
Size of areas: 10 to more than 40 acres

Composition

Talquin and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Surface layer:
0 to 5 inches—very dark gray fine sand

Subsurface layer:
5 to 21 inches—light brownish gray fine sand

Subsoil:
21 to 23 inches—very dark gray fine sand
23 to 33 inches—dark brown fine sand

Substratum:
33 to 60 inches—brown fine sand
60 60 80 inches—very pale brown fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate to moderately rapid in the subsoil
Depth to seasonal high water table: $^1/_2$ to $1^1/_2$ feet, March through September
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate
Reaction: Extremely acid to strongly acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
- Chaires-like, Clara-like, and Tooles-like soils in landform positions similar to those of the Talquin soil
- Meadowbrook-like soils that have a weak, organic-stained subsoil directly below the surface layer and that are in landform positions similar to those of the Talquin soil

Similar soils:
- Leon soils in landform positions similar to those of the Talquin soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: High
Trees to plant: Slash pine and longleaf pine
Management concerns: Equipment limitations, seedling mortality, plant competition, and flooding
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland
Suitability: Poor
Commonly grown crops: None assigned
Management concerns: Wetness, droughtiness, flooding, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland
Suitability: Moderately suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, flooding, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Poor
Management concerns: Wetness, percs slowly, flooding, seepage, depth to rock, too sandy, cutbanks cave, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 4w
Woodland ordination symbol: 10W for slash pine
Ecological community: North Florida Flatwoods

60—Ridgewood fine sand, rarely flooded

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Sandy lower uplands
Landform position: Rises and knolls
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 3 to more than 40 acres

Composition

Ridgewood and similar soils: 77 percent
Dissimilar soils: 23 percent

Typical Profile

Surface layer:
0 to 6 inches—gray fine sand

Substratum:
6 to 15 inches—light yellowish brown fine sand that has gray stripped areas and has mottles in shades of brown and yellow
15 to 30 inches—pale brown fine sand that has gray stripped areas and has mottles in shades of brown and yellow

30 to 80 inches—light gray fine sand that has mottles in shades of brown, gray, and yellow

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: 2 to 3$^1/_2$ feet, June through November
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Rare for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Very strongly acid to neutral
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
- Clara, Lynn Haven, and Osier soils on flats
- Chaires and Leon soils in areas of flatwoods
- Albany, Lutterloh, Ortega, and Resota soils in landform positions similar to those of the Ridgewood soil

Similar soils:
- Mandarin soils in landform positions similar to those of the Ridgewood soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Slash pine and longleaf pine
Management concerns: Equipment limitations, flooding, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Poor
Commonly grown crops: None assigned
Management concerns: Wetness, droughtiness, flooding, and fast intake
Management considerations:
- Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
- The cover crops and all crop residue should be returned to the soil.
- Good tilth and nutrient management are required for maximum yields.
- Special erosion-control practices are not normally needed.
- The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, flooding, and fast intake
Management considerations:
- Nutrient management maximizes yields.
- Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Fair
Management concerns: Wetness, poor filter, seepage, flooding, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.
- Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
- Lawns need irrigation during periods of low rainfall.
- Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 4s
Woodland ordination symbol: 10W for slash pine
Ecological community: Upland Hardwood Hammocks

61—Mandarin fine sand

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Sandy lower uplands
Landform position: Lower rises and knolls

Shape of areas: Irregular to circular
Size of areas: 5 to more than 120 acres

Composition

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

Typical Profile

Surface layer:
0 to 6 inches—dark gray fine sand

Subsurface layer:
6 to 15 inches—gray fine sand
15 to 20 inches—light gray fine sand

Subsoil:
20 to 30 inches—very dark brown fine sand
30 to 45 inches—very dark brown fine sand that has mottles in shades of yellow and brown
45 to 56 inches—dark yellowish brown fine sand that has mottles in shades of yellow and brown

Substratum:
56 to 80 inches—dark grayish brown fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate in the subsoil
Available water capacity: Low
Depth to seasonal high water table: 1½ to 3½ feet, June through December
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Extremely acid to moderately acid in the surface layer and subsurface layer and extremely acid to neutral in the subsoil
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Clara and Meadowbrook soils in the lower landform positions
• Albany soils in landform positions similar to those of the Mandarin soil

Similar soils:
• Ortega and Resota soils in landform positions similar to those of Mandarin soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Slash pine and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Poor
Commonly grown crops: None assigned
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, and droughtiness
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 6s
Woodland ordination symbol: 8S for slash pine
Ecological community: Upland Hardwood Hammocks

62—Kureb fine sand, 2 to 5 percent slopes

Setting

Landscape: Lower Coastal Plain
Landform: Sandy uplands
Landform position: Ridges and rises
Shape of areas: Irregular
Size of areas: 10 to more than 200 acres

Composition

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

Typical Profile

Surface layer:
0 to 5 inches—grayish brown fine sand

Subsurface layer:
5 to 20 inches—white fine sand

Subsoil:
20 to 35 inches—yellowish brown fine sand

Substratum:
35 to 42 inches—very pale brown fine sand that has mottles in shades of brown and yellow
42 to 80 inches—very pale brown fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Available water capacity: Very low
Depth to seasonal high water table: 6 feet or more, January through December
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very low to moderately low
Reaction: Very strongly acid to neutral throughout
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils:
• Blanton, Clara, Moriah, and Ortega soils in landform positions similar to those of the Kureb soil

Similar soils:
• Penney soils in landform positions similar to those of the Kureb soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Moderate
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Poor
Commonly grown crops: None assigned
Management concerns: Droughtiness and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.

• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Fair
Management concerns: Poor filter, seepage, too sandy, cutbanks cave, and droughtiness
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: 7s
Woodland ordination symbol: 6S for slash pine
Ecological community: Sand Pine Scrub

63—Wesconnett and Lynn Haven soils, depressional

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Sandy
Landform position: Depressions
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 5 to more than 300 acres

Composition

Wesconnett and similar soils: 45 percent
Lynn Haven and similar soils: 45 percent
Dissimilar soils: 10 percent

Typical Profile

Wesconnett
Surface layer:
0 to 10 inches—black fine sand

Subsoil:
10 to 21 inches—very dark gray fine sand
21 to 40 inches—dark reddish brown fine sand
40 to 62 inches—brown fine sand

Substratum:
62 to 80 inches—light gray fine sand

Lynn Haven
Surface layer:
0 to 13 inches—black mucky fine sand

Subsurface layer:
13 to 19 inches—light brownish gray fine sand

Subsoil:
19 to 27 inches—black fine sand
27 to 31 inches—dark brown fine sand
31 to 34 inches—dark yellowish brown fine sand

Second subsurface layer:
34 to 52 inches—yellowish brown fine sand that has mottles in shades of yellow and brown

Second subsoil:
52 to 80 inches—dark reddish brown fine sand

Soil Properties and Qualities

Wesconnett
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid in the surface layer and subsurface layer and moderate and moderately rapid in the subsoil
Available water capacity: Moderate
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through September
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderate
Reaction: Extremely acid to slightly acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Lynn Haven
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Moderately rapid in the surface layer and subsurface layer and rapid to moderate in the subsoil
Available water capacity: Moderate
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through September

Shrink-swell potential: Low
Slope class: Nearly level
Flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: High
Reaction: Extremely acid to strongly acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils:
• Meadowbrook and Chaires soils in landform positions similar to those of the Wesconnett and Lynn Haven soils
• Chaires and Clara-like soils in the higher landform positions

Similar soils:
• Leon soils in landform positions similar to those of the Wesconnett and Lynn Haven soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland
Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development
Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: 7w
Woodland ordination symbol: Wesconnett—2W; Lynn Haven—7W
Ecological community: Shrub Bogs-Bay Swamps

64—Ousley-Leon-Clara complex, 0 to 3 percent slopes, occasionally flooded

Setting

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Flood plains
Landform position: Ousley—lower rises and knolls; Leon—flatwoods; Clara—depressions
Shape of areas: Rounded; long and narrow; or irregular
Size of areas: 3 to 20 acres

Composition

Ousley and similar soils: 45 percent
Leon and similar soils: 35 percent
Clara and similar soils: 15 percent
Dissimilar soils: 5 percent

Typical Profile

Ousley
Surface layer:
0 to 4 inches—very dark gray fine sand that has brown stripped areas

Subsoil:
4 to 45 inches—very pale brown fine sand that has splotches in shades of gray and brown
45 to 80 inches—light gray fine sand that has mottles in shades of brown

Leon
Surface layer:
0 to 7 inches—very dark gray fine sand

Subsurface layer:
7 to 20 inches—gray fine sand

Subsoil:
20 to 30 inches—black fine sand
30 to 40 inches—dark brown fine sand that has splotches in shades of gray

Substratum:
56 to 80 inches—brown fine sand that has splotches in shades of gray

Clara
Surface layer:
0 to 4 inches—very dark gray sand that has pockets of mucky sand

Subsurface layer:
4 to 9 inches—dark gray sand
9 to 18 inches—grayish brown sand that has splotches in shades of gray
18 to 29 inches—light brownish gray sand that has splotches in shades of gray and brown

Subsoil:
29 to 34 inches—dark brown sand
34 to 46 inches—brown sand
46 to 65 inches—pale brown sand
65 to 80 inches—light gray sand

Soil Properties and Qualities

Ousley
Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: $1^1/_2$ to 3 feet, December through May
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping

Flooding: Occasional for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Very strongly acid to moderately acid
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Leon
Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate and moderately rapid in the subsoil and rapid in the other layers
Available water capacity: Low
Depth to seasonal high water table: $^1/_2$ to $1^1/_2$ feet, March through September
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: Occasional for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Very strongly acid to moderately alkaline
Parent material: Sandy marine sediments
Depth to bedrock: More than 60 inches

Clara
Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: At the surface to 2 feet above the surface, January through December
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: Occasional for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Reaction: Very strongly acid to moderately alkaline
Parent material: Sandy marine sediments
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils:
- Chaires, Lutterloh, and Moriah soils in landform positions similar to those of the major soils

Similar soils:
- Osier and Leon-like soils that have limestone below a depth of 60 inches and Ridgewood soils; in landform positions similar to those of the major soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland
Potential productivity: Ousley—moderate; Leon—high; Clara—low
Trees to plant: Ousley—loblolly pine; Leon—slash pine
Management concerns: Equipment limitations, flooding, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland
Suitability: Poor
Commonly grown crops: Corn
Management concerns: Wetness, droughtiness, flooding, and fast intake
Management considerations:
- Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
- The cover crops and all crop residue should be returned to the soil.
- Good tilth and nutrient management are required for maximum yields.
- Special erosion-control practices are not normally needed.
- The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland
Suitability: Ousley—moderately well suited; Leon and Clara—well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, flooding, and fast intake
Management considerations:
- Nutrient management maximizes yields.
- Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development
Suitability: Not suited due to wetness, flooding, poor filter, seepage, cutbanks cave, droughtiness, and corrosivity

Interpretive Groups

Land capability classification: Ousley—3w; Leon—4w; Clara—6w

Woodland ordination symbol: Ousley—8W for slash pine; Leon—10W for slash pine; Clara—2W for slash pine

Ecological community: Ousley—Upland Hardwood Hammocks; Leon—North Florida Flatwoods; Clara—Swamp Hardwoods

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 rangeland and woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed for each soil, the system of land capability classification used by the Natural Resources Conservation Service is explained, and the estimated yields of the main crops, hay, and pasture plants are listed for each soil.

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.

According to the Dixie County Cooperative Extension Service and the USDA Farm Service Agency, about 33,508 acres in Dixie county was used for crops and pasture in 1997. The acreage included improved pasture; field crops, such as corn, peanuts, tobacco, sorghum, wheat, oats, peanuts, soybeans, peas, and hay; and specialty crops, such as sweet corn, field peas, and a small acreage of grapes and pecans.

The potential of the soils for increased food production is fair in the county. About 300 acres of potentially good cropland is now woodland, and about 400 acres is pasture. These areas could be used as cropland but would need intensive conservation measures to control soil blowing on the sandy soils and to control the fluctuating water table. In addition to the reserve capacity represented by these areas, food production could be increased significantly by extending the latest technology to all of the cropland in the county.

Soil erosion is a problem on about three-fourths of the cropland and pasture in the county. Where the slope is more than 2 percent, erosion is a hazard—especially in areas of the moderately well drained Blanton and Otela soils and the somewhat poorly drained Albany and Ridgewood soils.

Erosion can reduce productivity and can result in pollution of streams. Productivity is reduced as the surface layer erodes and more of the subsoil is incorporated into the plow layer. Erosion on farmland results in sediments entering streams. Controlling this erosion minimizes the pollution of streams and improves the quality of water for municipal uses, for recreational uses, and for fish and wildlife.

Erosion-control practices provide a protective plant cover, increase the rate of water infiltration, and help to control runoff. A cropping system that keeps plant cover and crop residue on the surface for extended periods can hold soil losses to amounts that do not reduce the productive capacity of the soils. On livestock farms, which require pasture and hay, including grasses and legumes into the cropping system helps to control erosion in sloping areas and improves tilth for the crops that follow in the rotation. The legumes also increase nitrogen levels in the soils.

Minimizing tillage and leaving crop residue on the surface increase the rate of water infiltration and help to control runoff and erosion. Minimum tillage methods for corn and soybeans reduce the hazard of erosion in the more sloping areas and are suitable on most of the soils in the survey area.

Contour tillage and terraces are not practical on most of the soils in the county because of the sandy textures and the short, complex slopes. Stripcropping and diversions help to control runoff and reduce the hazard of erosion. They are most practical on deep, well drained soils that have a smooth slope. Diversions and sod waterways can also help to control runoff and reduce the hazard of erosion. They can be can be used on most of the soils in the county.

Wind erosion is a major hazard on the sandy soils in the county. Blowing sand particles can damage young crops in open, unprotected areas where the soil is dry and bare.

Wind erosion is damaging for several reasons. It reduces soil fertility by removing finer soil particles and organic matter; damages or destroys crops by sandblasting; spreads diseases, insects, and weed seeds; and creates health hazards and cleaning problems. Control of wind erosion minimizes duststorms and improves the quality of air, resulting in healthier living conditions.

Field windbreaks of adapted trees and shrubs, such as Carolina laurel cherry, sand pine, slash pine, southern red cedar, and Japanese privet, and strip crops of small grains minimize wind erosion and crop damage. Field windbreaks and strip crops are narrow plantings made at right angles to the prevailing wind. The interval depends on the erodibility of the soils and the susceptibility of the crop to damage from sandblasting.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted on a well-prepared site and maintained in good condition.

Additional information on planting windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service or from a commercial nursery. Information about erosion-control practices for each kind of soil is contained in “Erosion Control Handbook—Florida,” which is available at the local office of the Natural Resources Conservation Service.

Soil drainage is a major management concern affecting about 10 percent of the acreage used for crops and pasture in the county. The poorly drained Chaires, Leon, and Clara soils and the very poorly drained Maurepas, Wulfert, and Yellowjacket soils are so wet in their natural state that production of the crops common to the area is generally not practical.

Unless artificially drained, some of the somewhat poorly drained soils are wet enough in the root zone to cause damage to most crops during most years. Examples are the Albany, Mandarin, and Ridgewood soils. Also, unless artificially drained, some of the poorly drained Chaires, Leon, and Tooles soils are wet enough that some damage is caused to pasture plants. These soils also have a low water capacity and are droughty during dry periods. Subsurface irrigation is needed for adequate pasture production.

The very poorly drained Maurepas, Wulfert, and Yellowjacket soils are very wet during rainy periods and have water standing on the surface in most areas. The production of good quality pasture on these soils is not possible without artificial drainage. A combination of surface drainage and irrigation is needed for intensive pasture production on these soils.

Information regarding drainage and irrigation for each kind of soil in the county is available at the local office of the Natural Resources Conservation Service.

Fertility is naturally low in most soils in the county. Most of the soils have a sandy surface layer and are light colored. Many of the soils, including the Albany, Otela, and Blanton soils, have a loamy subsoil.

Otela and Lutterloh soils have an acid surface layer and are underlain by calcareous limestone that is slightly alkaline or moderately alkaline. Most of the other soils in the county have a surface layer that is strongly acid or very strongly acid. They require applications of lime to raise the pH level sufficiently for good crop growth. The levels of nitrogen, potassium, and available phosphorus are naturally low in most of these soils.

On all soils, the application of lime and fertilizer should be based on the results of soil tests, on the needs of the crop, and on the expected level of yields.

The Cooperative Extension Service can help in determining the kinds and amounts of fertilizer and lime that should be applied.

Tilth is an important factor affecting the germination of seeds and the infiltration of water into the soil. Soils that have good tilth are easily cultivated using common tillage equipment and provide a good seedbed.

Most of the soils in the county have a surface layer that is sand or fine sand, that is light in color, and that has a low to moderate content of organic matter. Maurepas, Wulfert, and Yellowjacket soils are exceptions. They are organic soils or have an organic surface layer.

Generally, the structure of the surface layer is weak in most soils in the county. When soils that are dry and have a low content of organic matter receive intense rainfall, colloidal matter cements and forms a slight crust, particularly if a plow pan is present. The crust is slightly hard when dry and is slightly impervious to water. It reduces infiltration and increases runoff. Regular additions of crop residue, manure, and other organic material improve soil structure and minimize crusting.

Fall plowing is generally not advisable in Dixie County. Sloping soils, which make up about one-fourth of the cropland in the county, are subject to erosion if plowed in the fall. Gullies caused by erosion are common on unprotected soils.

About three-fourths of the cropland in the county is sandy and subject to soil blowing. Tons of soil are lost each year in the county as a result of wind erosion during the spring plowing season.

Field crops grown in the county include corn, soybeans, peanuts, and tobacco. The acreage of grain sorghum planted could be increased if economic conditions were favorable. Rye and wheat are the common close-growing crops. Oats can also be grown.

Watermelons are the major specialty crop grown commercially in the survey area. A small acreage is used for squash, blueberries, grapes, pecans, and field peas. If economic conditions were favorable, the acreage of blueberries, nursery sod, cabbage, turnips, collards, and mustard greens could be increased.

Deep soils that have good natural drainage are especially well suited to many vegetables and small fruits. If irrigated, about 938 acres of Otela, Penney, and Blanton soils that have slopes of less than 8 percent would be well suited to vegetables and small fruits. Also, if adequately drained, about 5,500 acres of Ridgewood, Mandarin, and Albany soils would be well suited to vegetables and small fruits.

Information and suggestions about growing specialty crops can be obtained from the local offices of the Cooperative Extension Service and the Natural Resources Conservation Service.

Pasture in the county is used to produce forage for beef cattle and dairy cattle. Bahiagrass and improved bermudagrass are the major pasture plants (fig. 6). Seeds can be harvested from bahiagrass for improved pasture plantings and for commercial purposes. Many cattle producers seed small grains on cropland and overseed rye in pastures in the fall for winter and spring grazing. In bermudagrass pasture, excess grass is harvested as hay during the summer for use as feed during the winter. Also, hay is made from harvested peanuts during the fall for use as feed during the winter.

The well drained and moderately well drained Penney, Otela, Blanton, and Lutterloh soils are well suited to bahiagrass and improved bermudagrass. If a good management system is applied, hairy indigo and alyce clover can be grown during the summer and fall.

The somewhat poorly drained Albany and Hurricane soils are well suited to bahiagrass and to improved bermudagrass if legumes, such as sweetclover, are also grown and if adequate amounts of lime and fertilizer are applied.

If drained, the Leon, Mandarin, and Chaires soils are suited to bahiagrass pasture. Subsurface irrigation increases the length of the growing season and total production of forage. If adequate amounts of lime and fertilizer are applied, these soils are well suited to legumes, such as white clover.

Pastures in many parts of the county are greatly depleted by continuous excessive grazing. Pasture yields in these areas can be increased by irrigation, by applications of fertilizer and lime, and by growing legumes.

Difference in pasture yields are related closely to differences in soils. Management of pasture is based on the interrelationship of soils, plants, lime, fertilizer, and moisture.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under "Detailed Soil Map Units." Specific information can be obtained at the local offices of the Cooperative Extension Service and the Natural Resources Conservation Service.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in

Figure 6.—Bahiagrass in a field of Ortega-Blanton complex, 0 to 5 percent slopes. This map unit is suited to forage production.

the table because of variations in rainfall and other climatic factors. The land capability classification of each map unit 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 are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

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

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

Capability classes, the broadest groups, are designated by numerals 1 through 7. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have few limitations that restrict their use.

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

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

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

Class 5 soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

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

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

Class 7 soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *w* or *s* to the class numeral, for example, 2w. The letter *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) and *s* shows that the soil is limited mainly because it is shallow, droughty, or stony.

In class 1 there are no subclasses because the soils of this class have few limitations. The soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation.

The capability classification of each map unit is given in the section “Detailed Soil Map Units” and in the yields table.

Woodland Management and Productivity

Forestry has an important role in the economy of Dixie County. About 215,472 acres, or about 48 percent of the county, is woodland. Most of the areas of commercial woodland are owned by large timber and wood-products companies. The rest of the woodland acreage consists of small, privately owned tracts.

The main commercial trees are slash pine, longleaf pine, and loblolly pine (fig. 7). The common hardwoods include laurel oak, water oak, sweetgum, black cherry, and various types of hickory trees.

The soils and climate of Dixie County are well suited to the commercial production of timber. Currently, most of the woodland in the county is in areas of Chaires, Leon, Meadowbrook, Tooles, and Wekiva soils. These soils are typical of the poorly drained soils in flatwoods throughout the county. In the better-drained areas, the soils that commonly support woodland include Albany, Blanton, Ridgewood, Mandarin, and Ortega soils. These soils are in the southern and southwestern parts of the county, in and around California Swamp and Cedar Swamp.

For many years, individuals and woodland industries have planted and grown pines for profit. Recently, many farmers have converted idle fields to pine production. Slash pine is the most commonly planted tree for pulp and paper production. It has a fast growth rate on a wide variety of soils and can be easily transplanted. Natural stands of longleaf pines are scattered throughout the county. Longleaf pine grows well on well drained to excessively drained soils. Loblolly pine grows well on moderately well drained soils. It is planted to a small extent in the county.

On a properly managed pine plantation, the production of $1^1/_2$ cords per acre per year is not unusual. Woodland management practices include annually plowing fire lines to protect the stand from wildfire, periodically using selective thinning to reduce excessive competition, and regularly using prescribed burning to control the growth of undesirable hardwoods and to improve habitat for wildlife.

Soils vary in their ability to support trees. The depth of the soil, fertility, texture, and the available water capacity influence tree growth. The available water capacity and depth of the root zone are the major influences on tree growth.

This soil survey can be used by woodland managers planning ways to increase the productivity of forestland. Some soils respond better to applications of fertilizer than others, and some are more susceptible to landslides and erosion after roads are built and timber is harvested. Some soils require special reforestation efforts. In the section “Detailed Soil Map Units,” the description of each map unit in the survey area suitable for timber includes information about productivity, limitations in harvesting timber, and management concerns in producing timber.

Figure 7.—Planted slash pine in an area of Ortega-Blanton complex, 0 to 5 percent slopes. Bedding is not required on this map unit, and timber production is excellent.

Table 6 can be used by woodland 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 *W* indicates excess water in or on the soil and *S* indicates sandy texture. If a soil has more than one limitation, the priority is as follows: W and S.

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 woodland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, stones on the surface, rock outcrops, soil wetness, and texture of the surface layer. A rating of *slight* indicates that under normal conditions the kind of equipment and season of use are not significantly restricted by soil factors. Soil wetness can restrict equipment use, but the wet period does not exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If the soil is wet, the wetness restricts equipment use for a period of 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either as to the kind of equipment that can be used or the season of use. If the soil is wet, the wetness restricts equipment use for more than 3 months.

Seedling mortality refers to the death of naturally occurring or planted tree seedlings, as influenced by the kinds of soil, soil wetness, or topographic conditions. The factors used in rating the soils for seedling mortality are texture of the surface layer, depth to a seasonal high water table and the length of the period when the water table is high, rock fragments in the surface layer, effective rooting depth, and slope aspect. A rating of *slight* indicates that seedling mortality is not likely to be a problem under normal conditions. Expected mortality is less than 25 percent. A rating of *moderate* indicates that some problems from seedling mortality can be expected. Extra precautions are advisable. Expected mortality is 25 to 50 percent. A rating of *severe* indicates that seedling mortality is a serious problem. Extra precautions are important. Replanting may be necessary. Expected mortality is more than 50 percent.

Windthrow hazard is the likelihood that trees will be uprooted by the wind because the soil is not deep enough for adequate root anchorage. The main restrictions that affect rooting are a seasonal high water table and the depth to bedrock, a fragipan, or other limiting layers. A rating of *slight* indicates that under normal conditions no trees are blown down by the wind. Strong winds may damage trees, but they do not uproot them. A rating of *moderate* indicates that some trees can be blown down during periods when the soil is wet and winds are moderate or strong. A rating of *severe* indicates that many trees can be blown down during these periods.

Plant competition ratings indicate the degree to which undesirable species are expected to invade and grow when openings are made in the tree canopy. The main factors that affect plant competition are depth to the water table and the available water capacity. A rating of *slight* indicates that competition from undesirable plants is not likely to prevent natural regeneration or suppress the more desirable species. Planted seedlings can become established without undue competition. A rating of *moderate* indicates that competition may delay the establishment of desirable species. Competition may hamper stand development, but it will not prevent the eventual development of fully stocked stands. A rating of *severe* indicates that competition can be expected to prevent regeneration unless precautionary measures are applied.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index* and as a *volume* number. The site index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *volume*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic feet per acre per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

The first species listed under *common trees* for a soil is the indicator species for that soil. It generally is the most common species on the soil and is the one that determines the ordination class.

Trees to plant are those that are suitable for commercial wood production.

Pasture and Rangeland

Kay Anderson, range conservationist, Natural Resources Conservation Service, helped prepare this section.

In Dixie County, grazing land provides food and cover for livestock and wildlife. Species that may be found in the county include white-tailed deer, wild turkey, quail, wading birds, songbirds, small mammals, coyote, and numerous reptiles and amphibians. About 5,233 head of beef cattle are maintained on the grazing lands.

Pasture

Pasture vegetation consists mainly of introduced forage species that do not require annual tillage. In

Dixie County, pastures are mainly used to produce forage for beef cattle and dairy cattle. Bahiagrass and bermudagrass are the major pasture plants. Some producers overseed rye or other small grains in the fall for winter and spring grazing. Hay may also be produced during the summer for use as feed during the winter. In some parts of the county, pasture plants have been depleted by excessive grazing. Some areas that were planted to pasture species have been severely invaded by weeds and brush.

In areas that have similar climates and topography, differences in the kinds and amounts of forage a pasture can produce are related closely to the soil type. Effective management is based on the relationships among soils, varieties of pasture plants, water control, and lime and fertilizer.

Sound management practices for pasture generally include weed control, applications of fertilizer and lime, and, as necessary, a planned grazing system. Bahiagrass is successfully managed with a stubble height of about 2 inches. Short grazing periods (usually less than a week) should be followed by a 3-week recovery period. Improved varieties of bermudagrass can be managed with a stubble height of about 4 inches followed by a 5-week recovery period.

Rangeland

The dominant vegetation in rangeland consists of native grasses, grasslike plants, forbs, and shrubs that are suitable for grazing. Sound management for rangeland includes brush management and a planned grazing system. Proper grazing requires manipulating the length and intensity of grazing so that no more than 50 percent of the current year's growth of desirable plants is removed each year. It is best accomplished by implementing a planned grazing system, which allows for deferment periods during the growing season.

Weed and brush management can be used to alter the type and distribution of brush and weeds, resulting in approximately natural conditions. Mechanical treatment, chemical treatment, and prescribed burning can be used individually or in conjunction to accomplish range management goals.

Deferred grazing improves the condition and vigor of forage plants by allowing a period of complete rest from any type of livestock grazing. Generally, a deferment of at least 30 days follows prescribed burning and a deferment of 90 days follows any mechanical treatment.

A range site produces a characteristic climax plant community that differs from the natural plant communities on other range sites in the kind, amount, or proportion of native vegetation. The relationship between soils and vegetation was ascertained during this survey; thus, range sites generally can be determined directly from the soil map. Soil properties that affect moisture supply and plant nutrients have the greatest influence on the productivity of range plants.

Range condition is a measure of the present plant community in relation to the potential climax native plant community.

The productivity of a site is closely related to the natural drainage of the soil. The wettest soils, such as those in marshes, generally produce the greatest amount of vegetation. Deep, droughty, sandy soils normally produce the least amount of herbaceous vegetation.

Ecological Communities

The ecological community concept is based on the knowledge that a soil type commonly supports a specific vegetative community, which in turn provides the habitat needed by specific wildlife species.

Vegetative communities form recognizable units on the landscape, most of which are apparent to the casual observer after only a little training. Even without prior botanical training, an observer can quickly learn to distinguish between the North Florida Flatwoods community and the Longleaf Pine-Turkey Oak Hills, between the Upland Hardwood Hammocks and the Wetland Hardwood Hammocks, and between the Swamp Hardwoods and the Salt Marsh. Once a community is recognized, information can be found concerning the general characteristics of the soil on which it occurs and the types of plants and animals that it supports.

Although some plants are found only within a very narrow range of conditions, many plants can survive throughout a wide range. Individual plants that have a wide tolerance level can occur in many different communities and on a variety of soils. When describing ecological communities, plant scientists study the patterns in which vegetation occurs. They study what species occur, the relative abundance of each species, the stage of plant succession, the dominance of species, the position of species on the landscape, and the soil or soils on which the patterns occur. Recognizable patterns of vegetation are typically found in a small group of soil types that have common characteristics. During many years of field observation while conducting soil surveys, the Natural Resources Conservation Service determined which vegetative communities commonly occur on which soils throughout Florida. This information is summarized in the booklet “26 Ecological Communities of Florida” (USDA–SCS, 1985).

In following paragraphs, the vegetative communities occurring on individual map units during the climax state of plant succession are described. The descriptions are based on relatively natural conditions. Human activities, such as commercial production of pine, agriculture, urbanization, and fire suppression, can alter the community on specific sites and should be considered.

Longleaf Pine-Turkey Oak Hills

The Longleaf Pine-Turkey Oak Hill ecological community is dominated by longleaf pine and by turkey oak, bluejack oak, and sand post oak. Common shrubs include Adam’s needle, coontie, coralbean, shining sumac, and yaupon. Pricklypear cactus, partridge pea, blazingstar, elephantsfoot, wiregrass, grassleafed goldaster, yellow Indiangrass, and dropseed are common. The average annual production on sites in excellent condition is about 4,500 pounds of forage per acre.

North Florida Flatwoods

The North Florida Flatwoods ecological community is normally dominated by slash pine, live oak, and sand live oak on the slightly higher ridges and an understory of saw palmetto, gallberry, and grasses. Scattered pond pine, water oak, laurel oak, sweetgum, wax-myrtle, and several species of blueberry are also common. Chalky bluestem, broomsedge bluestem, lopsided Indiangrass, low panicums, switchgrass, and wiregrass are the common grasses. Other common plants include grassleafed goldaster, blackberry, brackenfern, deertongue, gayfeather, milkworts, and a variety of seed producing legumes. The average annual production on sites in excellent condition is about 4,500 pounds of forage per acre.

Upland Hardwood Hammocks

The Upland Hardwood Hammocks ecological community is normally dominated by black cherry, eastern hornbeam, flowering dogwood, hawthorns, laurel oak, laurelcherry, live oak, loblolly pine, longleaf pine, slash pine, pignut hickory, southern magnolia, sweetgum, and water oak and an understory of American beautyberry, arrowwood, sparkleberry, and wax-myrtle. Low panicum, wood oats, bluestem, and switchgrass are common grasses. Other common plants include aster, cat greenbrier, common greenbrier, crossvine, partridge pea, poison ivy, ragweed, Spanish moss, Virginia creeper, wild grape, yellow jessamine, dotted horsemint, and blackberry.

Wetland Hardwood Hammocks

The Wetland Hardwood Hammocks ecological community is normally dominated by cabbage palm, hawthorns, laurel oak, live oak, water oak, redbay, red maple, sweetbay, and magnolia and an understory of wax-myrtle, witchhazel, and saw palmetto. Longleaf uniola and low panicum are the common grasses. Other common plants include cinnamon fern, crossvine, poison ivy, royal fern, Spanish moss, Virginia creeper, wild grape, and yellow jessamine.

Salt Marsh

The Salt Marsh ecological community is dominated by grasses and grasslike plants, such as smooth cordgrass, black needlerush, gulf cordgrass, marshhay cordgrass, Olney’s bulrush, and seashore dropseed. Sea blite, seaoxeye, and seapurslane are the herbaceous plants and vines.

Swamp Hardwoods

The Swamp Hardwoods ecological community is dominated by blackgum, red maple, Ogeechee lime, cypress, and bay trees (fig. 8). Common shrubs include fetterbush, Virginia willow, buttonbush, and wax-myrtle. Common herbaceous plants and vines include wild grape, greenbriers, and poison ivy. Maidencane, cinnamon fern, and sphagnum moss are also common.

Shrub Bogs-Bay Swamps

The Shrub Bogs-Bay Swamps ecological community is dominated by a dense mass of evergreen shrubby, including large gallberry, fetterbush, myrtleleaved holly, swamp cyrilla (titi), greenbriers, sweet pepperbush, and sweetbay. Scattered slash pine, pond pine, or both are present.

Sand Pine Scrub

The Sand Pine Scrub ecological community is dominated by even-aged stands of sand pine and by thick, scrubby oak growth. The natural vegetation of this community is typically even-aged sand pine trees and a dense understory of oaks, saw palmetto, and other shrubs. Ground cover under the trees and shrubs is scattered, and large areas of light-colored sand are commonly noticeable. In places, the sand pine are scattered or absent and oaks are the dominant vegetation. Common trees include bluejack oak, Chapman oak, myrtle oak, sand live oak, and sand pine. Common shrubs include dwarf huckleberry, gopher apple, pricklypear cactus, and saw palmetto. Common herbaceous plants and vines include grassleaf goldaster, deermoss, and cat

Figure 8.—Blackgum and mixed hardwoods in an area of Clara and Meadowbrook soils, frequently flooded. This map unit is not suited to any type of development due to flooding and wetness.

greenbrier. Common grasses and grasslike plants include yellow Indiangrass and low panicum.

Grazable Woodland

Grazable woodland is woodland that produces, at least periodically, sufficient understory vegetation suitable for forage that grazing does not significantly impair the production of wood. Sound management practices include adjusting the intensity and duration of livestock grazing so that half of the current year's growth of grazing plants is left at the end of each grazing season; locating supplemental feeding troughs, mineral feeders, and water developments away from newly planted areas; and excluding from grazing, for one growing season or until they are well established, new plantings or stands that are naturally regenerating.

A planned grazing system that provides for periodic deferments during the growing season optimizes the production of forage plants. Prescribed burning, chemical brush control, and mechanical brush control help to keep the understory plant community in balance.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low- and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

Recreation

The soils of the survey area are rated in table 7 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In the table, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations, if any, are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset by soil reclamation, special design, intensive maintenance, limited use, or a combination of these measures.

The information in the table can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 10 and interpretations for dwellings without basements and for local roads and streets in table 9.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking and horseback riding should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

John F. Vance, biologist, Natural Resources Conservation Service, helped prepare this section.

Wildlife is a valuable resource in Dixie County. Fishing and hunting are popular, year-round activities. Large areas of wetlands and uplands provide habitat for a wide variety of wildlife. The main wildlife species include white-tailed deer, wild turkey, quail, doves, squirrels, feral hogs, and water fowl. Nongame wildlife species include raccoon, otter, and a variety of songbirds, wading birds, woodpeckers, predatory birds, reptiles, and amphibians. Some of the more important areas of habitat are the large wetlands in the California Swamp and the Steinhatchee Wildlife Management Area in the northern part of the county and along the Suwannee River on the eastern border.

Dixie County contains numerous small lakes. The largest lake is Governor Hill Lake, which is more than 100 acres. The Gulf of Mexico is along the southern part of the county. Good opportunities for fishing are found throughout the county. Game and nongame species include largemouth bass, channel catfish, bullhead catfish, bluegill, redear sunfish, spotted sunfish, warmouth, black crappie, chain pickerel, gar, bowfin, and sucker.

A number of endangered and threatened wildlife species live in Dixie County. They include the seldom seen red-cockaded woodpecker and the more commonly seen southeastern kestrel. A detailed list of endangered and threatened species and information about their range and habitat needs is available from the local office of the Natural Resources Conservation Service.

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 8, 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. 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 are also considerations. Examples of grain and seed crops are corn, soybeans, wheat, browntop millet, and grain sorghum.

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 are also considerations. Examples of grasses and legumes are bahiagrass, lovegrass, Florida beggarweed, clover, and sesbania.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affects 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 are also considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, partridge pea, and bristlegrasses.

Hardwood trees and wood 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, palmetto, cherry, sweetgum, wild grape, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are firethorn, wild plum, and American beautyberry.

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, cypress, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded.

Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for open land 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 includes bobwhite quail, dove, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas includes wild turkey, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, egrets, shore birds, otter, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Table 9 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations, if any, are minor and easily overcome; *moderate* if soil properties or site features are somewhat restrictive for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable that special design, soil reclamation, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, a cemented pan, or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and depth to the water table.

Dwellings and *small commercial buildings* are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrinking and swelling, and organic layers can cause the movement of footings. A high water table, depth to bedrock or to a cemented pan, large stones, slope, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 or 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or stabilized soil material; and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock or to a cemented pan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost action potential, and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock or to a cemented pan, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 10 shows the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations, if any, are minor and easily overcome; *moderate* if soil properties or site features are somewhat restrictive for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or alteration.

The table also shows the suitability of the soils for use as daily cover for landfill. A rating of *good* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock, and flooding affect absorption of the effluent (fig. 9). Large stones and bedrock or a cemented pan interfere with installation.

Unsatisfactory performance of septic tank

Figure 9.—An engineered mound system at a trailer park in an area of Ousley-Leon-Clara complex, 0 to 3 percent slopes, occasionally flooded. These soils require a specially designed onsite sewage disposal system to ensure safe, proper treatment of sewage.

absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Many local ordinances require that this material be of a certain thickness.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

The table gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, depth to bedrock or to a cemented pan, flooding, large stones, and content of organic matter.

Excessive seepage resulting from rapid permeability in the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground-water pollution. Ease of excavation and revegetation should be considered.

The ratings in the table are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock or to a cemented pan, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium affect trench landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, coarse fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to wind erosion.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a 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. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

Construction Materials

Table 11 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help to determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, a low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have a moderate shrink-swell potential or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, or many stones. They are wet and have a water table at a depth of less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, or soils that have an appreciable amount of gravel, stones, or soluble salts. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel, stones, or soluble salts, or have a seasonal high water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 12 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, 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.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; and subsidence of organic layers. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-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 shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 13 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under the heading “Soil Series and Their Morphology.”

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 as much as about 15 percent, 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, 1986) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 1993).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-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, SP-SM.

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 grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical Properties

Table 14 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 14, 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 (K_{sat}) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). 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 14, 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 14 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 as follows:

1. Coarse sands, sands, fine sands, and very fine sands.

2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.

3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.

5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.

6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.

7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.

8. Soils that are not subject to wind erosion because of rock fragments on the surface or because of surface wetness.

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

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

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

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

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

Soil Features

Table 16 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. *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.

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

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

The four hydrologic soil groups are:

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

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

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

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

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. Estimates of the frequency of flooding apply to the whole year rather than to individual months.

Water table refers to a saturated zone in the soil. Table 17 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 17 indicates *surface water depth.*

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.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (USDA–SCS, 1975; Soil Survey Staff, 1994). 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 18 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aqualf (*Aqu*, meaning Aquic, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Endoaqualfs (*Endo*, meaning apparent water table, plus *aqualf*, the suborder of the Alfisols that has aquic conditions).

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 *Grossarenic* identifies the subgroup that has a thick sandy layer. An example is Grossarenic Endoaqualfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is loamy, siliceous, subactive, thermic Grossarenic Endoaqualfs.

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 Meadowbrook 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” (USDA-SCS, 1975). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range in important characteristics of the soils in the series.

The map units of each soil series are described in the section “Detailed Soil Map Units.”

Albany Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the A and E horizons and moderate or moderately slow in the Btg horizon
Parent material: Sandy and loamy marine sediments
Landscape: Lower Coastal Plain

Landform: Lower sandy uplands
Landform position: Lower rises and knolls
Commonly associated soils: Blanton, Chaires, Clara, Elloree, Garcon, Lutterloh, Mandarin, Meadowbrook, Oldtown, Ousley, Ridgewood, and Wadley soils
Slope: 0 to 3 percent
Taxonomic class: Loamy, siliceous, subactive, thermic Grossarenic Paleudults

Typical Pedon

Albany sand in an area of Albany-Ridgewood complex in Dixie County; about 1,580 feet south and 1,190 feet west of the northeast corner of sec. 17, T. 10 S., R. 12 E.

Ap—0 to 7 inches; dark gray (10YR 4/1) sand; weak fine granular structure; very friable; very strongly acid; many fine and medium roots; clear wavy boundary.
E1—7 to 24 inches; light yellowish brown (10YR 6/4) sand; common fine distinct yellowish brown (10YR 5/8) stains; common medium and coarse distinct dark gray (10YR 4/1) krotovinas; common medium faint very pale brown (10YR 7/3) stripped areas in the matrix; single grained; loose; strongly acid; common fine and medium roots; abrupt wavy boundary.
E2—24 to 49 inches; light gray (10YR 7/1) sand; common fine and medium distinct light yellowish brown (10YR 6/4) and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation; single grained; loose; strongly acid; common fine and medium roots; abrupt wavy boundary.
Btg—49 to 80 inches; gray (10YR 5/1) sandy clay loam; many medium and coarse prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 5/6) and reddish brown (2.5YR 4/4) masses of iron accumulation; weak fine subangular blocky structure; very friable, slightly sticky and plastic; strongly acid; few fine roots.

Range in Characteristics

Thickness of the solum: 70 to more than 80 inches
Depth to bedrock: More than 80 inches
Reaction: Extremely acid to slightly acid in the Ap or A horizon and extremely acid to moderately acid below a depth of 40 inches
Flooding: None to occasional for brief periods

A or Ap horizon:
Color—hue of 10YR, 2.5Y, or 5Y, value of 2 to 6, and chroma of 1 or 2; or neutral in hue and value of 2 to 6
Texture—sand

E horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 or 8; or hue of 5Y, value of 7, and chroma of 2
Redoximorphic features—shades of white, gray, yellow, brown, and red
Texture—sand

Btg horizon:
Color—hue of 7.5YR, 10YR, or 2.5Y, value of 4 to 8, and chroma of 1 or 2
Redoximorphic features—shades of white, gray, yellow, brown, and red
Texture—sand clay loam

Bayvi Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Parent material: Deposits of hydrophytic plant materials over sandy and loamy marine sediments over limestone
Landscape: Coastal swamps on the lower Coastal Plain
Landform: Flood plains
Landform position: Tidal salt marshes
Commonly associated soils: St. Augustine, Shired, Tooles, Wekiva, and Wulfert soils
Slope: Less than 1 percent
Taxonomic class: Sandy, siliceous, thermic Cumulic Endoaquolls

Typical Pedon

Bayvi muck in an area of Bayvi muck, frequently flooded, in Dixie County; about 100 feet east and 100 feet north of the southwest corner of sec. 22, T. 12 S., R. 11 E.

Oa—0 to 6 inches; black (7.5YR 2/1) muck; about 30 percent fiber unrubbed, less than 10 percent rubbed; weak fine granular structure; very friable; many fine, medium, and coarse roots; slightly acid; gradual wavy boundary.
A—6 to 40 inches; very dark gray (10YR 3/1) loamy sand; massive; slightly sticky and slightly plastic; strongly acid; common fine roots; diffuse wavy boundary.
C1—40 to 50 inches; grayish brown (10YR 5/2) sand; many fine and medium very dark gray (10YR 3/1)

splotches; massive; slightly sticky and nonplastic; moderately acid; few fine roots; gradual wavy boundary.

C2—50 to 64 inches; grayish brown (10YR 5/2) sand; few fine faint very dark gray (10YR 3/1) splotches; single grained; loose; nonsticky and nonplastic; extremely acid; few fine roots; abrupt wavy boundary.

R—64 inches; hard limestone bedrock.

Range in Characteristics

Thickness of the solum: 24 to 54 inches
Depth to bedrock: 60 to 80 inches
Reaction: Slightly acid to moderately alkaline when in the natural wet state and very strongly acid or extremely acid when dry
Flooding: Frequent for very brief periods

Oa horizon:
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3
Texture—muck
Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed

A or Ap horizon:
Color—hue of 2.5Y or 10YR, value of 2 to 4, and chroma of 1 or 2
Texture—loamy sand or mucky loamy sand

C horizon:
Color—hue of 10YR, 2.5Y, or 5Y, value of 4 to 7, and chroma of 1 or 2
Texture—sand or loamy sand

Cr layer (where present):
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer:
Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Blanton Series

Depth class: Very deep
Drainage class: Somewhat excessively drained to moderately well drained
Permeability: Rapid in the A and E horizons and moderate or moderately slow in the B horizon
Parent material: Sandy and loamy marine or aeolian deposits
Landscape: Lower Coastal Plain
Landform: Sandy uplands
Landscape position: Knolls and ridges
Commonly associated soils: Albany, Chiefland, Kureb, Ortega, Penney, and Ridgewood soils
Slope: 0 to 5 percent
Taxonomic class: Loamy, siliceous, semiactive, thermic Grossarenic Paleudults

Typical Pedon

Blanton fine sand in an area of Ortega-Blanton complex, 0 to 5 percent slopes, in Dixie County; about 3,100 feet west and 300 feet south of the northeast corner of sec. 36, T. 10 S., R. 12 E.

A—0 to 4 inches; grayish brown (10YR 5/2, rubbed) fine sand; weak fine granular structure; very friable; strongly acid; many fine and medium roots; clear smooth boundary.

AE—4 to 10 inches; pale brown (10YR 6/3) fine sand; many medium faint grayish brown (10YR 5/2) and few medium faint light gray (10YR 7/2) stripped areas in the matrix; single grained; loose; strongly acid; many fine and medium roots; gradual wavy boundary.

E1—10 to 28 inches; very pale brown (10YR 7/3) fine sand; common fine and medium faint light gray (10YR 7/2) stripped areas in the matrix; single grained; loose; moderately acid; common fine and medium roots; gradual wavy boundary.

E2—28 to 42 inches; very pale brown (10YR 7/3) fine sand; many fine and medium faint light gray (10YR 7/2) stripped areas in the matrix; few fine distinct brownish yellow (10YR 6/6) masses of iron accumulation; single grained; loose; moderately acid; common fine and medium roots; gradual wavy boundary.

E3—42 to 54 inches; light gray (10YR 7/2) fine sand; common fine and medium faint very pale brown (10YR 7/3) masses of iron accumulation; few medium distinct yellowish brown (10YR 5/6) pockets of fine sandy loam; single grained; loose; moderately acid; common fine and medium roots; abrupt wavy boundary.

Bt1—54 to 70 inches; yellowish brown (10YR 5/6) sandy clay loam; common fine distinct yellowish brown (10YR 5/8) masses of iron accumulation; weak fine subangular blocky structure; very friable; very strongly acid; few fine and medium roots; gradual wavy boundary.

Bt2—70 to 77 inches; brown (7.5YR 5/4) sandy clay loam; common medium prominent light brownish gray (10YR 6/2) iron depletions; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; weak fine subangular blocky structure; very friable; very strongly acid; few fine and medium roots; gradual wavy boundary.

BC—77 to 80 inches; brownish yellow (10YR 6/6) fine sandy loam; weak fine angular blocky structure; very friable; strongly acid; few fine roots.

Range in Characteristics

Thickness of the solum: 60 to more than 80 inches
Depth to bedrock: More than 60 inches
Reaction: Very strongly acid to moderately acid throughout
Flooding: None

A or Ap horizon:
Color—hue of 2.5Y or 10YR, value of 3 to 7, and chroma of 1 to 4
Texture—fine sand

E horizon:
Color—hue of 2.5Y to 7.5YR, value of 5 to 8, and chroma of 1 to 8
Texture—sand or fine sand

Bt horizon:
Color—hue of 2.5Y to 7.5YR, value of 5 to 7, and chroma of 3 to 8
Redoximorphic features—shades of white, gray, yellow, brown, and red in the upper 10 inches of some pedons
Texture—sand clay loam

Btg horizon (where present):
Color—hue of 2.5Y to 7.5YR, value of 5 to 8, and chroma of 1 or 2
Redoximorphic features—shades of white, gray, yellow, brown, and red in some pedons
Texture—fine sandy loam and sandy clay loam

BC horizon:
Color—hue of 2.5Y to 7.5YR, value of 5 to 8, and chroma of 5 to 8
Texture—fine sandy loam

Bodiford Series

Depth class: Deep
Drainage class: Very poorly drained
Permeability: Rapid in the O, A, and E horizons and moderately slow in the argillic horizon
Parent material: Sandy and loamy marine sediments overlying limestone
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Flood plains
Landform position: Depressions
Commonly associated soils: Leon, Meadowbrook, Tooles, Wekiva, and Yellowjacket soils
Slope: Less than 2 percent
Taxonomic class: Loamy, siliceous, superactive, thermic Arenic Endoaqualfs

Typical Pedon

Bodiford muck in an area of Bodiford and Meadowbrook, limestone substratum, soils, frequently flooded, in Dixie County; about 2,300 feet west and 300 feet north of the southeast corner of sec. 30, T. 12 S., R. 11 E.

Oa—0 to 11 inches; dark reddish brown (5YR 2/2) muck; 30 percent fiber unrubbed, 10 percent rubbed; weak fine granular structure; very friable; many fine, medium, and coarse roots; slightly acid; clear wavy boundary.

A—11 to 15 inches; very dark grayish brown (10YR 3/2) mucky loamy sand; moderate medium granular structure; friable; many fine, medium, and coarse roots; slightly acid; clear wavy boundary.

E—15 to 32 inches; yellowish brown (10YR 5/4) fine sand; single grained; loose; common medium and coarse roots; neutral; clear wavy boundary.

Btg—32 to 48 inches; light brownish gray (10YR 6/2) sandy loam; weak coarse subangular blocky structure; friable; sand grains bridged with clay films; mildly alkaline; abrupt irregular boundary.

Cr—48 inches; soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: 40 to 60 inches
Reaction: Moderately acid to neutral in the Oa horizon, slightly acid to slightly alkaline in the A and E horizons, and neutral to moderately alkaline in the Btg horizon
Flooding: Frequent for long periods

Oa horizon:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 4 or less; or neutral in hue and value of 4 or less
Texture—Organic materials composed mostly of decayed leaves, twigs, roots, and other sapric vegetative material
Fiber content—about 5 to 15 percent rubbed and 20 to 35 percent unrubbed

A horizon:
Color—hue of 10YR to 5YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3
Texture—sand, loamy sand, or their mucky analogs

E horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 1 to 4
Redoximorphic features—none to common iron masses and/or pore linings in shades of brown, yellow, or red
Texture—sand, fine sand, or loamy fine sand

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7
Redoximorphic features—none to common iron or clay depletions in shades of gray and iron masses in shades of yellow, brown, and red
Texture—sandy loam or sandy clay loam

Cr layer:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer (typically present):
Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Chaires Series

Depth class: Deep or very deep
Drainage class: Poorly drained or very poorly drained
Permeability: Rapid in the A and E horizons, moderate in the Bh horizon, rapid in the Bw horizon, and moderately slow or slow in the Btg horizon
Parent material: Sandy and loamy marine sediments in places overlying limestone
Landscape: Lower Coastal Plain
Landform: Broad, sandy flatwoods and depressions
Landscape position: Flatwoods and depressions
Commonly associated soils: Albany, Clara, Leon, Lynn Haven, Meadowbrook, Ridgewood, Steinhatchee, Tooles, Wekiva, and Wesconnett soils
Slope: 0 to 2 percent
Taxonomic class: Sandy, siliceous, thermic Alfic Alaquods

Typical Pedon

Chaires fine sand in an area of Chaires-Chaires, depressional, complex, in Dixie County; about 2,500 feet west and 2,300 feet north of the southeast corner of sec. 18, T. 9 S., R. 12 E.

Ap—0 to 6 inches; fine sand, very dark gray (10YR 3/1) rubbed, salt-and-pepper appearance unrubbed due to a mixture of coated and uncoated sand grains; weak fine granular structure; very friable; very strongly acid; many fine and medium roots; gradual smooth boundary.
E—6 to 15 inches; gray (10YR 5/1) fine sand; single grained; loose; very strongly acid; many fine and medium roots; abrupt irregular boundary.
Bh—15 to 20 inches; black (10YR 2/1) fine sand; sand grains coated with organic matter; weak medium angular blocky structure; extremely acid; common fine and medium roots; gradual irregular boundary.
Bw1—20 to 32 inches; yellowish brown (10YR 5/4) fine sand; many fine and medium distinct brown (7.5YR 4/4) and dark brown (7.5YR 3/4) streaks; single grained; loose; extremely acid; common fine and medium roots; abrupt wavy boundary.
Bw2—32 to 47 inches; pale brown (10YR 6/3) fine sand; common fine and medium distinct brown (7.5YR 5/4) masses of iron accumulation; single grained; loose; very strongly acid; few fine roots; abrupt wavy boundary.
Btg1—47 to 60 inches; light olive gray (5Y 6/2) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; very strongly acid; few fine roots; diffuse wavy boundary.

Btg2—60 to 80 inches; greenish gray (5GY 6/1) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; slightly acid.

Range in Characteristics

Thickness of the solum: 50 to more than 80 inches
Depth to bedrock: 50 to more than 80 inches
Reaction: Extremely acid to strongly acid in the A, E, Bh, and Bw horizons and very strongly acid to neutral in the Btg horizon
Flooding: None

O horizon (where present):
Color—hue of 10YR, value of 2 or 3, and chroma of 2 or less
Texture—muck

A or Ap horizon:
Color—hue of 10YR or 7.5YR, value of 2 to 4, and chroma of 2 or less. Where value is 3.5 or less, the horizon is less than 10 inches thick.
Texture—fine sand or sand

E horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 2 or less; or neutral in hue and value of 5
Texture—fine sand or sand

Bh horizon:
Color—hue of 5YR to 10YR, value of 1 to 3, and chroma of 1 to 3
Texture—fine sand or sand

Bw horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 2 to 4
Redoximorphic features—shades of black, very dark gray, brown, and yellow
Texture—fine sand or sand

Btg horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2; lower part—hue of 5Y to 5GY, value of 5 to 7, and chroma of 1 or 2
Redoximorphic features—shades of gray, yellow, brown, and red
Texture—sandy clay loam

Cr layer (where present):
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer:
Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Chiefland Series

Depth class: Moderately deep
Drainage class: Moderately well drained
Permeability: Rapid in the A and E horizons, moderate in the argillic horizon, and very slow in the Cr layer
Parent material: Sandy and loamy marine sediments overlying limestone
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Sandy uplands
Landform position: Knolls and ridges
Commonly associated soils: Blanton, Kureb, Ortega, and Otela soils
Slope: 0 to 5 percent
Taxonomic class: Loamy, siliceous, superactive, thermic Arenic Hapludalfs

Typical Pedon

Chiefland fine sand, in an area of Otela, limestone substratum-Chiefland-Kureb complex, 0 to 5 percent slopes, in Dixie County; about 1,950 feet south and 610 feet east of the northwest corner of sec. 35, T. 9 S., R. 13 E.

Ap—0 to 5 inches; very dark gray (10YR 3/1) fine sand; salt-and-pepper appearance due to a mixture of white sand grains and black organic material; weak fine granular structure; very friable; many fine and medium roots; neutral; clear smooth boundary.
E1—5 to 17 inches; grayish brown (10YR 5/2) fine sand; common fine and medium faint light brownish gray (10YR 6/2) splotches; single grained; loose; common fine and medium and few coarse roots; neutral; gradual wavy boundary.
E2—17 to 26 inches; pale brown (10YR 6/3) fine sand; single grained; loose; few fine and very fine roots; few fine distinct yellowish brown (10YR 5/6)

masses of iron accumulation; neutral; abrupt irregular boundary.

Bt—26 to 35 inches; yellowish brown (10YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; 2 to 5 percent, by volume, gravel-sized, soft, angular limestone pebbles in the lower part; few very fine and fine roots; neutral; abrupt irregular boundary.

Cr—35 inches; soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 20 to 40 inches

Depth to bedrock: 20 to 40 inches. Solution holes in which the solum extends to depths below 40 inches occur in about 30 percent of the pedons. Limestone boulders are on the surface of many areas, comprising 1 to 3 percent of the surface area.

Reaction: Strongly acid to neutral in the A horizon, except where lime has been applied, and moderately acid to moderately alkaline in the Bt horizon

Flooding: None

A or Ap horizon:

Color—hue of 10YR, value of 3 to 6, and chroma of 1 to 3

Texture—fine sand

E horizon:

Color—hue of 10YR, value of 6 or 7, and chroma of 2 to 6; or hue of 7.5YR, value of 5 to 7, and chroma of 4 to 8. Some pedons have few to many brown or yellow iron accumulations and few to common pockets of uncoated sand grains.

Redoximorphic features—none to common iron masses and/or pore linings in shades of brown, yellow, or red

Texture—sand or fine sand

Bt horizon:

Color—hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 4 to 8. Some pedons have few to many iron accumulations in shades of red, brown, or yellow.

Texture—sandy loam, fine sandy loam, or sandy clay loam. The content of coarse limestone fragments ranges from 3 to 10 percent, by volume. In solution holes, the texture of the Bt horizon is sandy clay loam in the upper part and sandy clay in the lower part. Also, fine to medium nodules of soft limestone are in the Bt horizon in solution holes, but they normally make up less than 20 percent of the volume.

Cr layer:

Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4

Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer (typically present):

Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Clara Series

Depth class: Very deep

Drainage class: Poorly drained or very poorly drained

Permeability: Rapid

Parent material: Sandy marine sediments

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain

Landform: Flood plains, broad sandy flats, and depressions

Landform position: Flats and depressions

Commonly associated soils: Bodiford, Chaires, Garcon, Leon, Lynn Haven, Mandarin, Meadowbrook, Oldtown, Osier, Ousley, Tooles, Wesconnett, Wulfert, and Yellowjacket soils

Slope: Less then 2 percent

Taxonomic class: Siliceous, thermic Spodic Psammaquents

Typical Pedon

Clara sand in an area of Clara and Meadowbrook soils, frequently flooded, in Dixie County; about 2,400 feet east and 2,600 feet north of the southwest corner of sec. 23, T. 9 S., R. 12 E.

A1—0 to 4 inches; sand, very dark gray (10YR 3/1) rubbed, gray (10YR 5/1) unrubbed; many medium distinct black (10YR 2/1) pockets of mucky sand;

weak fine granular structure; very friable, nonsticky and nonplastic; common fine and medium roots; moderately acid; clear wavy boundary.

A2—4 to 9 inches; sand, dark gray (10YR 4/1) rubbed, gray (10YR 5/1) unrubbed; many medium faint very dark gray (10YR 3/1) pockets of sand grains coated with organic matter; single grained; loose; few fine and very fine roots; slightly acid; clear wavy boundary.

E1—9 to 18 inches; grayish brown (10YR 5/2) sand; common medium faint very dark gray (10YR 3/1) and dark gray (10YR 4/1) splotches and vertical streaks; single grained; loose; few fine and very fine roots; neutral; clear wavy boundary.

E2—18 to 29 inches; light brownish gray (10YR 6/2) sand; few medium faint dark grayish brown (10YR 4/2) and grayish brown (10YR 5/2) splotches; single grained; loose; few very fine roots; neutral; clear wavy boundary.

Bw1—29 to 34 inches; dark brown (10YR 4/3) sand; single grained; loose; few very fine roots; neutral; gradual wavy boundary.

Bw2—34 to 46 inches; brown (10YR 5/3) sand; few medium faint dark brown (10YR 4/3) streaks; single grained; loose; few very fine roots; neutral; gradual wavy boundary.

C1—46 to 65 inches; pale brown (10YR 6/3) sand; few medium faint brown (10YR 5/3) streaks; single grained; loose; few very fine roots; neutral; diffuse wavy boundary.

C2—65 to 80 inches; light gray (10YR 7/2) sand; few medium faint pale brown (10YR 6/3) streaks and brown (10YR 5/3) masses of iron accumulation; single grained; loose; few very fine roots; neutral.

Range in Characteristics

Thickness of the sandy layers: 80 inches or more
Depth to bedrock: More than 80 inches
Reaction: Extremely acid to moderately alkaline throughout, except where lime has been applied
Flooding: None to frequent for brief periods
Other features: Some pedons have a layer of muck up to 3 inches thick on the surface.

A horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 2 or less (rubbed)
Texture—sand, mucky sand, or fine sand

E horizon:
Color—hue of 10YR, value of 6 or 7, and chroma of 1 to 3; or hue of 10YR, value of 5, and chroma of 1 or 2. Few to common vertical streaks in shades of red, brown, or gray. The vertical streaks are not present in all pedons where chroma is 1.
Redoximorphic features—none to common nonaccumulations, depletions, and vertical streaks in shades of brown or gray
Texture—sand or fine sand

Bw horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 3 to 6. Where chroma is less than 6 in the upper part of the horizon, the color is more than 1 unit of value darker than the overlying E horizon. In some pedons, the upper part of the Bw horizon has small splotches, streaks, or discontinuous lenses or organically stained material with value of less than 4.
Redoximorphic features—few or common iron accumulations in shades of brown and yellow
Texture—sand or fine sand

C horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 3 or less
Redoximorphic features—few or common iron accumulations and/or pore linings in shades of brown or yellow
Texture—sand or fine sand

Elloree Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderately rapid
Parent material: Sandy and loamy marine sediments
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Flood plains
Landform position: Broad, sandy flats
Commonly associated soils: Garcon, Osier, and Ousley soils
Slope: 0 to 2 percent
Taxonomic class: Loamy, siliceous, active, thermic Arenic Endoaqualfs

Typical Pedon

Elloree loamy sand in an area of Osier-Elloree complex, frequently flooded, in Dixie County; about 500 feet east and 1,800 feet south of the northwest corner of sec. 32, T. 12 S., R. 13 E.

A—0 to 5 inches; very dark grayish brown (10YR 3/2) loamy sand; moderate medium granular structure; friable; many fine and medium roots; moderately acid; clear wavy boundary.

E1—5 to 12 inches; light brownish gray (10YR 6/2) loamy sand; single grained; loose; few fine and very fine roots; neutral; clear wavy boundary.

E2—12 to 30 inches; light brownish gray (2.5Y 6/2) sand; many coarse prominent olive yellow (2.5Y 6/8) masses of iron accumulation and dark gray (10YR 4/1) splotches; single grained; loose; few fine and very fine roots; neutral; clear wavy boundary.

E3—30 to 35 inches; dark gray (10YR 4/1) sand; single grained; loose; few very fine roots; neutral; abrupt wavy boundary.

Btg1—35 to 60 inches; dark gray (5Y 4/1) sandy loam; weak medium subangular blocky structure; slightly sticky and plastic; neutral; gradual wavy boundary.

Btg2—60 to70 inches; dark gray (5Y 4/1) sandy clay loam; weak medium subangular blocky structure; slightly sticky and plastic; common fine and medium roots; neutral; gradual wavy boundary.

Cg—70 to 80 inches; light gray (5Y 7/1) sandy loam; weak medium subangular blocky structure; slightly sticky and plastic; neutral.

Range in Characteristics

Thickness of the solum: More than 40 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid to neutral in the A horizon, strongly acid to neutral in the E horizon, and strongly acid to moderately alkaline throughout the rest of the profile
Flooding: Frequent for long periods

A horizon:
Color—hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 3 or less; or neutral in hue and value of 2 or 3
Texture—loamy fine sand or loamy sand

E horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7
Redoximorphic features—shades of brown and yellow in some pedons
Texture—loamy fine sand, loamy sand, sand, or fine sand

Btg horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 or less; or neutral in hue and value of 4 to 7
Redoximorphic features—shades of brown and yellow in some pedons
Texture—dominantly sandy loam or fine sandy loam but ranges to sandy clay loam

Cg horizon:
Color—dominantly hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2; or neutral in hue and value of 5 to 7. In some pedons, hue ranges to 5GY.
Texture—sand, loamy sand, sandy loam, fine sandy loam, sandy clay loam, or clay

Garcon Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the A and E horizons and moderate or moderately slow in the Bt and Cg horizons
Parent material: Sandy and loamy marine sediments
Landscape: Lower Coastal Plain
Landform: Terraces on flood plains
Landform position: Lower rises and knolls
Commonly associated soils: Albany, Clara, Elloree, Osier, and Ousley soils
Slope: 0 to 2 percent
Taxonomic class: Loamy, siliceous, active, thermic Arenic Hapludults

Typical Pedon

Garcon fine sand in an area of Garcon-Ousley-Albany complex, occasionally flooded, in Dixie County; about 3,700 feet north and 2,110 feet west of the southeast corner of sec. 32, T. 9 S., R. 14 E.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) fine sand; weak medium granular structure; very friable; very strongly acid; many fine and medium roots; clear wavy boundary.

E—4 to 21 inches; pale brown (10YR 6/3) fine sand; common medium faint very pale brown (10YR 7/4) masses of iron accumulation; weak medium granular structure; friable; many fine and medium roots; very strongly acid; clear smooth boundary.

Bt1—21 to 29 inches; yellowish brown (10YR 5/4) fine sandy loam; common medium faint dark yellowish brown (10YR 4/4) and common medium light brownish gray (10YR 6/2) streaks; weak fine subangular blocky structure; friable; very strongly acid; clear wavy boundary.

Bt2—29 to 50 inches; gray (10YR 5/1) fine sandy clay loam; many coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation; moderate medium subangular blocky structure;

very firm; moderately acid; gradual smooth boundary.

Cg1—50 to 60 inches; gray (10YR 5/1) loamy fine sand; many coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation; moderate medium subangular blocky structure; friable; moderately acid; gradual smooth boundary.

Cg2—60 to 80 inches; light gray (10YR 7/1) loamy fine sand; common coarse prominent yellowish brown (10YR 5/4) masses of iron accumulation; weak fine granular structure; very friable; moderately acid.

Range in Characteristics

Thickness of the solum: 45 to 60 inches
Depth to bedrock: More than 60 inches
Reaction: Very strongly acid or strongly acid throughout
Flooding: Occasional for brief periods

A or Ap horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 1 or 2
Texture—loamy fine sand, loamy sand, or fine sand

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 2 to 6; or hue of 2.5Y, value of 4 to 6, and chroma of 2 to 4
Redoximorphic features—shades of gray, yellow, brown, and red
Texture—loamy fine sand, loamy sand, or fine sand

Bt1 horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 3 or 4
Redoximorphic features—shades of gray, yellow, brown, and red
Texture—sandy clay loam or fine sandy loam

Bt2 horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—shades of yellow, brown, and red
Texture—fine sandy loam, sandy loam, or fine sandy clay loam

C horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 1 or 2
Redoximorphic features—shades of gray, yellow, brown, and red
Texture—sand, fine sand, or loamy fine sand

Kureb Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Parent material: Sandy marine sediments
Landscape: Lower Coastal Plain
Landform: Sandy uplands
Landform position: Higher rises and knolls
Commonly associated soils: Blanton, Chiefland, Ortega, and Otela soils
Slope: 0 to 5 percent
Taxonomic class: Thermic, uncoated Spodic Quartzipsamments

Typical Pedon

Kureb fine sand in an area of Otela, limestone substratum-Chiefland-Kureb complex, 0 to 5 percent slopes, in Dixie County; about 1,880 feet south and 880 feet east of the northwest corner of sec. 34, T. 8 S., R. 12 E.

A—0 to 5 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; common fine and medium roots; very strongly acid; clear wavy boundary.

E—5 to 20 inches; white (10YR 8/1) fine sand; single grained; loose; common fine and medium roots; moderately acid; abrupt wavy boundary.

C/Bh—20 to 35 inches; yellowish brown (10YR 5/8) fine sand; single grained; loose; brown (10YR 5/3) sand grains coated with organic matter; few fine roots; strongly acid; gradual wavy boundary.

C1—35 to 42 inches; very pale brown (10YR 7/4) fine sand; common fine and medium faint brownish yellow (10YR 6/6) masses of iron accumulation; few fine roots; moderately acid; gradual wavy boundary.

C2—42 to 80 inches; very pale brown (10YR 8/4) fine sand; single grained; loose; few fine roots; strongly acid.

Range in Characteristics

Thickness of the sandy layers: 80 inches or more
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid to neutral throughout
Flooding: None

A or Ap horizon:
Color—hue of 10YR, value of 3 to 6, and chroma of 1 or 2
Texture—fine sand or sand

E horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 1 to 3
Texture—fine sand or sand

C/Bh horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 2 to 8 (C) and hue of 10YR, value of 3 to 5, and chroma of 2 to 4 (Bh)
Texture—fine sand

C horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 2 to 8
Redoximorphic features—shades of gray, yellow, and brown
Texture—fine sand

Leon Series

Depth class: Very deep
Drainage class: Poorly drained or very poorly drained
Permeability: Rapid in the A and E horizon, moderate or moderately slow in the Bh horizon, and rapid in the other layers
Parent material: Sandy marine sediments
Landscape: Lower Coastal Plain
Landform: Flatwoods, flats, depressions, and flood plains
Landform position: Flatwoods, flats, and depressions
Commonly associated soils: Albany, Bodiford, Chaires, Clara, Meadowbrook, Nutall, Ousley, Ridgewood, and Talquin soils
Slope: 0 to 2 percent
Taxonomic class: Sandy, siliceous, thermic Aeric Alaquods

Typical Pedon

Leon fine sand in an area of Leon-Leon depressional, complex, in Dixie County; about 1,440 feet east and 720 feet north of the southwest corner of sec. 25, T. 8 S., R. 12 E.

Ap—0 to 7 inches; fine sand, very dark gray (10YR 3/1) rubbed, salt-and-pepper appearance unrubbed due to a mixture of coated and uncoated sand grains; weak fine granular structure; very friable; extremely acid; many fine and medium roots; clear wavy boundary.
E—7 to 20 inches; gray (10YR 6/1) fine sand; single grained; loose; very strongly acid; many medium and fine roots; clear wavy boundary.
Bh1—20 to 30 inches; black (N 2/0) fine sand; sand grains are coated with organic matter; weak medium angular blocky structure; friable; very strongly acid; common fine and medium roots; gradual wavy boundary.
Bh2—30 to 40 inches; dark brown (7.5YR 3/4) fine sand; many fine distinct very dark gray (10YR 3/1) splotches; weak medium angular blocky structure; very friable; very strongly acid; few fine and medium roots; diffuse wavy boundary.
C—40 to 80 inches; brown (7.5YR 4/4) fine sand; common fine distinct very dark gray (10YR 3/1) splotches; single grained; loose; very strongly acid; few fine roots.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 60 inches
Reaction: Dominantly extremely acid to slightly acid, but very strongly acid to moderately alkaline in the tidal areas
Flooding: None to occasional

A or Ap horizon:
Color—hue of 10YR, value of 2 to 4 and chroma of 1 or 2; or neutral in hue and value of 2 to 4
Texture—sand, fine sand, or mucky fine sand

E horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 1 or 2
Texture—fine sand

Bh horizon:
Color—hue of 5YR to 2.5Y, value of 2 to 4, and chroma of 1 to 4; or neutral in hue and value of 2 to 4
Texture—fine sand

E´ horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 2 to 8, and chroma of 1 or 2
Texture—fine sand

B´h horizon (where present):
Color—hue of 5YR to 2.5Y, value of 2 to 4, and chroma of 1 to 3
Texture—fine sand

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 to 6
Texture—fine sand

Lutterloh Series

Depth class: Deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the A horizon, moderate in the upper part of the argillic horizon, and slow to very slow in the lower part of the argillic horizon
Parent material: Sandy and loamy marine sediments over limestone

Landscape: Lower Coastal Plain
Landform: Lower uplands and flood plains
Landform position: Lower rises and knolls
Commonly associated soils: Albany, Lynn Haven, Mandarin, Matmon, Moriah, and Ridgewood soils
Slope: 0 to 3 percent
Taxonomic class: Loamy, siliceous, subactive, thermic Grossarenic Paleudalfs

Typical Pedon

Lutterloh sand, in an area of Lutterloh, limestone substratum-Moriah complex, in Dixie County; about 600 feet south and 4,600 feet east of the northwest corner of sec. 27, T. 10 S., R. 13 E.

A—0 to 6 inches; dark grayish brown (10YR 4/2) fine sand, light gray (10YR 5/1) dry; weak medium granular structure; very friable; many fine and medium roots; common coarse roots; strongly acid; clear smooth boundary.
AE—6 to 19 inches; dark grayish brown (10YR 4/2) fine sand; many fine and medium faint gray (10YR 5/1) stripped areas in the matrix; single grained; loose; common fine and very fine roots; strongly acid; clear wavy boundary.
E1—19 to 32 inches; light brownish gray (10YR 6/2) fine sand; common fine faint light gray (10YR 5/1) stripped areas in the matrix; single grained; loose; common fine and very fine roots; moderately acid; diffuse wavy boundary.
E2—32 to 50 inches; light brownish gray (10YR 6/2) fine sand; few medium faint grayish brown (10YR 5/2) stripped areas in the matrix; single grained; loose; few fine and very fine roots; few medium roots; moderately acid; clear irregular boundary.
Btg—50 to 70 inches; light brownish gray (10YR 6/2) sandy clay loam; many medium and coarse distinct yellowish brown (10YR 5/6) and prominent strong brown (7.5YR 5/6 and 4/6) masses of iron accumulation; weak medium subangular blocky structure; friable, sticky and plastic; few fine and very fine roots; slightly acid; abrupt irregular boundary.
Cr—70 inches; soft, weathered, fractured limestone bedrock.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 60 inches
Reaction: Very strongly acid to moderately acid in the A and E horizons and very strongly acid to neutral in the Btg horizon
Flooding: None to occasional for long periods

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 1 or 2
Texture—fine sand or sand

E horizon:
Color—hue of 10YR or 5Y, value of 6 to 8, and chroma of 3 or less
Texture—fine sand or sand

Btg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 or less
Redoximorphic features—shades of white, gray, yellow, brown, and red in some pedons
Texture—sandy clay loam

Cr layer:
Color—hue of 10YR or 2.5Y, value of 6 to 8, and chroma of 1 to 4
Texture—soft, weathered, fractured limestone

2R layer (where present):
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Texture—hard, unweathered limestone

Lynn Haven Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid in the A and E horizons and moderately rapid or moderate in the Bh horizon
Parent material: Sandy marine sediments
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Depressions
Landform position: Depressions
Commonly associated soils: Chaires, Clara, Leon, and Wesconnett soils
Slope: 0 to 1 percent
Taxonomic class: Sandy, siliceous, thermic Typic Alaquods

Typical Pedon

Lynn Haven mucky fine sand in an area of Wesconnett and Lynn Haven soils, depressional, in Lafayette County, about 10 miles east of Mayo; 2,000 feet north and 200 feet east of a trail road; 2,300 feet north and 3,200 feet east of the southwest corner of sec. 27, T. 5 S., R. 10 E.

A—0 to 13 inches; black (7.5YR 2/2) mucky fine sand; moderate fine granular structure; very friable;

many fine, medium, and coarse roots; extremely acid; gradual wavy boundary.

Eg—13 to 19 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; few fine roots; very strongly acid; clear wavy boundary.

Bh1—19 to 27 inches; black (5YR 2/1) fine sand; massive; friable; few fine, medium, and coarse roots; sand grains coated with organic matter; strongly acid; gradual wavy boundary.

Bh2—27 to 31 inches; dark brown (10YR 3/3) fine sand; massive; friable; few fine and medium roots; sand grains coated with organic matter; extremely acid; gradual wavy boundary.

BE—31 to 34 inches; dark yellowish brown (10YR 4/4) fine sand; single grained; loose; few fine and medium roots; strongly acid; clear wavy boundary.

E´—34 to 52 inches; yellowish brown (10YR 5/4) fine sand; single grained; loose; few fine and medium roots; few medium distinct dark yellowish brown (10YR 3/6) masses of iron accumulation; strongly acid; gradual wavy boundary.

B´h—52 to 80 inches; dark reddish brown (5YR 3/2) fine sand; massive; friable; sand grains coated with organic matter; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 to 80 inches
Depth to bedrock: More than 60 inches
Reaction: Extremely acid to strongly acid throughout, except where lime has been applied
Flooding: None
Other features: Some pedons have a bisequum that includes an E´ horizon and a B´h horizon.

Oa horizon (where present):
Color—hue of 10YR or 7.5YR, value of 2 or 3, and chroma of 1 to 3; or neutral in hue and value of 2 or 3
Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed

A horizon:
Color—hue of 10YR, value of 2 or 3, and chroma of 1 or 2; or neutral in hue and value of 2 or 3
Texture—fine sand or mucky fine sand

Eg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Redoximorphic features—none to common iron masses and/or pore linings in shades of brown, yellow, or red
Texture—fine sand or sand

EB horizon (where present):
Color—hue of 10YR, valve 2 to 4, and chroma of 1; many uncoated sand grains
Texture—fine sand or sand

Bh horizon:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 to 4; vertical or horizontal tongues of grayish sand in some pedons
Texture—fine sand or loamy fine sand

C/B horizon (where present):
Color—hue of 5YR to 10YR, value of 3 to 5, and chroma of 3 or 4
Redoximorphic features—none to common iron masses and/or pore linings in shades of brown, yellow, or red and none to many splotches and/or stripped matrixes in shades of gray
Texture—fine sand or sand

C horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 to 3
Redoximorphic features—none to common iron masses and/or pore linings in shades of brown, yellow, or red
Texture—fine sand or sand

Mandarin Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid in the A and E horizons and moderate in the Bh horizons
Parent material: Sandy marine sediments
Landscape: Lower Coastal Plain
Landform: Lower sandy uplands
Landform position: Lower rises and knolls
Commonly associated soils: Albany, Clara, Lutterloh, Ortega, Resota, and Ridgewood soils
Slope: 0 to 2 percent
Taxonomic class: Sandy, siliceous, thermic Oxyaquic Alorthods

Typical Pedon

An area of Mandarin fine sand, in Dixie County; about 4,000 feet east and 200 feet north of the southwest corner of sec. 6, T. 11 S., R. 13 E.

Ap—0 to 6 inches; dark gray (10YR 4/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; extremely acid; clear wavy boundary.

E1—6 to 15 inches; gray (10YR 6/1) fine sand; few fine faint dark gray (10YR 4/1) streaks; single grained; loose; few fine roots; extremely acid; clear wavy boundary.

E2—15 to 20 inches; light gray (10YR 7/1) fine sand; few fine distinct dark gray (10YR 4/1) streaks; single grained; loose; few fine roots; extremely acid; abrupt wavy boundary.

Bh1—20 to 30 inches; very dark brown (10YR 2/2) fine sand; weak fine subangular blocky structure; very friable; few fine roots; very strongly acid; gradual wavy boundary.

Bh2—30 to 45 inches; dark brown (10YR 3/3) fine sand; many fine and medium distinct dark yellowish brown (10YR 4/6) masses of iron accumulation; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

BC—45 to 56 inches; dark yellowish brown (10YR 4/4) fine sand; few fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation; single grained; loose; few fine roots; strongly acid; gradual smooth boundary.

C—56 to 80 inches; dark grayish brown (10YR 5/2) fine sand; single grained; loose; few fine roots; strongly acid.

Range in Characteristics

Thickness of the solum: 50 to more than 80 inches
Depth to bedrock: More than 60 inches
Reaction: Extremely acid to moderately acid in the A, E, and Bh horizons and extremely acid to neutral in the BC and C horizons
Flooding: None

A or Ap horizon:
Color—hue of 10YR, value of 2 to 6, and chroma of 1; or neutral in hue and value of 3 to 5
Texture—sand or fine sand

E horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 1 to 8
Texture—fine sand

Bh horizon:
Color—hue of 2.5YR to 10YR, value of 2 to 4, and chroma of 1 to 3
Redoximorphic features—shades of yellow, gray, and brown
Texture—fine sand

BE or BC horizon (where present):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 4
Redoximorphic features—shades of yellow, gray, and brown
Texture—fine sand

E´ horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 5 to 8, and chroma of 1 or 2
Texture—fine sand

C horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 1 to 3
Texture—fine sand

Matmon Series

Depth class: Shallow
Drainage class: Somewhat poorly drained
Permeability: Rapid in the A and E horizons and moderately slow in the Bt horizon
Parent material: Sandy and loamy marine sediments overlying limestone
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Lower sandy uplands and flood plains
Landform position: Lower rises and knolls
Commonly associated soils: Lutterloh and Moriah soils
Slope: 0 to 2 percent
Taxonomic class: Loamy, siliceous, active, thermic shallow Aquic Hapludalfs

Typical Pedon

Matmon fine sand in an area of Matmon-Wekiva-Rock outcrop complex, occasionally flooded, in Taylor County about 34 miles south-southeast of Perry; 1,600 feet west and 1,200 feet south of the northeast corner of sec. 17, T. 8 S., R 10 E.

Ap—0 to 4 inches; very dark grayish brown (10YR 3/2) fine sand; weak medium granular structure; very friable; few fine and medium roots; strongly acid; clear wavy boundary.

E—4 to 11 inches; yellowish brown (10YR 5/6) fine sand; single grained; loose; common fine roots; moderately acid; clear wavy boundary.

Bt—11 to 19 inches; yellowish brown (10YR 5/6) fine sandy loam; weak coarse subangular blocky structure; friable; sand grains coated and bridged with clay; common fine roots; neutral; abrupt irregular boundary.

Cr—19 inches; soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 10 to 20 inches
Depth to bedrock: 10 to 20 inches
Reaction: Strongly acid to slightly alkaline in the A

and E horizons, except where lime has been applied, and slightly acid to slightly alkaline in the Bt horizon

Fragments: Gravel- to boulder-sized fragments of limestone at the surface or in the solum in many areas

Flooding: Occasional for long periods

A horizon:

Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2

Texture—fine sand

E horizon:

Color—hue of 10YR, value of 4 to 6, and chroma of 3 to 6

Texture—fine sand or loamy fine sand

Bt horizon:

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6

Redoximorphic features—shades of gray, brown, or yellow

Texture—fine sandy loam or sandy clay loam

Other features—in many pedons, the Bt horizon extends into solution holes in the limestone below a depth of 20 inches.

Cr layer:

Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4

Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer (where present):

Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Maurepas Series

Depth class: Very deep

Drainage class: Very poorly drained

Permeability: Rapid

Parent material: Woody plant remains

Landscape: Lowlands on the lower Coastal Plain

Landform: Flood plains

Landform position: Depressions

Commonly associated soils: St. Augustine and Yellowjacket soils

Slope: 0 to 1 percent

Taxonomic class: Euic, thermic Typic Medisaprists

Typical Pedon

Maurepas muck in an area of Yellowjacket and Maurepas soils, frequently flooded, in Dixie County; about 700 feet east and 100 feet south of the northwest corner of sec. 30, T. 13 S., R. 12 E.

Oa1—0 to 10 inches; very dark brown (10YR 2/2) muck; few medium faint black (10YR 2/1) pockets; massive; many fine and medium roots; few coarse roots; estimated fiber content of 5 percent rubbed; moderately alkaline; diffuse smooth boundary.

Oa2—10 to 40 inches; very dark brown (10YR 2/2) muck; massive; many fine and medium roots; few coarse roots; estimated fiber content of 8 to 10 percent rubbed; common medium (1 to 2 centimeter) fragments of wood; moderately alkaline; diffuse wavy boundary.

Oa3—40 to 80 inches; very dark brown (10YR 2/2) muck; massive; common fine and medium roots; few coarse roots; estimated fiber content of 5 percent rubbed; common medium (1 to 2 centimeter) fragments of wood; moderately alkaline.

Range in Characteristics

Thickness of the solum: 51 to more than 80 inches

Depth to bedrock: More than 80 inches

Reaction: Slightly acid to moderately alkaline throughout

Flooding: Frequent for long periods

Oa horizon:

Color—hue of 10YR to 5YR, value of 2 or 3, and chroma of 2 or less

Texture—muck

Cg horizon (where present):

Color—hue of 10YR or 2.5Y, value of 3 to 7, and chroma of 1 or 2

Texture—fine sand to sandy loam

Meadowbrook Series

Depth class: Deep or very deep

Drainage class: Poorly drained or very poorly drained

Permeability: Rapid in the A and E horizons and moderate or moderately slow in the Btg horizon

Parent material: Sandy and loamy marine sediments in places overlying limestone
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Broad sandy flats, depressions, and flood plains
Landform position: Flats and depressions
Commonly associated soils: Albany, Bodiford, Chaires, Clara, Leon, Oldtown, and Talquin soils
Slope: 0 to 2 percent
Taxonomic class: Loamy, siliceous, superactive, thermic Grossarenic Endoaqualfs

Typical Pedon

Meadowbrook fine sand in an area of Clara, Oldtown, and Meadowbrook soils, depressional, in Dixie County; about 2,000 feet west and 300 feet south of the northeast corner of sec. 11, T. 8 S., R. 12 E.

Ap—0 to 4 inches; black (10YR 2/1) fine sand; weak fine granular structure; very friable; many fine and very fine roots; slightly acid; clear smooth boundary.
E1—4 to 18 inches; strong brown (7.5YR 5/8) fine sand; single grained; loose; common fine roots; neutral; gradual wavy boundary.
E2—18 to 36 inches; reddish yellow (7.5YR 7/8) fine sand; common medium distinct strong brown (7.5YR 5/6) iron depletions; single grained; loose; common fine roots; moderately alkaline; gradual wavy boundary.
E3—36 to 45 inches; very pale brown (10YR 7/4) fine sand; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; single grained; loose; common fine roots; moderately alkaline; gradual wavy boundary.
Eg—45 to 55 inches; light gray (10YR 7/2) fine sand; common fine distinct very pale brown (10YR 7/4) masses of iron accumulation; single grained; loose; few fine and medium roots; moderately alkaline; abrupt wavy boundary.
Btg—55 to 80 inches; gray (10YR 6/1) sandy clay loam; weak medium subangular blocky structure; slightly sticky and plastic; common fine and medium roots; neutral.

Range in Characteristics

Thickness of the solum: 50 to more than 80 inches
Depth to bedrock: More than 60 inches
Reaction: Extremely acid to neutral in the A horizon, except where lime has been applied; extremely acid to moderately alkaline in the Bw and E horizons; and very strongly acid to moderately alkaline in the Btg horizon
Flooding: None to frequent for long periods

A horizon:
Color—hue of 10YR, value of 2 to 5, and chroma of 1 or 2. Where value is 3 or less, the horizon is less than 8 inches thick.
Texture—fine sand, sand, or their mucky analogs

Bw horizon (where present):
Color—hue of 10YR, value of 4 to 7, and chroma of 3 to 8
Texture—sand or fine sand

E horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 3 to 8
Redoximorphic features—pore linings in shades of yellow and brown
Texture—fine sand

Btg horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 or less; or neutral in hue and value of 4 to 7
Redoximorphic features—iron depletions in shades of gray and iron masses in shades of red, yellow, and brown
Texture—sandy loam, sandy clay loam, or, in the upper part of some pedons, loamy fine sand

Cr layer (where present):
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer (where present):
Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Moriah Series

Depth class: Deep
Drainage class: Somewhat poorly drained

Permeability: Rapid in the A and E horizons and moderate to slow in the Btg horizon
Parent material: Sandy and loamy marine sediments overlying limestone
Landscape: Lowlands on the lower Coastal Plain
Landform: Lower sandy uplands
Landform position: Lower rises and knolls
Commonly associated soils: Lutterloh, Matmon, and Nutall soils
Slope: 0 to 5 percent
Taxonomic class: Loamy, siliceous, superactive, thermic Aquic Arenic Hapludalfs

Typical Pedon

Moriah fine sand in an area of Melvina-Moria-Lutterloh complex in Taylor County about 15.5 miles south-southwest of Perry; 1,200 feet west and 1,300 feet south of the northeast corner of sec. 10, T. 6 S., R. 7 E.

Ap—0 to 5 inches; dark gray (10YR 4/1) fine sand; weak medium granular structure; very friable; few medium and course roots; very strongly acid; gradual wavy boundary.
E1—5 to 9 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; few medium and coarse roots; very strongly acid; clear wavy boundary.
E2—9 to 31 inches; white (10YR 8/1) fine sand; single grained; loose; very strongly acid; gradual wavy boundary.
E3—31 to 34 inches; pinkish gray (7.5YR 6/2) fine sand; single grained; loose; few fine and medium roots; strongly acid; abrupt wavy boundary.
Btg1—34 to 52 inches; light gray (2.5Y 7/2) sandy clay loam; strong coarse subangular blocky structure; friable; sand grains coated and bridged with clay; few fine, medium, and coarse roots; neutral; gradual wavy boundary.
Btg2—52 to 57 inches; light gray (5Y 7/1) sandy clay loam; massive; slightly sticky; sand grains coated and bridged with clay; neutral; abrupt wavy boundary.
Cr—57 inches; light gray (5YR 7/2), soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: 40 to 60 inches
Reaction: Extremely acid or very strongly acid in the A and E horizons, except where lime has been applied, and neutral to moderately alkaline in the Bt horizon, where present
Flooding: None to occasional for long periods

A or Ap horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 or 2
Texture—fine sand

E horizon:
Color—hue of 7.5YR or 10YR, value of 5 to 8, and chroma of 1 to 8; common white streaks or pockets of clean sand grains
Redoximorphic features—shades of yellow or brown
Texture—fine sand

Bt horizon (where present):
Color—hue of 10YR, value of 5 to 7, and chroma of 1 to 6
Redoximorphic features—iron depletions in shades of gray and iron masses in shades of brown, yellow, or red
Texture—fine sandy loam

Btg horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2
Redoximorphic features—iron depletions in shades of gray and iron masses in shades of brown, yellow, or red
Texture—fine sandy loam or sandy clay loam

Cr layer:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

2R layer (where present):
Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Nutall Series

Depth class: Moderately deep
Drainage class: Poorly drained

Permeability: Rapid in the A and E horizons and slow in the Btg horizon
Parent material: Sandy and loamy marine sediments overlying limestone
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Flood plains
Landscape position: Flats
Commonly associated soils: Leon, Moriah, and Tooles soils
Slope: 0 to 1 percent
Taxonomic class: Fine-loamy, siliceous, superactive, thermic Mollic Albaqualfs

Typical Pedon

Nutall fine sand in an area of Nutall-Tooles complex in Jefferson County about 24 miles south-southwest of Monticello; 1.25 miles east of State Road 59 and 2.5 miles north of U.S. Highway 98; SW1/4NE1/4NW1/4 sec. 15, T. 3 S., R. 3 E.

Ap—0 to 4 inches; black (5Y 2/1) fine sand; weak fine granular structure; very friable; many fine, medium, and coarse roots; strongly acid; clear wavy boundary.
A/E—4 to 9 inches; mixed very dark gray (10YR 3/1) and light gray (10YR 6/1) fine sand; single grained; loose; many medium and coarse roots; slightly acid; clear smooth boundary.
E1—9 to 13 inches; light gray (10YR 7/1) fine sand; single grained; loose; common medium roots; common medium distinct brown (10YR 5/3) masses of iron accumulation; neutral; clear wavy boundary.
E2—13 to 17 inches; brown (10YR 5/3) fine sand; single grained; loose; few medium roots; many medium distinct light gray (10YR 6/1) iron depletions; neutral; abrupt irregular boundary.
Btg—17 to 30 inches; light greenish gray (5GY 7/1) sandy clay loam; moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; many fine prominent yellowish red (5YR 5/8) masses of iron accumulation; slightly alkaline; abrupt irregular boundary.
Cr—30 inches; soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 20 to 40 inches
Depth to bedrock: 20 to 40 inches
Reaction: Very strongly acid or strongly acid in the Ap and A/E horizons, except where lime has been applied; strongly acid to neutral in the E horizon; and neutral to moderately alkaline in the Btg horizon
Flooding: Frequent for long periods

A horizon:
Color—hue of 10YR to 5Y, value of 2 or 3, and chroma of 1 or 2
Texture—sand or fine sand

A/E horizon:
Color—mixed pattern of the colors in the A horizon and the E horizon
Texture—sand or fine sand

E horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2 in the upper part and hue of 10YR, value of 5 or 6, and chroma of 2 or 3 in the lower part
Redoximorphic features—iron masses and/or pore linings in shades of yellow and brown
Texture—sand or fine sand

Btg horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7
Redoximorphic features—iron depletions in shades of gray and iron masses in shades of yellow, red, and brown
Texture—dominantly fine sandy loam, sandy loam, or sandy clay loam. Some pedons, however, contain a thin layer of sandy clay in the lower part of the Btg horizon and where the texture is sandy clay, the content of clay by weighted average does not exceed 35 percent.

Cr layer:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer (where present):
Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Oldtown Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Parent material: Sandy marine sediments and alluvial sediments overlain by muck
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Depressions
Landform position: Flood plains
Commonly associated soils: Clara and Meadowbrook soils
Slope: 0 to 2 percent
Taxonomic class: Sandy, siliceous, thermic Histic Humaquepts

Typical Pedon

Typical pedon of Oldtown muck in an area of Clara, Oldtown, and Meadowbrook soils, depressional, in Dixie County; about 2,000 feet west and 300 feet south of the northeast corner of sec. 4, T. 21 S., R. 12 E.

Oa—0 to 12 inches; black (10YR 2/1) muck; about 65 percent fiber unrubbed, 10 percent rubbed; moderate medium granular structure; very friable; many fine, medium, and coarse roots; moderately acid; abrupt smooth boundary.
A—12 to 18 inches; black (10YR 2/1) sand; moderate medium granular structure; very friable; many medium and coarse roots; common coarse pockets of gray (10YR 6/1) stripped areas in the matrix; moderately acid; clear wavy boundary.
E—18 to 27 inches; light brownish gray (10YR 6/2) sand; single grained; loose; few medium and coarse roots; common medium distinct very dark gray (10YR 3/1) splotches; slightly acid; gradual wavy boundary.
Bw1—27 to 45 inches; light yellowish brown (10YR 6/4) sand; single grained; loose; few coarse roots; slightly acid; gradual wavy boundary.
Bw2—45 to 70 inches; light yellowish brown (10YR 6/4) sand; single grained; loose; neutral; gradual wavy boundary.
C—70 to 80 inches; light gray (10YR 7/2) sand; single grained; loose; mildly alkaline.

Range in Characteristics

Thickness of the solum: 60 to more than 80 inches
Reaction: Strongly acid to moderately alkaline in the Oa and A horizons and strongly acid to moderately alkaline in the other horizons
Flooding: None to frequent for long periods

Oa horizon:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 4 or less
Fiber content—5 to 15 percent rubbed and 20 to 75 percent unrubbed

A horizon:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2
Texture—sand or fine sand

E horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2
Redoximorphic features, where present—shades of gray, brown, or yellow
Texture—sand or fine sand

Bw horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 3 to 8; or hue of 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture—sand or fine sand

C horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2
Texture—sand, fine sand, or loamy fine sand

Ortega Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Rapid
Parent material: Sandy marine sediments
Landscape: Lower Coastal Plains
Landform: Sandy uplands
Landform position: Rises and knolls
Commonly associated soils: Albany, Blanton, Mandarin, Penney, and Ridgewood soils
Slope: 0 to 5 percent
Taxonomic class: Thermic, uncoated Typic Quartzipsamments

Typical Pedon

Ortega fine sand in an area of Ortega-Blanton complex, 0 to 5 percent slopes, in Dixie County; about 1,050 feet west and 400 feet south of the northeast corner of sec. 24, T. 9 S., R. 12 E.

Ap—0 to 8 inches; grayish brown (10YR 5/2, rubbed) fine sand; sand grains coated with organic matter; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear wavy boundary.
C1—8 to 32 inches; light yellowish brown (10YR 6/4)

fine sand; many medium distinct light gray (10YR 7/2) stripped areas in the matrix; few fine and medium distinct brownish yellow (10YR 6/6) masses of iron accumulation; single grained; loose; few fine and very fine roots; few medium roots; strongly acid; clear wavy boundary.

C2—32 to 48 inches; very pale brown (10YR 7/4) and light gray (10YR 7/2) fine sand; common fine and medium distinct brownish yellow (10YR 6/8) masses of iron accumulation; single grained; loose; few fine and very fine roots; strongly acid; gradual wavy boundary.

C3—48 to 62 inches; light gray (10YR 7/2) and very pale brown (10YR 7/3) fine sand; few fine distinct brownish yellow (10YR 6/6) masses of iron accumulation; single grained; loose; few fine and very fine roots; strongly acid; diffuse wavy boundary.

C4—62 to 80 inches; light gray (10YR 7/2) fine sand; many fine faint very pale brown (10YR 7/3) masses of iron accumulation; few fine distinct yellow (10YR 7/6) masses of iron accumulation; single grained; loose; few fine and very fine roots; moderately acid.

Range in Characteristics

Thickness of the sandy layers: 80 inches or more
Depth to bedrock: More than 60 inches
Reaction: Very strongly acid to slightly acid throughout
Flooding: None

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 1 or 2
Texture—fine sand or sand

C1 and C2 horizons:
Color—hue of 10YR, value of 5 to 7, and chroma of 3 to 8
Redoximorphic features, where present—shades of reddish yellow, strong brown, or yellowish brown in the lower 40 inches
Texture—fine sand

C3 horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 6 to 8; hue of 10YR, value of 7 or 8, and chroma of 1 or 2; or hue of 2.5Y, value of 7, and chroma of 4
Redoximorphic features—shades of brown, yellow, red, or gray
Texture—fine sand

C4 horizon:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 or 2
Redoximorphic features—shades of white, gray, red, yellow, or black
Texture—fine sand

Osier Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid
Parent material: Sandy marine sediments
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Flood plains
Landform position: Broad, sandy flats
Commonly associated soils: Chaires, Clara, Elloree, Garcon, Oldtown, Rawhide, and Yellowjacket soils
Slope: 0 to 2 percent
Taxonomic class: Siliceous, thermic Typic Psammaquents

Typical Pedon

Osier fine sand in an area of Osier fine sand, 0 to 2 percent slopes, in Taylor County; 2,400 feet north and 200 feet east of the southwest corner of sec. 9, T. 7 S., R. 9 E.

A—0 to 5 inches; very dark grayish brown (10YR 3/2) fine sand; single grained; loose; many fine to coarse roots; very strongly acid; clear wavy boundary.

C1—5 to 18 inches; dark grayish brown (10YR 4/2) fine sand; single grained; loose; many fine to coarse roots; very strongly acid; gradual wavy boundary.

C2—18 to 25 inches; light brownish gray (10YR 6/2) fine sand; common fine and medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; single grained; loose; many fine and medium roots; very strongly acid; gradual wavy boundary.

C3—25 to 50 inches; light brownish gray (10YR 6/2) fine sand; common fine and medium distinct brownish yellow (10YR 6/6) and prominent yellowish red (5YR 5/8) masses of iron accumulation; very strongly acid; gradual wavy boundary.

C4—50 to 80 inches; light gray (10YR 7/2) fine sand; single grained; loose; strongly acid.

Range in Characteristics

Thickness of the sandy layers: 80 inches or more
Reaction: Extremely acid to moderately acid
Flooding: Frequent for long periods

A horizon:
Color—hue of 10YR or 2.5 Y, value of 2 to 5, and chroma of 1 or 2. Where the value is 2 or 3, the horizon is less than 10 inches thick.
Texture—fine sandy loam, loamy fine sand, loamy sand, fine sand, or sand

C horizon:
Color—hue of 7.5YR, 10YR, 2.5Y, 5Y, or 5GY, value of 3 to 8, and chroma of 1 or 2
Redoximorphic features—brown, yellowish, and gray
Texture—loamy fine sand, loamy sand, fine sand, or sand in the upper part and fine sand, sand, or coarse sand in the lower part. Most pedons have thin strata of material ranging from sand to sandy loam.

Ab horizon (where present):
Color—hue of 10YR to 5Y, value of 2 or 3, and chroma of 1 or 2
Texture—fine sand, loamy fine sand, or loamy sand

Otela Series

Depth class: Deep
Drainage class: Moderately well drained
Permeability: Moderately rapid or rapid in the A and E horizons and moderately slow or slow in the Bt and Btg horizons
Parent material: Sandy and loamy marine sediments over limestone
Landscape: Lower Coastal Plain
Landform: Broad, sandy uplands
Landform position: Rises and knolls
Commonly associated soils: Chiefland, Kureb, Ortega, Penney, and Ridgewood soils
Slope: 0 to 5 percent
Taxonomic class: Loamy, siliceous, semiactive, thermic Grossarenic Paleudalfs

Typical Pedon

Otela fine sand in an area of Otela, limestone substratum-Chiefland-Kureb complex, 0 to 5 percent slopes, in Dixie County; about 3,300 feet east and 750 feet north of the southwest corner of sec. 13, T. 8 S., R. 13 E.

Ap—0 to 8 inches; fine sand, dark gray (10YR 4/1) rubbed, salt-and-pepper appearance unrubbed due to a mixture of coated and uncoated sand grains; weak fine granular structure; very friable; strongly acid; common fine roots; clear smooth boundary.
E1—8 to 16 inches; light yellowish brown (10YR 6/4) fine sand; common medium distinct dark grayish brown (10YR 4/2) splotches; many medium faint pale brown (10YR 6/3) stripped areas in the matrix; single grained; loose; strongly acid; common fine roots; gradual wavy boundary.
E2—16 to 40 inches; light yellowish brown (10YR 6/4) fine sand; common medium faint pale brown (10YR 6/3) stripped areas in the matrix; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; single grained; loose; moderately acid; few fine roots; gradual wavy boundary.
E3—40 to 52 inches; white (10YR 8/1) fine sand; common fine prominent brownish yellow (10YR 6/8) masses of iron accumulation; single grained; loose; slightly acid; few fine roots; clear wavy boundary.
Bt—52 to 60 inches; light yellowish brown (10YR 6/4) sandy clay loam; common medium faint pale brown (10YR 6/3) streaks; weak fine subangular blocky structure; friable; moderately acid; few fine roots; gradual wavy boundary.
Btg—60 to 69 inches; light brownish gray (10YR 6/2) sandy clay loam; many fine and medium faint pale brown (10YR 6/3) streaks; weak fine subangular blocky structure; moderately acid; few fine roots; abrupt irregular boundary.
Cr—69 inches; soft, weathered limestone bedrock that can be dug with a pick and shovel.

Range in Characteristics

Thickness of the solum: 60 to 80 inches
Depth to bedrock: 60 to 80 inches
Reaction: Very strongly acid to neutral in the A and E horizons, extremely acid to mildly alkaline in the Bt horizon, and extremely acid to moderately alkaline in the Btg horizon
Flooding: None

A or Ap horizon:
Color—hue of 10YR, value of 3 to 6, and chroma of 1 to 3
Texture—fine sand

E horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 2 to 8; or hue of 10YR, value of 8, and chroma of 1 to 3
Texture—fine sand

Bt horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 3 to 8
Redoximorphic features—shades of gray,

yellow, or brown, and, in some pedons, shades of red
Texture—sandy clay loam

Btg horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2
Redoximorphic features, where present—shades of white, gray, yellow, brown, and red
Texture—sandy clay loam

Cr layer:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer (where present):
Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Ousley Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid
Parent material: Sandy marine sediments
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Lower uplands and flood plains
Landform position: Lower rises and knolls
Commonly associated soils: Albany, Clara, Elloree, Garcon, and Leon soils
Slope: 0 to 3 percent
Taxonomic class: Thermic, uncoated Aquic Quartzipsamments

Typical Pedon

Ousley fine sand in an area of Ousley-Leon-Clara complex, 0 to 3 percent slopes, occasionally flooded, in Taylor County about 14.5 miles south of Perry; 500 feet south and 1,500 feet east of the northwest corner of sec. 23, T. 6 S., R. 7 E.

Ap—0 to 4 inches; very dark gray (10YR 3/1) fine sand; weak fine granular structure; very friable; few fine and medium roots; few fine distinct brown (10YR 5/3) stripped areas in the matrix; strongly acid; abrupt wavy boundary.
C1—4 to 45 inches; very pale brown (10YR 7/3) fine sand; single grained; loose; common fine roots; common medium distinct grayish brown (2.5Y 5/2) splotches; strongly acid; clear wavy boundary.
C2—45 to 80 inches; light gray (10YR 7/2) fine sand; single grained; loose; common medium faint very pale brown (10YR 7/3) masses of iron accumulation; strongly acid.

Range in Characteristics

Thickness of the sandy layers: 80 inches or more
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid to moderately acid, except where lime has been applied
Flooding: Occasional for brief periods

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 2 to 7, and chroma of 1 or 2. Where the value is 2 or 3, the horizon is less than 8 inches thick.
Texture—sand, fine sand, or loamy fine sand. Where the texture is loamy fine sand, the horizon is less than 10 inches thick.

Upper part of the C horizon:
Color to a depth of 45 inches—hue of 10YR to 5Y, value of 4 to 8, and chroma of 3 to 6
Redoximorphic features—none to common iron masses and/or pore linings in shades of red, brown, or yellow and none to common splotches and/or stripped matrixes that have chroma of 2 or less
Texture—sand, fine sand, or coarse sand

Lower part of the C horizon:
Color below a depth of 45 inches—hue of 10YR to 5Y, value of 4 to 8, and chroma of 1 to 4
Redoximorphic features—few or common iron masses and/or pore linings in shades of red, brown, or yellow
Texture—fine sand, sand, or coarse sand

Penney Series

Depth class: Deep
Drainage class: Excessively drained
Permeability: Rapid

Parent material: Sandy marine sediments
Landscape: Lower Coastal Plains
Landform: Sandy uplands
Landform position: Higher ridges and rises
Commonly associated soils: Blanton, Chiefland, Ortega, Otela, and Wadley soils
Slope: 0 to 5 percent
Taxonomic class: Thermic, uncoated Typic Quartzipsamments

Typical Pedon

Penney fine sand, in an area of Penney fine sand, 0 to 5 percent slopes, in Dixie County; about 1,700 feet west and 1,900 feet south of the northeast corner of sec. 24, T. 8 S., R. 12 E.

Ap—0 to 4 inches; light brownish gray (10YR 6/2) fine sand; common fine and medium faint brown (10YR 5/3) pockets; single grained; loose; very strongly acid; many fine roots; clear wavy boundary.

AE—4 to 8 inches; brown (10YR 5/3) fine sand; common fine and medium faint light brownish gray (10YR 6/2) stripped areas in the matrix; single grained; loose; strongly acid; many fine roots; gradual wavy boundary.

E1—8 to 40 inches; brownish yellow (10YR 6/6) fine sand; few coarse distinct grayish brown (10YR 5/2) krotovinas; common fine distinct very pale brown (10YR 7/4) stripped areas in the matrix; common medium distinct brownish yellow (10YR 6/8) streaks; single grained; loose; strongly acid; few fine and medium roots; gradual wavy boundary.

E2—40 to 62 inches; very pale brown (10YR 7/3) fine sand; many sand-sized yellowish brown (10YR 5/8) flecks; few medium pockets of black charcoal fragments; single grained; loose; strongly acid; few fine and medium roots; gradual wavy boundary.

E/Bt—62 to 80 inches; light gray (10YR 7/2) fine sand; common medium distinct yellowish brown (10YR 5/6) horizontal lamellae of loamy fine sand; many sand-sized yellowish brown (10YR 5/8) flecks; single grained; loose; strongly acid; few fine roots.

Range in Characteristics

Thickness of the sandy layers: 80 inches or more
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid to slightly acid
Flooding: None

A or Ap horizon:
Color—hue of 10YR, value of 3 to 6, and chroma of 1 to 3
Texture—fine sand or sand

E horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 3 to 8
Texture—fine sand, sand, or loamy fine sand

E/Bt horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 2 to 8. The B part of this horizon is lamellae that have hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. The distance between lamellae ranges from 2 to 8 inches.
Texture—fine sand or sand

Rawhide Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid in the A horizon and slow or very slow in the Bt and Btkg horizons
Parent material: Sandy and loamy marine sediments
Landscape: Lower Coastal Plain
Landform: Depressions
Landform position: Depressions
Commonly associated soils: Osier and Wekiva soils
Slope: Less than 1 percent
Taxonomic class: Fine-loamy, siliceous, superactive, thermic Typic Argiaquolls

Typical Pedon

Rawhide mucky loamy fine sand in an area of Rawhide mucky loamy fine sand, depressional, in Lafayette County; about 600 feet west and 1,200 feet south of the northeast corner of sec. 17, T. 7 S., R. 11 E.

A—0 to 6 inches; black (N 2/0) mucky loamy fine sand; weak medium granular structure; friable; common fine and medium roots; slightly acid; clear wavy boundary.

Bt1—6 to 18 inches; black (10YR 2/1) sandy clay loam; weak fine subangular blocky structure; sticky and slightly plastic; neutral; clear wavy boundary.

Bt2—18 to 26 inches; very dark gray (10YR 3/1) sandy clay loam; common medium distinct gray (10YR 5/1) iron depletions; weak fine subangular blocky structure; sticky and plastic; many fine and medium roots; neutral; clear wavy boundary.

Btkg1—26 to 40 inches; gray (10YR 5/1) sandy clay loam; weak medium subangular blocky structure; sticky and plastic; few fine roots; common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation; many fine to coarse, soft to semihard, white accumulations and nodules of carbonates; moderately alkaline; gradual wavy boundary.

Btkg2—40 to 65 inches; gray (10YR 6/1) sandy clay loam; weak medium subangular blocky structure; sticky and plastic; few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; many fine and medium nodules of carbonates; moderately alkaline; gradual wavy boundary.

BCg—65 to 80 inches; gray (10YR 5/1) sandy clay loam; weak coarse subangular blocky structure; slightly sticky; pockets of gray (10YR 6/1) fine sand; moderately alkaline.

Range in Characteristics

Thickness of the solum: More than 40 inches
Depth to bedrock: More than 40 inches
Reaction: Moderately acid to slightly acid in the A horizon and slightly acid to moderately alkaline in the other horizons
Flooding: None
Other features: Some pedons have a C horizon that consists of mixed sand and shell fragments.

A horizon:
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3
Texture—mucky fine sand, mucky loamy fine sand, sandy loam, or fine sandy loam

Bt horizon:
Color—hue of 10YR, value of 2 or 3, and chroma of 1 or 2
Redoximorphic features—shades of red, yellow, or brown
Texture—sandy loam, fine sandy loam, or sandy clay loam

Btg or Btkg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Redoximorphic features—shades of red, yellow, or brown
Texture—sandy loam, fine sandy loam, or sandy clay loam

BCg horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 1 or 2; or hue of 5GY, value of 5 or 6, and chroma of 1
Texture—loamy sand, sandy loam, or sandy clay loam

Resota Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very rapid
Parent material: Sandy marine sediments
Landscape: Lower Coastal Plains
Landform: Sandy uplands
Landform position: Rises and knolls
Commonly associated soils: Mandarin and Ortega soils
Slope: 0 to 5 percent
Taxonomic class: Thermic, uncoated Spodic Quartzipsamments

Typical Pedon

Resota sand, in an area of Resota sand, 0 to 5 percent slopes, in Dixie County; about 1,800 feet east and 150 feet south of the northwest corner of sec. 22, T. 12 S., R. 11 E.

A—0 to 3 inches; sand, gray (10YR 5/1) rubbed, salt-and-pepper appearance unrubbed due to a mixture of coated and uncoated sand grains; weak fine granular structure; very friable; many fine and very fine roots; many medium roots; very strongly acid; clear smooth boundary.

E—3 to 13 inches; white (10YR 8/1) sand; few fine and medium distinct dark gray (10YR 4/1) and prominent very dark gray (10YR 3/1) streaks and pockets; single grained; loose; many medium roots; common fine and very fine roots; strongly acid; abrupt irregular boundary.

Bw1—13 to 19 inches; strong brown (7.5YR 5/8) sand; common medium prominent dark brown (7.5YR 3/4) organically coated pockets and lenses around root channels; single grained; loose; many medium roots; common fine and very fine roots; very strongly acid; gradual irregular boundary.

Bw2—19 to 37 inches; brownish yellow (10YR 6/6) sand; few fine prominent very dark gray (10YR 3/1) splotches; single grained; loose; common fine and medium roots; very strongly acid; gradual wavy boundary.

Bw3—37 to 55 inches; very pale brown (10YR 7/4) sand; common fine faint very pale brown (10YR 7/3) stripped areas in the matrix; common fine distinct brownish yellow (10YR 6/6) masses of iron accumulation; single grained; loose; few fine and very fine roots; few medium roots; strongly acid; gradual wavy boundary.

C—55 to 80 inches; light gray (10YR 7/2) fine sand; many medium and coarse prominent brownish yellow (10YR 6/6) and strong brown (7.5YR 5/6) masses of iron accumulation; single grained; loose; few fine and very fine roots; strongly acid.

Range in Characteristics

Thickness of the sandy layers: 80 inches or more
Depth to bedrock: More than 80 inches

Reaction: Extremely acid to slightly acid throughout
Flooding: None
Other features: Some pedons have thin discontinuous Bh bodies at the base of the E horizon and surrounding tongues of E material.

A or Ap horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 2 or less
Texture—fine sand or sand

E horizon:
Color—hue of 10YR, value of 6 to 8, and chroma of 2 or less
Texture—fine sand or sand

Bw horizon:
Color—hue of 10YR or 7.5YR, value of 5 to 7, and chroma of 4 to 8
Redoximorphic features—shades of yellow, brown, or red below a depth of 40 inches
Texture—fine sand or sand

C horizon:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Redoximorphic features—shades of yellow, brown, red, or gray
Texture—sand or fine sand

Ridgewood Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid
Parent material: Sandy marine sediments
Landscape: Lower Coastal Plain
Landform: Lower sandy uplands and flood plains
Landform position: Lower rises and knolls
Commonly associated soils: Albany, Blanton, Chaires, Leon, Albany, Lutterloh, Ortega, and Otela soils
Slope: 0 to 3 percent
Taxonomic class: Thermic, uncoated Aquic Quartzipsamments

Typical Pedon

Ridgewood fine sand in an area of Albany-Ridgewood complex in Dixie County; about 2,300 feet west and 400 feet south of the northeast corner of sec. 24, T. 9 S., R. 12 E.

Ap—0 to 6 inches; gray (10YR 5/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; strongly acid; clear wavy boundary.
C1—6 to 15 inches; light yellowish brown (10YR 6/4) fine sand; many medium distinct light gray (10YR 7/2) stripped areas in the matrix; few fine distinct brownish yellow (10YR 6/6) masses of iron accumulation; single grained; loose; common fine and medium roots; strongly acid; gradual wavy boundary.
C2—15 to 30 inches; pale brown (10YR 6/3) fine sand; many fine and medium faint light gray (10YR 7/1 and 7/2) stripped areas in the matrix; few fine and medium prominent brownish yellow (10YR 6/6) masses of iron accumulation; single grained; loose; common fine and medium roots; strongly acid; gradual wavy boundary.
C3—30 to 42 inches; light gray (10YR 7/2) fine sand; few fine distinct very pale brown (10YR 7/4) and many fine faint very pale brown (10YR 7/3) masses of iron accumulation; single grained; loose; few fine and very fine roots; strongly acid; gradual wavy boundary.
C4—42 to 57 inches; light gray (10YR 7/1) fine sand; few fine prominent yellow (10YR 7/6) masses of iron accumulation; many medium faint light gray (10YR 7/2) iron depletions; single grained; loose; few fine and very fine roots; strongly acid; diffuse wavy boundary.
C5—57 to 80 inches; light gray (10YR 7/1) fine sand; few fine distinct light yellowish brown (10YR 6/4) masses of iron accumulation; few fine black (10 YR 2/1) charcoal fragments; single grained; loose; few fine and very fine roots; moderately acid.

Range in Characteristics

Thickness of the sandy layers: 80 inches or more
Depth to bedrock: More than 60 inches
Reaction: Very strongly acid to neutral throughout
Flooding: None or rare for brief periods

A or Ap horizon:
Color—hue of 10YR, value of 2 to 5, and chroma of 1 or 2; or neutral in hue and value of 1 or 2
Texture—fine sand or sand

C horizon:
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 1 to 6
Redoximorphic features—few or common in shades of yellow, brown, red, or gray
Texture—sand or fine sand

Shired Series

Depth class: Deep
Drainage class: Very poorly drained
Permeability: Moderately slow
Parent material: Sandy and loamy marine sediments

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Flood plains
Landform position: Depression
Commonly associated soils: Bayvi, Tooles, and Wekiva soils
Slope: Less than 1 percent
Taxonomic class: Coarse-loamy, siliceous, superactive, thermic Typic Argiaquolls

Typical Pedon

Shired muck in an area of Wekiva-Shired-Tooles complex, occasionally flooded, in Dixie County; about 1,600 feet west and 2,500 feet north of the southeast corner of sec. 6, T. 12 S., R. 11 E.

Oa—0 to 3 inches; dark reddish brown (5YR 3/3) muck; 35 percent fiber unrubbed, 15 percent rubbed; weak fine granular structure; very friable; many fine, medium, and coarse roots; slightly acid; clear wavy boundary.
A1—3 to 16 inches; black (10YR 2/1) sandy loam; moderate medium granular structure; friable; common fine, medium, and coarse roots; slightly acid; gradual wavy boundary.
A2—16 to 21 inches; very dark gray (10YR 3/1) sandy loam; moderate coarse granular structure; friable; few coarse distinct gray (10YR 5/1) stripped areas in the matrix; common fine medium and coarse roots; slightly acid; gradual wavy boundary.
Eg—21 to 50 inches; grayish brown (10YR 5/2) loamy sand; single grained; loose; few medium faint dark gray (10YR 4/1) splotches; few medium roots in the upper part; neutral; clear wavy boundary.
Btg—50 to 56 inches; grayish brown (10YR 5/2) sandy clay loam; moderate medium subangular blocky structure; sand grains are coated and bridged with clay; common medium distinct light olive brown (2.5Y 5/4) masses of iron accumulation; moderately alkaline; abrupt irregular boundary.
Cr—56 inches; salt-weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 45 to 60 inches
Depth to bedrock: 45 to 60 inches
Reaction: Moderately acid to neutral in the Oa horizon, slightly acid to moderately alkaline in the A and Eg horizons, and neutral to moderately alkaline in the Btg horizon
Flooding: Occasional for long periods

Oa horizon:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 3 or less
Fiber content—5 to 15 percent rubbed and 25 to 40 percent unrubbed

A horizon:
Color—hue of 10YR to 5Y, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3
Texture—fine sandy loam, sandy loam, or their mucky analogs

Eg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 2 or less
Texture—fine sand, sand, loamy fine sand, or loamy sand

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 2 or less
Redoximorphic features, where present—shades of brown and yellow
Texture—fine sandy loam or sandy clay loam

Cr layer:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.
Thickness—6 inches to 2 feet

R layer (where present):
Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

St. Augustine Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid
Parent material: Sandy marine sediments with

mixed shell, loamy, and organic marine sediments
Landscape: Gulf Coastal Lowlands on the lower Coastal Plains
Landform: Smooth residential and developed areas
Landform position: Narrow flats and slight ridges and knolls boarding tidal marshes
Commonly associated soils: Bayvi, Maurepas, and Wulfert soils
Slope: 0 to 2 percent
Taxonomic class: Sandy, siliceous, hyperthermic Alfic Udarents

Typical Pedon

St. Augustine sand in an area of St. Augustine sand, organic substratum, rarely flooded, in Dixie County; about 1,500 feet west and 250 feet north the southeast corner of sec. 19, T. 13 S., R. 12 E.

A—0 to 9 inches; dark grayish brown (10YR 4/2) sand; few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; weak fine granular structure; very friable; many fine and medium roots; moderately alkaline; clear smooth boundary.
C1—9 to 18 inches; light brownish gray (10YR 6/2) sand; common fine and medium distinct brownish yellow (10YR 6/6) masses of iron accumulation; few fine prominent brownish yellow (10YR 6/8) masses of iron accumulation; common medium faint dark grayish brown (10YR 4/2) splotches; few gravel-sized limestone fragments; single grained; loose; common fine and medium roots; moderately alkaline; gradual smooth boundary.
C2—18 to 23 inches; pale brown (10YR 6/3) sand; common medium and coarse distinct yellow (10YR 7/6) masses of iron accumulation; few fine prominent brownish yellow (10YR 6/8) masses of iron accumulation; common medium faint dark grayish brown (10YR 4/2) splotches; few medium and coarse fragments of wood; single grained; loose; few fine and very fine roots; moderately alkaline; gradual smooth boundary.
Cg1—23 to 32 inches; light brownish gray (10YR 6/2) sand; common medium distinct dark brown (10YR 3/3) splotches; single grained; loose; few fine and very fine roots; moderately alkaline; clear smooth boundary.
Cg2—32 to 37 inches; gray (10YR 6/1) sand; many white (10YR 8/2) shell fragments; few fine and medium distinct dark brown (10YR 3/3) splotches of silty clay loam; common medium distinct dark brown (10YR 3/3) splotches of muck; few fine and medium fragments of wood; single grained; loose; moderately alkaline; abrupt smooth boundary.
Oa1´—37 to 42 inches; very dark brown (10YR 2/2) muck; common medium faint dark brown (10YR 3/3) lenses of loamy material; massive; slightly sticky and slightly plastic; many fine and medium dead roots; moderately alkaline; gradual smooth boundary.
Oa2´—42 to 80 inches; very dark brown (10YR 2/2) muck; few fine distinct gray (10YR 6/1) pockets of sand and shell fragments; massive; nonsticky and slightly plastic; many fine and medium dead roots; moderately alkaline.

Range in Characteristics

Thickness of the solum: The thickness of the sandy fill material and the depth to organic materials range from 30 to 60 inches.
Depth to bedrock: More than 60 inches
Reaction: Mildly alkaline to moderately alkaline in the A and C horizons and moderately acid to moderately alkaline in the Oa´ horizon
Fragments: Sand-sized shell fragments, gravel-sized limestone fragments, and small fragments of wood in the A and C horizons in most pedons
Flooding: Rare for brief periods

A horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 1 or 2
Thickness—1 to 9 inches
Texture—sand or fine sand

C1 and C2 horizons:
Color—hue of 10YR, value of 4 to 7, and chroma of 1 to 3
Redoximorphic features—none to common in shades of yellow and brown
Texture—sand or fine sand

Cg horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2
Redoximorphic features—none to common in shades of yellow and brown
Texture—sand or fine sand. At least some part of the Cg horizon contains few to common pockets and lenses of silty clay loam, clay loam, or sandy clay. Also, in some pedons, the Cg horizon has pockets and lenses of muck.

Oa´ horizon:
Color—hue of 10YR, value of 2 or 3, and chroma of 1 or 2
Texture—muck. In some pedons, the upper part of the horizon contains pockets and lenses of sandy or loamy soil material.
Thickness—12 to more than 50 inches

2Cg´ horizon (where present):
Location—below the Oa´ horizon
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or less
Redoximorphic features—shades of brown or yellow
Texture—sand, fine sand, or a mixture of sand and shell fragments

Steinhatchee Series

Depth class: Moderately deep
Drainage class: Poorly drained
Permeability: Rapid in the A and E horizons, moderate in the Bh horizon, and moderately slow in the Btg horizon
Parent material: Sandy and loamy marine sediments overlying limestone bedrock
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Broad, sandy flats
Landform position: Flats
Commonly associated soils: Chaires, Tennille, and Tooles soils
Slope: 0 to 2 percent
Taxonomic class: Sandy, siliceous, thermic Alfic Alaquods

Typical Pedon

Steinhatchee fine sand in an area of Steinhatchee-Tennille complex in Dixie County about 7 miles west-southwest of Cross City; 2,200 feet south and 750 feet west of the northeast corner of sec. 20, T. 10 S., R. 11 E.

Ap—0 to 5 inches; fine sand, dark gray (10YR 4/1) rubbed, salt-and-pepper appearance unrubbed due to a mixture of white sand grains and black organic matter; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear wavy boundary.

E—5 to 18 inches; gray (10YR 5/1) fine sand; common medium distinct very dark gray (10YR 3/1) splotches and dark grayish brown (10YR 4/2) streaks; single grained; loose; many fine and medium roots; very strongly acid; abrupt wavy boundary.

Bh1—18 to 22 inches; black (10YR 2/1) fine sand; common medium and coarse faint dark brown (7.5YR 3/2) streaks; massive; friable; sand grains coated with organic matter; few fine and medium roots; very strongly acid; clear wavy boundary.

Bh2—22 to 25 inches; dark brown (7.5YR 3/2 and 3/4) fine sand in a mixed pattern; massive; very friable; few fine and very fine roots; very strongly acid; clear wavy boundary.

Bw—25 to 29 inches; yellowish brown (10YR 5/4) fine sand; common fine and medium distinct dark grayish brown (10YR 4/2) streaks and very dark grayish brown (10YR 3/2) splotches; single grained; loose; few fine and very fine roots; very strongly acid; abrupt wavy boundary.

Btg—29 to 35 inches; gray (10YR 6/1) sandy clay loam; weak fine subangular blocky structure; sticky and plastic; sand grains bridged and coated with clay: few very fine roots; many fine and medium prominent yellowish brown (10YR 5/6) and few fine and medium prominent red (2.5YR 4/8) masses of iron accumulation; slightly acid; abrupt irregular boundary.

Cr—35 inches; soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 24 to 40 inches
Depth to bedrock: 24 to 40 inches
Reaction: Very strongly acid to moderately acid in the A, E, Bh, and Bw horizons, except where lime has been applied, and moderately acid to neutral in the Btg horizon
Flooding: None

A horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2
Texture—sand or fine sand

E horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—splotches and streaks in shades of gray and brown
Texture—sand or fine sand

Bh horizon:
Color—hue of 10YR to 5YR, value of 2 or 3, and chroma of 1 to 4; or neutral in hue and value of 2 or 3
Texture—sand or fine sand

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 or 4
Redoximorphic features—iron masses and/or pore linings in shades of red, brown, or yellow
Texture—sand or fine sand

Btg horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and

chroma of 1 or 2; or neutral in hue and value of 4 to 6
Redoximorphic features—iron accumulations in shades of yellow, brown, and red
Texture—sandy loam, fine sandy loam, or sandy clay loam
Rock fragments—1 to 3 percent, by volume, limestone, gravel, or cobbles in the lower part of the horizon in some pedons

Cr layer:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer (typically present):
Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Talquin Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid in the A and E horizons and moderate or moderately rapid in the Bh horizon
Parent material: Sandy marine sediments
Landscape: Lower Coastal Plain
Landform: Flood plains
Landform position: Flatwoods
Commonly associated soils: Leon and Meadowbrook soils
Slope: 0 to 2 percent
Taxonomic class: Sandy, siliceous, thermic Typic Haplaquods

Typical Pedon

Talquin fine sand in an area of Talquin-Meadowbrook complex, occasionally flooded, in Dixie County; about 1,600 feet west and 200 feet north of the southeast corner of sec. 30, T. 12 S., R. 13 E.

A—0 to 5 inches; fine sand, very dark gray (10YR 3/1) rubbed, salt-and-pepper appearance unrubbed due to a mixture of coated and uncoated sand grains; weak medium granular structure; friable; very strongly acid; many fine and medium roots; clear wavy boundary.
E—5 to 21 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; few fine and medium roots; very strongly acid; abrupt wavy boundary.
Bh1—21 to 23 inches; very dark gray (10YR 3/1) fine sand; sand grains coated with organic matter; single grained; loose; very strongly acid; common fine and medium roots; gradual wavy boundary.
Bh2—23 to 33 inches; dark brown (10YR 3/3) fine sand; weak medium angular blocky structure; friable; few fine and medium roots; strongly acid; gradual wavy boundary.
C1—33 to 60 inches; brown (10YR 5/3) fine sand; single grained; loose; few fine roots; very strongly acid; clear wavy boundary.
C2—60 to 80 inches; very pale brown (10YR 7/3) fine sand; single grained; loose; few fine roots; strongly acid.

Range in Characteristics

Thickness of the solum: 25 to 50 inches
Depth to bedrock: More than 60 inches
Reaction: Extremely acid to strongly acid throughout
Flooding: Occasional for long periods

A or Ap horizon:
Color—hue of 10YR, value of 2 to 4, chroma of 2 or less; or neutral in hue and value of 2 to 4
Texture—sand or fine sand

E horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 2 or less; or neutral in hue and value of 5 to 8
Texture—sand or fine sand

Bh horizon:
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 4; or neutral in hue and value of 3
Texture—sand or fine sand

C horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 4 or less; or neutral in hue and value of 5 to 7
Redoximorphic features—gray, brown, or yellow
Texture—sand or fine sand

Tennille Series

Depth class: Very shallow or shallow
Drainage class: Poorly drained
Permeability: Rapid
Parent material: Sandy marine sediments overlying limestone
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Broad, sandy flats
Landform position: Flats
Commonly associated soils: Steinhatchee and Tooles soils
Slope: 0 to 2 percent
Taxonomic class: Siliceous, thermic Lithic Psammaquents

Typical Pedon

Tennille fine sand in an area of Steinhatchee-Tennille complex in Dixie County about 15 miles south of Cross City; 2,200 feet west and 1,800 feet south of the northeast corner of sec. 24, T. 12 S., R. 11 E.

Ap—0 to 6 inches; black (10YR 2/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; slightly acid; clear smooth boundary.
C—6 to 14 inches; mixed brown (10YR 5/3) and dark grayish brown (10YR 4/2) fine sand; single grained; loose; common very fine and fine roots; common fine faint pale brown (10YR 6/3) streaks; neutral; abrupt irregular boundary.
Cr—14 inches; soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 6 to 20 inches
Depth to bedrock: 6 to 20 inches; many pedons, however, have small solution holes
Reaction: Slightly acid to neutral throughout, except where lime has been applied
Flooding: None

A or Ap horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2; or neutral in hue and value of 2 to 4
Texture—sand or fine sand
Rock fragments—up to 4 percent, by volume, limestone fragments ranging in size from gravel to cobbles

C horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 to 6. Chroma of 3 or more with stripped matrixes is indicative of wetness.
Redoximorphic features—iron masses and/or pore linings in shades of yellow, red, and brown
Texture—fine sand or loamy fine sand
Rock fragments—up to 5 percent, by volume, limestone fragments ranging in size from stones to cobbles

Cr layer:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer (typically present):
Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Tooles Series

Depth class: Deep
Drainage class: Poorly drained or very poorly drained
Permeability: Rapid in the A and Bw horizons and slow in the Btg horizon
Parent material: Sandy and loamy marine sediments overlying limestone
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Sandy flats, depressions, and flood plains
Landform position: Flats and depressions
Commonly associated soils: Bayvi, Bodiford, Chaires, Clara, Meadowbrook, Nutall, Shired, Steinhatchee, Tennille, and Wekiva soils
Slope: Less than 1 percent
Taxonomic class: Loamy, siliceous, superactive, thermic Arenic Albaqualfs

Typical Pedon

Tooles fine sand in an area of Tooles-Meadowbrook complex in Dixie County about 8 miles north of Cross City; 2,300 feet north and 1,000 feet west of the southeast corner of sec. 27, T. 8 S., R. 11 E.

Ap—0 to 8 inches; dark gray (10YR 4/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; strongly acid; clear wavy boundary.

Bw1—8 to 23 inches; yellowish brown (10YR 5/4) fine sand; single grained; loose; common fine and medium roots; moderately acid; diffuse wavy boundary.

Bw2—23 to 35 inches; yellowish brown (10YR 5/6) fine sand; single grained; loose; common fine and medium roots; many medium distinct brownish yellow (10YR 6/6) streaks; strongly acid; abrupt wavy boundary.

Btg—35 to 46 inches; light gray (10YR 7/1) sandy clay loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation; neutral; abrupt wavy boundary.

C—46 to 55 inches; pale yellow (2.5Y 8/2) soft limestone having a texture of gravelly clay loam; massive; slightly plastic; few fine roots; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation; moderately alkaline; diffuse wavy boundary.

Cr—55 inches; soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 41 to 60 inches
Depth to bedrock: 41 to 60 inches
Reaction: Extremely acid to neutral in the A horizon, except where lime has been applied; strongly acid to neutral in the E and Bw horizons; and neutral to moderately alkaline in the Btg horizon
Flooding: None to frequent for long periods

Oa horizon (where present):
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3
Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed
Texture—muck

A or Ap horizon:
Color—hue of 10YR to 5Y, value of 2 to 4, and chroma of 1 or 2
Texture—sand or fine sand

E horizon (where present):
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2
Redoximorphic features—iron masses and/or pore linings in shades of yellow, brown, and red
Texture—sand or fine sand

Bw horizon:
Color—hue of 10YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—sand or fine sand

Btg horizon:
Color—hue of 10YR to 2.5Y, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7
Redoximorphic features—iron masses and/or pore linings in shades of yellow, brown, and red
Texture—sandy clay loam or clay loam

C horizon:
Color—hue of 2.5Y, value of 6 to 8, and chroma of 1 to 3
Redoximorphic features—iron masses and/or pore linings in shades of yellow, brown, and red
Texture—gravelly clay loam
Rock fragments—up to 5 percent, by volume, limestone fragments

Cr layer:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer (typically present):
Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty. In some pedons, it has solution holes that range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

Wadley Series

Depth class: Very deep
Drainage class: Well drained or somewhat excessively drained

Permeability: Rapid in the A and E horizons and moderate in the Bt horizon
Parent material: Sandy and loamy marine sediments
Landscape: Lower Coastal Plain
Landform: Sandy uplands
Landform position: Knolls and ridges
Commonly associated soils: Albany, Ortega, and Penney soils
Slope: 0 to 5 percent
Taxonomic class: Loamy, siliceous, subactive, thermic Grossarenic Paleudults

Typical Pedon

Wadley fine sand in an area of Penney-Wadley complex, 0 to 5 percent slopes, in Dixie County; about 500 feet east and 600 feet south of the northwest corner of sec. 31, T. 10 S., R. 14 E.

A—0 to 2 inches; light brownish gray (10YR 6/2, rubbed) fine sand; single grained; loose; common fine and very fine roots; moderately acid; clear smooth boundary.
E1—2 to 30 inches; very pale brown (10YR 7/3) fine sand; single grained; loose; common fine and medium roots; common fine and medium faint light gray (10YR 7/1 and 7/2) streaks; strongly acid; diffuse wavy boundary.
E2—30 to 54 inches; very pale brown (10YR 7/4) fine sand; single grained; loose; common fine and medium roots; common fine and medium faint yellow (10YR 7/6) masses of iron accumulation; strongly acid; diffuse wavy boundary.
E&Bt—54 to 72 inches; light gray (10YR 7/2) fine sand (E); common fine prominent yellowish brown (10YR 5/8) pockets and horizontal lamellae of loamy fine sand (Bt) 3 to 8 inches long and $^1/_8$ to $^1/_4$ inch thick; single grained; loose; few fine and medium roots; strongly acid; clear wavy boundary.
Bt—72 to 80 inches; yellowish brown (10YR 5/8) fine sandy loam; weak medium subangular blocky structure; very friable; few fine and very fine roots; few fine prominent very pale brown (10YR 7/3) streaks; few coarse krotovina with color and texture similar to that of the E&Bt horizon; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 70 inches
Depth to bedrock: More than 60 inches
Reaction: Very strongly acid to moderately acid throughout, except where lime has been applied
Flooding: None

A or Ap horizon:
Color—hue of 10YR, value of 3 to 6, and chroma of 2 to 4
Texture—sand, fine sand, loamy sand, or loamy fine sand

E horizon:
Color—hue of 2.5Y to 7.5YR, value of 5 to 8, and chroma of 3 to 6
Redoximorphic features—shades of yellow and brown
Texture—sand, fine sand, loamy sand, or loamy fine sand

E&Bt horizon (where present):
Color—(E) hue of 10YR, value of 5 to 8, and chroma of 2 to 6; (Bt) hue of 7.5YR to 10YR, value of 5 to 7, and chroma of 4 to 8
Texture—sand, fine sand, loamy sand, or loamy fine sand

Bw horizon (where present):
Color—hue of 5YR to 10YR, value of 5 to 8, and chroma of 4 to 6
Texture—sand, fine sand, loamy sand, or loamy fine sand

Bt horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Redoximorphic features—shades of yellow and brown
Texture—sandy loam, fine sandy loam, or sandy clay loam

Wekiva Series

Depth class: Shallow to moderately deep
Drainage class: Poorly drained
Permeability: Rapid in the A, E, and EB horizons and moderately slow in the Bt or Btg horizons
Parent material: Sandy and loamy marine sediments overlying limestone
Landscape: Gulf Coastal Lowlands on the lower Coastal Plain
Landform: Flats and flood plains
Landform position: Flats
Commonly associated soils: Bayvi, Bodiford, Chaires, Rawhide, Shired, and Tooles soils
Slope: 0 to 2 percent
Taxonomic class: Loamy, siliceous, active, thermic, shallow Aeric Endoaqualfs

Typical Pedon

Wekiva fine sand in an area of Wekiva-Shired-Tooles complex, occasionally flooded, in Dixie County about

5 miles west-northwest of Cross City; 1,900 feet south and 1,200 feet west of the northeast corner of sec. 27, T. 9 S., R. 11 E.

A—0 to 6 inches; black (10YR 2/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; moderately acid; clear wavy boundary.

EB—6 to 14 inches; yellowish brown (10YR 5/4) fine sand; common sand- and gravel-sized ironstone fragments; single grained; loose; few fine and medium roots; moderately acid; abrupt wavy boundary.

Bt—14 to 21 inches; mixed yellowish brown (10YR 5/4 and 5/6) fine sandy loam; weak fine subangular blocky structure; very friable; sand grains coated and bridged with clay; common fine and medium roots; slightly acid; abrupt irregular boundary.

Cr—21 inches; soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: Typically 10 to 20 inches but ranges to 30 inches

Depth to bedrock: 10 to 20 inches but ranges to 30 inches. Many pedons have solution holes extending as deep as 60 inches.

Fragments: None or few gravel- to boulder-sized rock fragments within the solum or on the surface

Reaction: Moderately acid to neutral throughout the solum, except where lime has been applied

Flooding: None to occasional for brief periods

A horizon:

Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2

Texture—fine sand or loamy fine sand

E horizon (where present):

Color—hue of 10YR, value of 5 or 6, and chroma of 1 to 4

Texture—fine sand or loamy fine sand

EB horizon:

Color—hue of 10YR, value of 4 to 6, and chroma of 2 to 4

Redoximorphic features—iron depletions in shades of gray and iron masses and/or pore linings in shades of brown or yellow

Texture—fine sand or loamy fine sand

Bt horizon:

Color—hue of 10YR, value of 4 to 6, and chroma of 3 to 8

Redoximorphic features—iron depletions in shades of gray and iron accumulations in shades of brown or yellow

Texture—fine sandy loam or sandy clay loam

Btg horizon (where present):

Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2

Redoximorphic features—iron depletions in shades of gray and iron masses and/or pore linings in shades of yellow or brown

Texture—fine sandy loam or sandy clay loam

Cr layer:

Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4

Bedrock—soft, weathered, fractured limestone that has low to high excavation difficulty. It typically has soft carbonate accumulations that contain few to many fragments of hard limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with minerals that range in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances.

R layer (typically present):

Bedrock—hard, unweathered limestone that has very high or extremely high excavation difficulty

Wesconnett Series

Depth class: Very deep

Drainage class: Very poorly drained

Permeability: Rapid in the A and E horizons and moderate to moderately rapid in the Bh horizon

Parent material: Sandy marine sediments

Landscape: Gulf Coastal Lowlands on the lower Coastal Plain

Landform: Sandy depressions

Landform position: Depressions

Commonly associated soils: Chaires, Clara, and Lynn Haven soils

Slope: 0 to 2 percent

Taxonomic class: Sandy, siliceous, thermic Typic Alaquods

Typical Pedon

Wesconnett fine sand in an area of Wesconnett soils, depressional, in Taylor County about 14.5 miles east of Perry; 2,500 feet west and 2,600 feet south of the northeast corner of sec. 35, T. 4 S., R. 9 E.

A—0 to 10 inches; black (10YR 2/1) fine sand; weak medium granular structure; very friable; many fine to coarse roots; very strongly acid; gradual wavy boundary.

Bh1—10 to 21 inches; very dark gray (5YR 3/1) fine sand; massive; friable; sand grains coated with organic matter; few fine and medium roots; very strongly acid; diffuse smooth boundary.

Bh2—21 to 40 inches; dark reddish brown (5YR 3/2) fine sand; massive; friable; sand grains coated with organic matter; few fine roots; strongly acid; clear wavy boundary.

BE—40 to 62 inches; brown (10YR 5/3) fine sand; single grained; loose; strongly acid; gradual wavy boundary.

C—62 to 80 inches; light gray (10YR 7/2) fine sand; single grained; loose; strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 80 inches
Depth to bedrock: More than 60 inches
Reaction: Extremely acid to slightly acid
Flooding: None

Oa horizon (where present):
Color—hue of 10YR, value of 2 or 3, and chroma of 1
Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed

A horizon:
Color—hue of 10YR, value of 2 or 3, and chroma of 1 or 2; or neutral in hue and value of 2 to 4
Texture—sand, fine sand, or mucky fine sand

Bh horizon:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 to 3
Texture—sand or fine sand

E horizon (where present):
Color—hue of 10YR, value of 4 to 7, and chroma of 3 or 4
Texture—sand or fine sand

BE horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 3 or 4
Texture—sand or fine sand

Eg horizon (where present):
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2
Texture—sand or fine sand

C horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2
Texture—sand or fine sand

Wulfert Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Parent material: Thick deposits of hydrophytic plant material underlain by sandy marine sediments
Landscape: Coastal swamps on the lower Coastal Plain
Landform: Flood plains
Landform position: Tidal salt marshes
Commonly associated soils: Bayvi, Clara, St. Augustine, and Yellowjacket soils
Slope: Less than 1 percent
Taxonomic class: Sandy or sandy-skeletal, siliceous, euic, hyperthermic Terric Sulfisaprists

Typical Pedon

Typical pedon of Wulfert muck, frequently flooded, in Dixie County; about 1,200 feet south and 1,000 feet west of the northeast corner of sec. 1, T. 14 S., R. 11 E.

Oa—0 to 30 inches; very dark brown (10YR 2/2) muck; about 25 percent fiber unrubbed, 5 percent rubbed; massive; nonsticky and nonplastic; many fine and very fine roots; moderately acid; gradual smooth boundary.

C1—30 to 56 inches; very dark gray (10YR 3/1) mucky loamy fine sand; common fine and medium faint dark grayish brown (10YR 4/2) streaks; massive; slightly sticky and slightly plastic; many fine and very fine roots; few medium roots; neutral; gradual wavy boundary.

C2—56 to 80 inches; very dark gray (10YR 3/1) fine sand; many medium and coarse faint dark grayish brown (10YR 4/2) streaks; massive; slightly sticky and nonplastic; few fine and very fine roots; neutral.

Range in Characteristics

Thickness of the solum: More than 80 inches
Thickness of organic material and depth to mineral soil material: 16 to 51 inches
Depth to bedrock: More than 60 inches
Reaction: Extremely acid to neutral in the organic layers and extremely acid to mildly alkaline in the C horizon
Flooding: Frequent for very long periods

Oa horizon:
Color—hue of 10YR, value of 2 or 3, and chroma of 2 or less
Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed

C horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 or less
Texture—dominantly sand, fine sand, or loamy fine sand. In some pedons, however, the upper part of the horizon is mucky sand, mucky fine sand, or mucky loamy fine sand. In places, the C horizon has thin pockets or lenses of buried muck.

Yellowjacket Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid
Parent material: Highly decomposed organic materials over sandy marine sediments
Landscape: Coastal swamps on the lower Coastal Plain
Landform: Flood plains and depressions
Landform position: Depressions and flats
Commonly associated soils: Bodiford, Clara, Maurepas, Osier, and Wulfert soils
Slope: Less than 1 percent
Taxonomic class: Sandy or sandy-skeletal, siliceous, euic, thermic Terric Medisaprists

Typical Pedon

Yellowjacket muck in an area of Yellowjacket and Maurepas soils, frequently flooded, in Taylor County about 31 miles south of Perry; 1,100 feet south and 2,350 feet west of the northeast corner of sec. 28, T. 8 S., R. 8 E.

Oa1—0 to 6 inches; black (7.5YR 2/1) muck; about 30 percent fiber unrubbed, less than 10 percent rubbed; weak fine granular structure; very friable; many fine, medium, and coarse roots; slightly acid; gradual wavy boundary.
Oa2—6 to 42 inches; black (10YR 2/1) muck; about 25 percent fiber unrubbed, less than 5 percent rubbed; massive; very friable; common fine and many medium and coarse roots; neutral; gradual wavy boundary.
AC—42 to 60 inches; very dark gray (10YR 3/1) fine sand; massive; very friable; few medium and coarse roots; moderately alkaline; gradual wavy boundary.
Cg—60 to 80 inches; dark grayish brown (10YR 4/2) fine sand; single grained; loose; moderately alkaline.

Range in Characteristics

Fiber content: 20 to 75 percent unrubbed and 5 to 15 percent rubbed; some organic layers containing large fragments of wood
Depth to bedrock: 40 to more than 80 inches
Reaction: Moderately acid to moderately alkaline in the Oa horizon and neutral to moderately alkaline in the AC and Cg horizons
Flooding: None to frequent for long periods

Oa horizon:
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3
Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed

AC horizon:
Color—hue of 10YR to 5YR, value of 2 or 3, and chroma of 1 to 3; or neutral in hue and value of 2 or 3
Texture—sand, fine sand, loamy sand, loamy fine sand, or their mucky analogs

Cg horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7
Texture—sand, fine sand, loamy sand or loamy fine sand. In some pedons, the horizon has thin strata of sandy loam or sandy clay loam.

Cr layer (where present):
Bedrock—weathered, soft limestone or accumulations of secondary calcium carbonate with hard limestone fragments; can be dug with difficulty with a spade

R layer (where present):
Bedrock—unweathered, hard limestone that can be chipped but not dug with a spade. In some pedons, it has solution holes that range from 6 to 18 inches in diameter and from 18 to 45 inches in depth. They are filled with sapric material in the upper part and sand, soft masses and accumulations of secondary calcium carbonates, or limestone fragments in the lower part.
Depth to bedrock—40 inches

Formation of the Soils

In this section, the factors of soil formation are related to the soils in Dixie County, the processes of horizon differentiation are explained, and the geomorphology and geology of the county are described.

Factors of Soil Formation

Soils form through weathering and other processes that act on deposited or accumulated geologic material. The kind of soil that forms depends on the type of parent material; the climate under which soil material has existed since accumulation; the plant and animal life in and on the soil; the relief, or lay of the land; and the length of time that the forces of soil formation have acted on the soil material (Jenny, 1941).

The five soil-forming factors are interdependent; each modifies the effects of the others. Any one of the factors can have more influence than the others on the formation of a soil and can account for most of its properties. For examples, if the parent material is only quartz sand, the soil generally has only weakly expressed horizons. In some areas, the effect of the parent material is modified greatly by the effects of climate, relief, and plants and animals in and on the soil. As a soil forms, it is influenced by all five factors, but in places, one factor can have a dominant effect. A modification or variation in any of these factors results in a different kind of soil.

Parent Material

The soils in Dixie County formed mainly in marine deposits. These deposits were mostly quartz sand with varying amounts of clay and shell fragments. Clay is most abundant in soils that formed in the sediment on marine terraces and in lagoons, and it is virtually absent on shoreline ridges where most of the deposits are sandy eolian material. The parent material was transported by ocean current. The ocean covered the survey area a number of times during the Pleistocene age.

The various kinds of parent material in Dixie County differ somewhat from one another in mineral and chemical composition and in physical structure. The main physical differences, such as those between sand, silt, and clay, can be observed in the field. Other differences, such as mineral and chemical composition, are important to soil formation and affect the present physical and chemical characteristics of soils. Many differences among soils in the county reflect original differences in the parent material as it was laid down.

Some organic soils are throughout the country. They formed in the partially decayed remains of wetland vegetation.

Climate

Precipitation, temperature, humidity, and wind are the climatic forces that act on the parent material in Dixie County. These forces directly impact soil formation and also indirectly influence soil formation through their effect on plant and animal life.

The climate of Dixie County is warm and humid. The Gulf of Mexico and the Atlantic Ocean have moderating effects on temperature. Inland lakes also moderate temperatures but to a lesser extent. Summer temperatures vary only slightly. In winter, temperatures fluctuate widely, sometimes daily or for several days; however, temperatures are not below freezing long enough to freeze the soil. Rainfall averages about 60 inches per year. It often occurs as brief, heavy thunderstorms during the summer and more moderate, lengthy rainfall with the passage of cold fronts in the winter.

Because of the warm climate and abundant rainfall, chemical and biological activity are high. Rainfall leaches many plant nutrients and thus lowers the fertility level of the soils. Over time this process also accounts for the translocation of clay and organic matter, resulting in a sandy surface layer and the formation of a spodic horizon, an argillic horizon, or both deeper in the soil profile.

Plants and Animals

Plant life is the principal biological factor affecting soil formation in Dixie County. Animals, insects, bacteria, and fungi are also important. Plant and animal life furnish organic matter. Through biological processes, such as leaf drop and death, plants recycle nutrients from varying depths in the soil and deposit nutrients along with organic matter on the surface. Animals also process nutrients and organic matter deposited on the surface.

Soil structure, porosity, and reaction are affected by plants and animals. Tree roots and crayfish, earthworms, and other burrowing organisms commonly improve soil structure and porosity. The breakdown of plant materials commonly influences soil reaction. Pine trees reduce alkalinity in many areas in the county.

Microorganisms, such as bacteria and fungi, help to weather and break down minerals and to recycle organic matter by breaking it down into more basic components and nutrients. These microorganisms generally are more numerous in the surface layer, and their numbers and types decrease with increasing depth. Earthworms and other burrowing or tunneling organisms mix soil material and influence its chemical composition.

Humans have influenced the formation of soils by altering the vegetative community; by cultivating, draining, irrigating, mixing, removing, covering, and compacting the soil; by discharging wastes and chemicals; and by applying pesticides. Some of the effects of these activities are readily apparent. Examples are erosion and improved drainage. Others effects become apparent only after a long time.

Relief

Relief influences soil formation by affecting drainage, erosion, temperature, and plant and animal life.

The four general topographic areas in Dixie County are scattered large swamps, marshes, and depressions in the northern part of the county; seasonally wet flatwoods throughout the county, except the southern and southwestern parts; long, narrow flood plains along the southern, eastern, and western boundaries; and the low, rolling areas along the southern and southwestern boundaries.

The soils in the swamps, marshes, and depressions are covered by water for long periods. The soils in the areas of flatwoods have a water table near the surface during periods of moderate or heavy rainfall. The soils on the flood plains are periodically submerged for brief periods when major drainageways are flooded. The soils in the low, rolling areas generally do not have a water table near the surface, are extremely dry only during extended periods of low rainfall, and are more susceptible to erosion than the soils in the other topographic areas.

Elevations in the county range up to more than 165 feet above sea level. Internal soil drainage generally is not related to elevation. Even in the low, rolling areas, higher elevation does not necessarily mean better drainage.

Microrelief plays an important part in soil formation. Small rises within depressions and flatwoods and low areas in the uplands commonly support vegetation that differs from that in the surrounding areas. Also, the depth to a seasonal high water table differs.

Time

Most of the factors that influence soil formation require a long time to change the makeup of soils. Some geologic components are more resistant to breakdown and change than others. In Dixie County, the dominant geologic material is sand that is almost pure quartz, which is highly resistant to weathering. It is the dominant component in most of the soils.

Relatively little geologic time has elapsed since the material in which the soils in Dixie County formed emerged from the seas and was laid down. The loamy and clayey horizons formed in place through the process of clay translocation, were deposited by rivers and streams, or were deposited in beds and layers by the sea.

Processes of Horizon Differentiation

The processes involved in the formation of soils and the development of horizons are the deposition and translocation of organic matter; the translocation of iron and aluminum; the deposition of silts and clays; the leaching of calcium carbonates, other bases, and silts; the reduction and transfer of iron and aluminum; and the accumulation of organic matter on the surface.

The deposition and translocation of organic matter in the soil profile can result in the formation of a spodic horizon. This process is caused dominantly by water. Rainfall leaches organic material that has been deposited on the surface into the soil profile.

Iron and aluminum also are leached into the soil profile. They adhere to sand grains, generally in a fluctuating zone of the water table. These materials coat individual sand grains. As development continues, individually coated sand grains begin to adhere to each other. The result is the formation of increasingly hard bodies. As development further continues, the movement of water is restricted, reducing permeability rates within the spodic horizon. In Dixie County, organic matter generally is the dominant translocated material, resulting in a black or dark brown color in most spodic horizons. Over time, changes in the water table can result in the formation of spodic horizons at varying depths.

The translocation and deposition of silts and clays are caused by water. Rainfall moving through the soil translocates the silt and clay particles downward. The material is deposited, forming an argillic horizon. Sand grains become coated and bridged. As the argillic horizon continues to form, permeability eventually becomes so restricted that water can be perched above the horizon.

The leaching of carbonates, bases, and silts has occurred in nearly all of the soils in the county. These elements are moved downward through the soils and then out of the profile by rainfall and water movement in the soils. As a result, most of the soils in Dixie County, except for the soils along the major drainageways, are naturally acid.

Gleying, or the chemical reduction of iron, has occurred in many of the soils. The parts of a soil profile that are saturated for long periods commonly are gleyed dull gray, yellow, or white or with mottles of varying colors. Many of the better drained soils that are not mottled have brighter colors in shades of yellow to red, indicating iron in the oxidized state. These soils are seldom saturated for extended periods.

The accumulation of organic material in or above the mineral surface layers occurs in all of the soils in Dixie County. The content of organic matter and thickness of the surface layer depend on drainage and vegetation. In droughty soils that have sparse vegetation, the content of organic matter generally is low because of rapid oxidation of the limited organic deposition. The surface layer of these soils is thin and lighted colored. The wetter soils are less oxidized, and the amount of available organic material is increased. As a result, the surface layer of the wetter soils is thicker and darker. In very wet soils, where water stands above the surface for long periods, oxidation is greatly restricted. As a result, organic matter accumulates above and in the mineral surface layer, forming a very thick, dark mineral surface layer or an organic surface layer (muck). Plowing often mixes the dark surface layer with an underlying horizon, resulting in a thicker dark surface layer in some soils.

The formation of phosphatic or iron concretions or nodules occurs on a limited basis in Dixie County. They occur in a few soils and generally are moderately deep in the profile. Iron concretions or ironstone can result from the accumulation of translocated iron that adheres to form soft to hard, generally gravel-sized fragments. Phosphatic concretions may be the intermediate result of the weathering of soft limestone-phosphatic bedrock from which most of the carbonates have already been leached. These dominantly gravel-sized concretions are soft to firm.

The soil-forming processes have resulted in a succession of layers, or horizons, in the soil. Variations in the kinds of geologic material, in the soil-forming factors, and in the length of time that the soil-forming processes have been active have resulted in the formation of different soils and their associated properties. Soil formation is an ongoing process and changes can occur in short or long periods of geologic time, depending on the soil-forming process.

Geomorphology and Geology

Prepared by Frank R. Rupert, P.G. 149.

Geomorphology

Dixie County is in Florida's Big Bend Area, along the northern edge of the Central or Midpeninsular geomorphic zone (White, 1970). This zone extends down the Florida peninsula from an approximate line connecting the cities of Perry in Taylor County, Gainesville in Alachua County, and St. Augustine in St. Johns County southward to the Caloosahatchee River. The Central Zone is subdivided into broad geomorphic subzones. Dixie County lies within an extensive geomorphic subzone named the Gulf Coastal Lowlands (White, 1970).

Gulf Coastal Lowlands

The Gulf Coastal Lowlands subzone is characterized as a low, flat, commonly swampy, gently seaward-sloping sandy plain. Surface slope ranges from 1 to 4 feet per mile seaward. Limestone, covered by a thin veneer of unconsolidated sand, forms the near-surface substrate in most of the county. The subzone extends from the modern shoreline inland to the line where the elevation is about 100 feet above mean sea level (MSL). In Dixie County, the maximum elevation is about 60 feet above MSL in the northeastern portion of the county. Most of the lowlands area is ancient marine-terrace terrain. Pleistocene seas alternately flooded and retreated from this region, sculpting a step-like series of erosional terraces that generally parallel the modern coastline. Three elevation zones are recognized for marine terraces in the county. They are the Silver Bluff

Terrace (less than 10 feet above MSL), the Pamlico Terrace (8 to 25 feet above MSL), and the Talbot Terrace (25 to 42 feet above MSL) (Healy, 1975). Imposed on these elevational terraces are numerous relict Pleistocene marine features, such as bars, dunes, and beach ridge systems. The relict features may be observed as strands far inland today. They are composed principally of white, quartz sand.

The present Gulf shoreline is classified as a low-wave-energy, drowned karst coast. It is characterized by having virtually no wave activity, a general lack of sand beaches, and an irregular outline. Series of small islets, or keys, that are comprised of limestone pinnacles or alluvial sand, are common offshore. Coastal salt marshes grow at the interface between the land and sea.

The Gulf Coastal Lowlands subzone in Dixie County is further subdivided into a series of geomorphic zones based on topographic elevation and terrain type. These subdivisions include the Coastal Marshes, the Limestone Shelf and Hammocks, and the River Valley Lowlands.

Coastal Marshes

Extensive coastal salt marshes are developed along the seaward edge of Dixie County. These comprise the Coastal Marshes zone (White, 1970), which typically extends from the shore inland to the contour line at about 5 feet above MSL. Most of these marshes support *Juncus* and *Spartina* grasses rooted in shallow, organic-rich silts and sands lying on limestone. In many areas, the marshes are dissected by small tidal streams and creeks, some of which drain freshwater seeping out of the shallow limestones of the Floridan aquifer system.

Limestone Shelf and Hammocks

Most of Dixie County is comprised of a flat, highly karstic, erosional limestone plain overlain by sand dunes, ridges, and coast-parallel, paleo-shoreline sand belts associated with the Pleistocene sea level high stands. This terrain is named the Limestone Shelf and Hammocks (Puri and others, 1967). The irregular, highly solutioned Eocene limestone underlying this area is masked by a blanket of Pleistocene sands. Near the coast, the limestone shelf merges seaward into the Coastal Marshes. It continues offshore onto the continental shelf. Inland, the limestone rises gently to an elevation of nearly 60 feet above MSL in the northeastern corner of Dixie County. Most of the area is forest or agricultural land. Small artesian springs flow from the near-surface limestone. During periods of heavy rainfall, much of the region may be flooded, forming a shallow swamp. Drainage from the coastal hammocks occurs through a number of small creeks and sloughs that empty into the coastal marshes.

River Valley Lowlands

The Suwannee and Steinhatchee Rivers are the major streams in Dixie County. The Suwannee River forms the boundary between Dixie County and Levy and Gilchrist Counties to the east. It flows in a solution valley, formed in near-surface Eocene limestones. The lowlands directly adjacent to the river are covered by a thin veneer of Holocene sediments over limestone and comprise the Suwannee River Valley Lowlands geomorphic subzone (Vernon, 1951). The broadly meandering valley is less than 1 mile wide over most of its course, broadening to about 2$^1/_2$ miles wide as it approaches the gulf coast. Valley floor elevations average about 5 feet above MSL. Along its lower stretch, the river valley is drowned and obscured by the coastal marshes.

The Steinhatchee River forms the northwestern boundary of Dixie County with Taylor County. The river is a deeply incised stream flowing in a narrow solution valley. Lowlands associated with the Steinhatchee River are generally less than $^1/_2$ mile wide. A 1-mile stretch of the river flows through an underground cavern near Highway 19 and then reemerges west of the highway.

Stratigraphy

The oldest rock commonly penetrated by water wells in Dixie County is marine limestone of the Eocene age Avon Park Formation. Undifferentiated Pleistocene- to Holocene-age surficial sands, clayey sands, and alluvium are the youngest sediments present. The Avon Park Formation and the younger overlying limestone units are important freshwater aquifers. The following description of the geology of Dixie County is confined to these Eocene and younger sediments.

Eocene Series

Avon Park Formation

The Avon Park Formation (Miller, 1986) is a lithologically variable Middle Eocene carbonate unit underlying all of Dixie County. According to in-house well files of the Florida Geological Survey, it is typically a tan to buff to brown dolomite, commonly interbedded with white to light cream to yellowish gray limestones and dolomitic limestones and containing varying amounts of peat, lignite, and plant remains. Mollusks, echinoids, and foraminifera, where preserved, are the principal fossils. The top of the Avon Park Formation varies in depth from about 50 feet below land surface in the southern part of Dixie County to about 150 feet below land surface in the northern part. Surface exposures of the Avon Park Formation occur to the south in Levy County, over the crest of the Ocala Platform. Data from deep oil-test-wells indicate that the Avon Park Formation ranges from about 800 to 1,200 feet in thickness under Dixie County.

Ocala Group

Marine limestones of the Ocala Group (Puri, 1957) unconformably overlie the Avon Park Formation under all of Dixie County. The Ocala Group is comprised of three formations. In ascending order, they are the Inglis Formation, Williston Formation, and Crystal River Formation. These formations are differentiated on the basis of lithology and fossil content. Typically, the lithology of the Ocala Group grades upward from alternating hard and soft, white to tan to gray, fossiliferous limestone and dolomitic limestone of the Inglis and lower Williston Formations into white to cream, abundantly fossiliferous, chalky limestones of the upper Williston Formation and the Crystal River Formation. Foraminifera, mollusks, bryozoans, and echinoids are the most abundant fossils in this unit. The Ocala Group sediments under Dixie County average about 100 feet in thickness. They generally thin against the structurally high Avon Park Formation towards the crest of the Ocala Platform in the southern and eastern portions of the county. Depth to the irregular and highly-solutioned top of the Ocala Group is generally less than 50 feet. The Ocala Group commonly crops out in the Limestone Shelf and Hammocks zone and the Coastal Marsh zone. In western Dixie County and offshore of the modern coastline, a thin blanket of quartz sand covers the Ocala Group limestone and exposures in the form of limestone boulders and pinnacles are common.

The highly permeable and cavernous nature of the Ocala Group limestones make them important freshwater bearing units of the Floridan aquifer system. Many drinking water wells in Dixie County withdraw water from the upper units of this group.

Pleistocene-Holocene Series

Undifferentiated Pleistocene marine quartz sands and clayey sands form a thin veneer over all of Dixie County. They are generally less than about 40 feet thick and thin to less than 20 feet near the coast. They directly overlie the karst limestones of the Ocala Group. Many of the larger and higher sand bodies in Dixie County are relict dunes, bars, and barrier islands associated with various Pleistocene sea level stands.

A white to gray, fossiliferous, freshwater marl commonly occurs along the banks and in the valley of the Suwannee River. This marl contains an abundant Holocene freshwater mollusk fauna and is as much as 4 feet thick in places (Vernon, 1951; Puri and others, 1967).

Ground Water

Ground water is water that fills the pore spaces in subsurface rocks and sediments. In Dixie County and adjoining counties, it is derived principally from precipitation. The bulk of the consumptive water in Dixie County is withdrawn from ground water aquifers. The two aquifer systems under the county are the surficial aquifer system and the Floridan aquifer system.

Surficial Aquifer System

The surficial aquifer system is the uppermost freshwater aquifer in Dixie County. This nonartesian aquifer is in the county only within the thicker portions of the Pleistocene undifferentiated sands and clays. It is thin or absent in much of Dixie County but may occur sporadically in the northern portion of the county. The surficial aquifer system, where present, is unconfined and its upper surface is the water table. In general, the water table fluctuates with the precipitation rate and conforms to the topography of the land surface. Recharge to the surficial aquifer system is largely through rainfall percolating downward through the unconsolidated surficial sediments and, to a lesser extent, by upward seepage from the underlying Floridan aquifer system. Water naturally discharges from the aquifer by evaporation and downward seepage into the Floridan aquifer system. The surficial aquifer system is not used as a source of consumptive water in Dixie County.

Floridan Aquifer System

In Dixie County, the Floridan aquifer system is comprised of thousands of feet of Eocene marine limestones, including the Avon Park Formation and the Ocala Group. It is the principle source of drinking water in the county. The Floridan aquifer system exists as an unconfined, nonartesian aquifer in most of Dixie County, where porous quartz sand directly overlies the limestone. Depth to the top of the Floridan aquifer generally corresponds to the depth to limestone and varies from less than 5 feet in the Coastal Marshes and Suwannee River Valley to nearly 50 feet under the larger relict Pleistocene sand bodies. The potentiometric gradient is south-southwestward.

Recharge to the Floridan aquifer system in Dixie County is obtained from lateral inflow from the north and, to a lesser extent, from local rainfall percolating downward through the permeable surficial sands. The highest recharge by percolation occurs in the highly karstic Chiefland Limestone Plain area in the northwestern part of the county (Stewart, 1980).

Water leaves the Floridan aquifer system through natural movement down gradient and subsequent discharge through numerous springs and seeps. These springs generally occur in the Suwannee River Valley Lowlands, portions of the Limestone Shelf and Hammocks zone, and along the Coastal Marshes, where the potentiometric surface of the Floridan aquifer system is at or above land surface.

References

American Association of State Highway and Transportation Officials (AASHTO). 1986. Standard specifications for highway materials and methods of sampling and testing. 14th edition, 2 volumes.

American Society for Testing and Materials (ASTM). 1993. Standard classification of soils for engineering purposes. ASTM Standard D 2487.

Davis, J.H., Jr. 1946. The peat deposits of Florida: Their occurrence, development, and uses. Florida Geological Survey Bulletin 30.

Doolittle, James A. 1982. Characterizing soil map units with the ground-penetrating radar. Soil Survey Horizons 23(4): 3–10.

Gainesville Sun Publishing. 1999. Almanac. The fact book for North Central Florida.

Healy. 1975. Terraces and shorelines of Florida. Florida Bureau of Geology Map Series 71.

Jenny, Hans. 1941. Factors of soil formation.

Johnson, R.W., R. Glaccum, and R. Wojtasinski. 1979. Application of ground-penetrating radar to soil survey. Proceedings of the Soil and Crop Science Society of Florida 39.

Miller, J.A. 1986. Hydrogeologic framework of the Floridan aquifer system in Florida and in parts of Georgia, Alabama, and South Carolina. U.S. Department of the Interior, Geological Survey Professional Paper 1403–B.

Puri, H. 1957. Stratigraphy and zonation of the Ocala Group. Florida Geological Survey Bulletin 38.

Puri, H.S., J.W. Yon, and W.R. Oglesby. 1967. Geology of Dixie and Levy Counties, Florida. Florida Geological Survey Bulletin 49.

Soil Survey Division Staff. 1993. Soil survey manual. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1994. Keys to soil taxonomy. 6th edition. United States Department of Agriculture, Natural Resources Conservation Service.

Stewart, J. 1980. Areas of natural recharge to the Floridan aquifer in Florida. Florida Bureau of Geology Map Series 98.

United States Department of Agriculture, Soil Conservation Service. 1975. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. U.S. Department of Agriculture Handbook 436.

United States Department of Agriculture, Soil Conservation Service. 1985. 26 ecological communities of Florida.

Vernon, R.O. 1951. Geology of Citrus and Levy Counties, Florida. Florida Geological Survey Bulletin 33.

White, W.A. 1970. The geomorphology of the Florida peninsula. Florida Bureau of Geological Bulletin 51.

Glossary

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.

Aspect. The direction in which a slope faces.

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

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.

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.

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.

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.

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.

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.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

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.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

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.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

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.

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.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Excess lime (in tables). Excess carbonates in the soil that restrict the growth of some plants.

Excess salts (in tables). Excess water-soluble salts in the soil that restrict the growth of most plants.

Excess sodium (in tables). Excess exchangeable sodium in the soil. The resulting poor physical properties restrict the growth of plants.

Excess sulfur (in tables). Excessive amount of sulfur in the soil. The sulfur causes extreme acidity if the soil is drained, and the growth of most plants is restricted.

Fast intake (in tables). The rapid movement of water into the soil.

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.

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.

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.

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.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

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.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A 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.

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.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

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.

Irrigation. Application of water to soils to assist in production of crops.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Leaching. The removal of soluble material from soil or other material by percolating water.

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.

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).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. 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.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots.

For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

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 downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 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.)

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.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

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.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

Potential native plant community. See Climax plant community.

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.

Range condition. The present composition of the plant community on a range site in relation to the potential climax plant community for that site. Range condition is expressed as excellent, good, fair, or poor on the basis of how much the present plant community has departed from the potential.

Rangeland. Land on which the potential climax 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.

Range site. An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. A range 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 range sites in kind or proportion of species or total production.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

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.

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.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

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.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

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.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

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.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	0 to 5 percent

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow intake (in tables). The slow movement of water into the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

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.”

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

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.

Tables

Table 1.--Temperature and Precipitation

[Recorded in the period 1957-87 at Perry, Florida]

Month	Temperature						Precipitation				
				2 Years in 10 will have--				2 years in 10 will have--			
	Average Daily Maximum	Average Daily Minimum	Average Daily	Maximum temp. higher than--	Minimum temp. lower than--	Average number of growing degree days	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	*°F*	*°F*	*°F*	*°F*	*Units*	*In*	*In*	*In*		*In*
January------	65.4	40.8	53.1	81	15	197	4.13	1.98	5.99	7	0.0
February-----	68.5	42.6	55.6	83	22	212	4.50	2.51	6.26	7	0.1
March--------	74.8	48.7	61.8	87	27	372	5.12	2.22	7.58	6	0.0
April--------	81.5	54.5	68.0	92	36	540	3.92	0.94	6.28	4	0.0
May----------	87.4	61.9	74.7	96	45	766	4.48	1.75	6.76	6	0.0
June---------	91.1	68.3	79.7	99	57	891	6.53	3.83	8.93	9	0.0
July---------	92.0	70.8	81.4	99	64	973	8.56	4.72	11.94	12	0.0
August-------	91.8	70.4	81.1	98	64	964	8.69	4.65	12.24	12	0.0
September----	89.7	67.5	78.6	97	52	858	5.81	2.66	8.51	7	0.0
October------	83.1	57.2	70.2	93	35	626	2.62	0.46	4.29	4	0.0
November-----	75.7	48.9	62.3	87	25	379	2.83	1.19	4.21	5	0.0
December-----	68.6	42.7	55.7	82	17	230	3.57	1.66	5.20	5	0.0
Yearly:											
Average-----	80.8	56.2	68.5								
Extreme-----				100	15						
Total-------						7,008	60.76	50.46	70.62	84	0.1

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

[Recorded in the period 1957-87 at Perry, Florida]

Probability	Temperature		
	24 degrees or lower	28 degrees or lower	32 degrees or lower
Last freezing temperature in spring:			
1 year in 10 later than----	Feb. 23	Mar. 14	Mar. 29
2 years in 10 later than----	Feb. 14	Mar. 8	Mar. 24
5 years in 10 later than----	Jan. 29	Feb. 22	Mar. 14
First freezing temperature in fall:			
1 year in 10 earlier than----	Nov. 21	Nov. 6	Oct. 25
2 years in 10 earlier than----	Nov. 30	Nov. 15	Nov. 2
5 years in 10 earlier than	Dec 17	Dec 3	Nov 16

Table 3.--Growing Season

[Recorded in the period 1957-87 at Perry, Florida]

Probability	Daily minimum temperature during growing season		
	Higher than 24 degrees Days	Higher than 28 degrees Days	Higher than 32 degrees Days
9 years in 10	290	252	223
8 years in 10	299	263	231
5 years in 10	317	283	247
2 years in 10	357	304	262
1 year in 10	>365	314	271

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
2	Penney fine sand, 0 to 5 percent slopes	3,945	0.8
4	Penney-Otela, limestone substratum, complex, 0 to 5 percent slopes	11,089	2.4
6	Albany-Ridgewood complex	8,894	1.9
7	Garcon-Ousley-Albany complex, occasionally flooded	2,545	0.6
9	Otela, limestone substratum-Chiefland-Kureb complex, 0 to 5 percent slopes	16,616	3.6
10	Osier-Elloree complex, frequently flooded	1,358	0.3
11	Clara and Meadowbrook soils, frequently flooded	11,907	2.6
12	Clara, Oldtown, and Meadowbrook soils, depressional	32,801	7.1
14	Rawhide mucky loamy fine sand, depressional	2,056	0.4
15	Leon mucky fine sand, frequently flooded	1,000	0.2
16	Penney-Wadley complex, 0 to 5 percent slopes	3,995	0.9
17	Leon-Leon, depressional, complex	51,735	11.2
18	Chaires-Chaires, depressional, complex	19,003	4.1
19	Wekiva-Shired-Tooles complex, occasionally flooded	63,273	13.6
20	Chaires, limestone substratum-leon complex	31,320	6.7
21	Meadowbrook fine sand	11,670	2.5
22	Lutterloh, limestone substratum-Moriah complex	5,800	1.2
25	Meadowbrook-Meadowbrook, depressional, complex, occasionally flooded	29,617	6.4
27	Steinhatchee-Tennille complex	5,772	1.2
28	Tooles-Meadowbrook complex	5,644	1.2
29	Tooles fine sand, depressional	1,855	0.4
30	Yellowjacket muck, depressional	2,330	0.5
31	Clara sand, occasionally ponded	5,254	1.1
32	Bayvi muck, frequently flooded	17,208	3.7
34	Ortega-Blanton complex, 0 to 5 percent slopes	8,260	1.8
36	Pits	694	0.1
38	Quartzipsamments, 0 to 5 percent slopes	367	0.1
39	Resota sand, 0 to 5 percent slopes	2,376	0.5
41	Mandarin-Lutterloh, limestone substratum, complex	11,149	2.4
42	Tooles-Wekiva complex	9,794	2.1
44	Bodiford and Meadowbrook, limestone substratum, soils, frequently flooded	6,770	1.5
47	Lutterloh, limestone substratum-Moriah-Matmon complex, occasionally flooded	2,220	0.5
48	Psammaquents-Rock outcrop complex, frequently flooded	1,712	0.4
49	Chaires, limestone substratum-Meadowbrook complex	10,557	2.3
50	Wulfert muck, frequently flooded	2,971	0.6
51	Yellowjacket and Maurepas soils, frequently flooded	7,113	1.5
52	St. Augustine sand, organic substratum, rarely flooded	220	*
54	Ridgewood fine sand	7,108	1.5
55	Tooles-Nutall complex, frequently flooded	19,547	4.3
56	Ortega fine sand	1,412	0.3
57	Clara-Oldtown complex, frequently flooded	4,744	1.0
58	Talquin-Meadowbrook complex, occasionally flooded	332	0.1
59	Talquin fine sand, occasionally flooded	654	0.1
60	Ridgewood fine sand, rarely flooded	490	0.1
61	Mandarin fine sand	1,097	0.2
62	Kureb fine sand, 2 to 5 percent slopes	969	0.2
63	Wesconnett and Lynn Haven soils, depressional	1,508	0.3
64	Ousley-Leon-Clara complex, 0 to 3 percent slopes, occasionally flooded	149	*
W	Water < 40 acres in size	16,300	3.5
	Total	465,200	100.0

* Less than 0.1 percent.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture

[Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Map symbol and soil name	Land capability	Bahiagrass	Corn	Peanuts	Tobacco	Watermelons
		AUM	*Bu*	*Lbs*	*Lbs*	*Tons*
2:						
Penney------------------	4s	7.0	35.0	1,700.0	---	10.0
4:						
Penney------------------	4s	7.0	35.0	1,700.0	---	10.0
Otela-------------------	3s	6.5	35.0	3,500.0	---	5.0
6:						
Albany------------------	3w	6.5	65.0	1,700.0	2,100.0	---
Ridgewood---------------	4s	7.0	---	---	---	---
7:						
Garcon------------------	2w	---	---	---	---	---
Ousley------------------	3w	7.5	50.0	---	---	---
Albany------------------	3w	6.5	65.0	1,700.0	2,100.0	---
9:						
Otela-------------------	3s	6.5	35.0	3,500.0	---	5.0
Chiefland---------------	3s	8.0	65.0	2,700.0	---	12.0
Kureb-------------------	7s	---	---	---	---	---
10:						
Osier-------------------	5w	5.0	---	---	---	---
Elloree-----------------	6w	---	---	---	---	---
11:						
Clara-------------------	6w	---	---	---	---	---
Meadowbrook-------------	6w	---	---	---	---	---
12:						
Clara-------------------	6w	---	---	---	---	---
Oldtown-----------------	7w	---	---	---	---	---
Meadowbrook-------------	7w	---	---	---	---	---
14:						
Rawhide-----------------	7w	---	---	---	---	---
15:						
Leon--------------------	6w	6.0	---	---	---	---
16:						
Penney------------------	4s	7.0	35.0	1,700.0	---	10.0
Wadley------------------	3s	6.5	55.0	1,900.0	2,000.0	11.0

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Bahiagrass	Corn	Peanuts	Tobacco	Watermelons
		AUM	*Bu*	*Lbs*	*Lbs*	*Tons*
17:						
Leon	4w	7.5	50.0	---	---	---
Leon	7w	---	---	---	---	---
18:						
Chaires	4w	8.0	50.0	---	---	---
Chaires	7w	---	---	---	---	---
19:						
Wekiva	5w	---	---	---	---	---
Shired	7w	---	---	---	---	---
Tooles	4w	---	---	---	---	---
20:						
Chaires	4w	8.0	---	---	---	---
Leon	4w	7.5	50.0	---	---	---
21:						
Meadowbrook	4w	5.0	---	---	---	---
22:						
Lutterloh	3w	6.5	65.0	1,700.0	2,100.0	---
Moriah	3s	---	---	---	---	---
25:						
Meadowbrook	4w	5.0	---	---	---	---
Meadowbrook	7w	---	---	---	---	---
27:						
Steinhatchee	3w	8.0	---	---	---	---
Tennille	4w	6.0	---	---	---	---
28:						
Tooles	3w	5.0	---	---	---	---
Meadowbrook	4w	---	---	---	---	---
29:						
Tooles	7w	---	---	---	---	---
30:						
Yellowjacket	7w	---	---	---	---	---
31:						
Clara	6w	---	---	---	---	---
32:						
Bayvi	8w	---	---	---	---	---
34:						
Ortega	3s	6.0	---	---	---	---
Blanton	3s	6.5	60.0	2,200.0	2,000.0	12.0

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Bahiagrass	Corn	Peanuts	Tobacco	Watermelons
		AUM	*Bu*	*Lbs*	*Lbs*	*Tons*
36:						
Pits-------------------	8s	---	---	---	---	---
38:						
Quartzipsamments--------	6s	---	---	---	---	---
39:						
Resota------------------	6s	5.0	---	---	---	---
41:						
Mandarin----------------	6s	6.0	---	---	---	---
Lutterloh---------------	3w	6.5	65.0	1,700.0	2,100.0	---
42:						
Tooles------------------	3w	---	---	---	---	---
Wekiva------------------	4w	6.5	---	---	---	---
44:						
Bodiford----------------	7w	---	---	---	---	---
Meadowbrook-------------	5w	---	---	---	---	---
47:						
Lutterloh---------------	3w	6.5	65.0	1,700.0	2,100.0	---
Moriah------------------	3s	---	---	---	---	---
Matmon------------------	4s	7.0	---	---	---	---
48:						
Psammaquents------------	8w	---	---	---	---	---
Rock outcrop------------	8s	---	---	---	---	---
49:						
Chaires-----------------	4w	8.0	---	---	---	---
Meadowbrook-------------	4w	5.0	---	---	---	---
50:						
Wulfert-----------------	8w	---	---	---	---	---
51:						
Yellowjacket------------	7w	---	---	---	---	---
Maurepas----------------	8w	---	---	---	---	---
52:						
St. Augustine-----------	7s	---	---	---	---	---
54:						
Ridgewood---------------	4s	7.0	---	---	---	---
55:						
Tooles------------------	5w	---	---	---	---	---
Nutall------------------	5w	---	---	---	---	---
56:						
Ortega------------------	3s	6.0	---	---	---	---

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Bahiagrass	Corn	Peanuts	Tobacco	Watermelons
		AUM	*Bu*	*Lbs*	*Lbs*	*Tons*
57:						
Clara-------------------	6w	---	---	---	---	---
Oldtown-----------------	7w	---	---	---	---	---
58:						
Talquin-----------------	4w	7.5	---	---	---	---
Meadowbrook-------------	4w	5.0	---	---	---	---
59:						
Talquin-----------------	4w	7.5	---	---	---	---
60:						
Ridgewood---------------	4s	7.0	---	---	---	---
61:						
Mandarin----------------	6s	6.0	---	---	---	---
62:						
Kureb-------------------	7s	---	---	---	---	---
63:						
Wesconnett--------------	7w	---	---	---	---	---
Lynn Haven--------------	7w	---	---	---	---	---
64:						
Ousley------------------	3w	7.5	50.0	---	---	---
Leon--------------------	4w	7.5	50.0	---	---	---
Clara-------------------	6w	---	---	---	---	---

Table 6.--Woodland Management and Productivity

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
									cu ft/yr	
2:										
Penney	8S	Slight	Moderate	Moderate	Slight	Moderate	Bluejack oak	---	---	Sand pine, slash pine
							Live oak	---	---	
							Longleaf pine	60	57	
							Post oak	---	---	
							Sand pine	75	57	
							Slash pine	70	114	
							Turkey oak	---	---	
4:										
Penney	8S	Slight	Moderate	Moderate	Slight	Moderate	Bluejack oak	---	---	Sand pine, slash pine
							Live oak	---	---	
							Longleaf pine	60	57	
							Post oak	---	---	
							Sand pine	75	57	
							Slash pine	70	114	
							Turkey oak	---	---	
Otela	10S	Slight	Moderate	Severe	Slight	Moderate	Black cherry	---	---	Slash pine
							Laurel oak	---	---	
							Live oak	---	---	
							Loblolly pine	70	86	
							Longleaf pine	80	100	
							Slash pine	80	143	
							Southern red oak	---	---	
							Southern redcedar	---	---	
6:										
Albany	10W	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine	95	143	Loblolly pine, slash pine
							Longleaf pine	80	100	
							Slash pine	85	157	
Ridgewood	10W	Slight	Moderate	Moderate	Slight	Moderate	Laurel oak	---	---	Longleaf pine, slash pine
							Live oak	---	---	
							Longleaf pine	65	72	
							Slash pine	80	143	
							Turkey oak	---	---	
							Water oak	---	---	
7:										
Garcon	10W	Slight	Slight	Moderate	Slight	Moderate	Longleaf pine	70	86	Slash pine
							Slash pine	80	143	

Table 6.--Woodland Management and Productivity--Continued

Map symbol and soil name	Ordi- nation symbol	Management concerns: Erosion hazard	Equip- ment limita- tion	Seedling mortal- ity	Wind- throw hazard	Plant competi- tion	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
									cu ft/yr	
7:										
Ousley------------------	8W	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine-------	80	114	Loblolly pine,
							Longleaf pine-------	70	86	slash pine
							Slash pine----------	80	143	
Albany------------------	10W	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine-------	95	143	Loblolly pine,
							Longleaf pine-------	80	100	slash pine
							Slash pine----------	85	157	
9:										
Otela-------------------	10S	Slight	Moderate	Severe	Slight	Moderate	Black cherry--------	---	---	Slash pine
							Laurel oak----------	---	---	
							Live oak------------	---	---	
							Loblolly pine-------	70	86	
							Longleaf pine-------	80	100	
							Slash pine----------	80	143	
							Southern red oak----	---	---	
							Southern redcedar---	---	---	
Chiefland---------------	11S	Slight	Moderate	Moderate	Slight	Moderate	Bluejack oak--------	---	---	Loblolly pine,
							Live oak------------	---	---	longleaf pine,
							Loblolly pine-------	85	114	sand pine, slash
							Longleaf pine-------	79	100	pine
							Sand pine-----------	75	57	
							Slash pine----------	85	157	
							Turkey oak----------	---	---	
Kureb-------------------	6S	Slight	Moderate	Severe	Slight	Slight	Loblolly pine-------	64	86	Loblolly pine,
							Longleaf pine-------	53	43	longleaf pine,
							Slash pine----------	---	---	slash pine
10:										
Osier-------------------	11W	Slight	Severe	Severe	Slight	Severe	Loblolly pine-------	87	129	Loblolly pine,
							Longleaf pine-------	69	72	slash pine
							Slash pine----------	85	157	
Elloree-----------------	9W	Slight	Severe	Severe	Severe	Severe	Loblolly pine-------	90	129	Loblolly pine,
							Red maple-----------	---	---	sweetgum,
							Sweetgum------------	---	---	tuliptree
							Tuliptree-----------	---	---	
							Water oak-----------	---	---	

Table 6.--Woodland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Suggested trees to plant
									cu ft/yr	
11:										
Clara	11W	Slight	Severe	Severe	Slight	Severe	Blackgum	---	---	Loblolly pine, slash pine
							Cabbage palmetto	---	---	
							Laurel oak	---	---	
							Loblolly pine	91	129	
							Red maple	---	---	
							Slash pine	88	157	
							Sweetgum	---	---	
							Water oak	---	---	
Meadowbrook	11W	Slight	Severe	Severe	Slight	Severe	Blackgum	---	---	Loblolly pine, slash pine
							Laurel oak	---	---	
							Loblolly pine	91	129	
							Red maple	---	---	
							Slash pine	88	157	
							Sweetgum	---	---	
							Water oak	---	---	
12:										
Clara	2W	Slight	Severe	Severe	Moderate	Severe	Baldcypress	---	---	---
							Cabbage palmetto	---	---	
							pond pine	---	---	
							Pondcypress	75	29	
							Red maple	---	---	
							Water oak	---	---	
Oldtown	2W	Slight	Severe	Severe	Moderate	Severe	Pondcypress	75	29	---
							Red maple	---	---	
							Sweetgum	---	---	
							Water oak	---	---	
Meadowbrook	7W	Slight	Severe	Severe	Slight	Severe	Baldcypress	108	100	---
							Pond pine	---	---	
							Pondcypress	75	29	
							Sweetgum	---	---	
14:										
Rawhide	2W	Slight	Severe	Severe	Moderate	Severe	Baldcypress	---	---	---
							Laurel oak	---	---	
							Pond pine	---	---	
							Pondcypress	75	29	
							Red maple	---	---	
							Sweetbay	---	---	
							Water oak	---	---	

Table 6.--Woodland 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
									cu ft/yr	
15:										
Leon	8W	Slight	Moderate	Moderate	Moderate	Moderate	Live oak	---	---	Slash pine
							Loblolly pine	65	86	
							Longleaf pine	60	57	
							Slash pine	70	114	
							Water oak	---	---	
16:										
Penney	8S	Slight	Moderate	Moderate	Slight	Moderate	Bluejack oak	---	---	Sand pine, slash pine
							Live oak	---	---	
							Longleaf pine	60	57	
							Post oak	---	---	
							Sand pine	75	57	
							Slash pine	70	114	
							Turkey oak	---	---	
Wadley	11S	Slight	Moderate	Moderate	Slight	Moderate	Bluejack oak	---	---	Loblolly pine, longleaf pine, sand pine, slash pine
							Live oak	---	---	
							Loblolly pine	85	114	
							Longleaf pine	79	100	
							Sand pine	75	57	
							Slash pine	85	157	
							Turkey oak	---	---	
17:										
Leon	10W	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine	75	100	Slash pine
							Longleaf pine	70	86	
							Slash pine	80	143	
Leon	2W	Slight	Severe	Severe	Severe	Severe	Pond pine	---	---	---
							Pondcypress	75	29	
							Sweetbay	---	---	
							Sweetgum	---	---	
							Water oak	---	---	
18:										
Chaires	10W	Slight	Moderate	Moderate	Slight	Moderate	Laurel oak	---	---	Loblolly pine, slash pine
							Loblolly pine	80	114	
							Longleaf pine	70	86	
							Slash pine	80	143	
							Water oak	---	---	

Table 6.--Woodland 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
									cu ft/yr	
18:										
Chaires, depressional	2W	Slight	Severe	Severe	Moderate	Severe	Baldcypress	---	---	---
							Blackgum	---	---	
							Pond pine	---	---	
							Pondcypress	75	29	
							Red maple	---	---	
							Sweetbay	---	---	
19:										
Wekiva	8W	Slight	Severe	Severe	Severe	Severe	Laurel oak	---	---	Loblolly pine, slash pine
							Loblolly pine	65	86	
							Magnolia	---	---	
							Slash pine	65	114	
							Southern redcedar	---	---	
							Sweetgum	---	---	
Shired	2W	Slight	Severe	Severe	Moderate	Severe	Baldcypress	---	---	---
							Blackgum	---	---	
							Laurel oak	---	---	
							Pondcypress	75	29	
							Red maple	---	---	
							Sweetbay	---	---	
							Sweetgum	---	---	
							Water oak	---	---	
Tooles	10W	Slight	Severe	Moderate	Moderate	Severe	Loblolly pine	80	114	Slash pine
							Red maple	---	---	
							Slash pine	80	143	
							Sweetgum	---	---	
							Water oak	---	---	
20:										
Chaires	10W	Slight	Moderate	Moderate	Slight	Moderate	Cabbage palmetto	---	---	Loblolly pine, slash pine
							Laurel oak	---	---	
							Loblolly pine	80	114	
							Longleaf pine	70	86	
							Slash pine	80	143	
							Water oak	---	---	
Leon	10W	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine	75	100	Slash pine
							Longleaf pine	70	86	
							Slash pine	80	143	

Table 6.--Woodland Management and Productivity--Continued

Map symbol and soil name	Ordi-nation symbol	Management concerns: Erosion hazard	Equip-ment limita-tion	Seedling mortal-ity	Wind-throw hazard	Plant competi-tion	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
									cu ft/yr	
21:										
Meadowbrook-------------	11W	Slight	Severe	Severe	Slight	Severe	Live oak-----------	---	---	Loblolly pine,
							Loblolly pine-------	91	129	longleaf pine,
							Longleaf pine-------	70	86	slash pine
							Slash pine----------	88	157	
							Water oak-----------	---	---	
22:										
Lutterloh---------------	10W	Slight	Moderate	Moderate	Slight	Moderate	Cabbage palmetto----	---	---	Loblolly pine,
							Eastern redcedar----	---	---	slash pine
							Hickory-------------	---	---	
							Live oak------------	---	---	
							Loblolly pine-------	80	114	
							Slash pine----------	80	143	
							Southern magnolia---	---	---	
							Sweetgum------------	---	---	
							Water oak-----------	---	---	
Moriah------------------	11S	Slight	Moderate	Moderate	Slight	Moderate	Hickory-------------	---	---	Loblolly pine,
							Laurel oak----------	---	---	slash pine
							Loblolly pine-------	---	---	
							Slash pine----------	85	157	
							Water oak-----------	---	---	
25:										
Meadowbrook-------------	11W	Slight	Severe	Severe	Slight	Severe	Blackgum------------	---	---	Loblolly pine,
							Laurel oak----------	---	---	slash pine
							Loblolly pine-------	91	129	
							Red maple-----------	---	---	
							Slash pine----------	88	157	
							Sweetgum------------	---	---	
							Water oak-----------	---	---	
Meadowbrook-------------	7W	Slight	Severe	Severe	Slight	Severe	Baldcypress---------	108	100	---
							Pond pine-----------	---	---	
							Pondcypress---------	75	29	
							Sweetgum------------	---	---	
27:										
Steinhatchee------------	11W	Slight	Moderate	Moderate	Moderate	Moderate	Cabbage palmetto----	---	---	Loblolly pine,
							Loblolly pine-------	80	114	slash pine
							Longleaf pine-------	70	86	
							Slash pine----------	85	157	
							Sweetgum------------	---	---	
							Water oak-----------	---	---	

Table 6.--Woodland 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
									cu ft/yr	
27:										
Tennille	8W	Slight	Severe	Severe	Severe	Severe	Cabbage palmetto	---	---	Loblolly pine, slash pine
							Loblolly pine	65	86	
							Slash pine	65	114	
							Southern redcedar	---	---	
							Sweetgum	---	---	
							Water oak	---	---	
28:										
Tooles	11W	Slight	Severe	Moderate	Moderate	Severe	American elm	---	---	Loblolly pine, slash pine
							Cabbage palmetto	---	---	
							Laurel oak	---	---	
							Live oak	---	---	
							Loblolly pine	95	143	
							Slash pine	85	157	
							Sweetbay	---	---	
							Sweetgum	---	---	
Meadowbrook	11W	Slight	Severe	Severe	Slight	Severe	Live oak	---	---	Loblolly pine, longleaf pine, slash pine
							Loblolly pine	91	129	
							Longleaf pine	70	86	
							Slash pine	88	157	
							Water oak	---	---	
29:										
Tooles	2W	Slight	Severe	Severe	Moderate	Severe	Baldcypress	---	---	---
							Blackgum	---	---	
							Pond pine	---	---	
							Pondcypress	75	29	
							Red maple	---	---	
							Sweetbay	---	---	
30:										
Yellowjacket	2W	Slight	Severe	Severe	Severe	Severe	Cabbage palmetto	---	---	---
							Pondcypress	---	---	
							Red maple	---	---	
							Sweetbay	---	---	
							Water oak	---	---	

Table 6.--Woodland 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
									cu ft/yr	
31:										
Clara	2W	Slight	Severe	Severe	Moderate	Severe	Baldcypress	---	---	---
							Cabbage palmetto	---	---	
							Pond pine	---	---	
							Pondcypress	75	29	
							Red maple	---	---	
							Water oak	---	---	
32:										
Bayvi.										
34:										
Ortega	10S	Slight	Moderate	Moderate	Slight	Moderate	Blackjack oak	---	---	Loblolly pine, longleaf pine, slash pine
							Loblolly pine	80	114	
							Longleaf pine	70	86	
							Post oak	---	---	
							Slash pine	80	143	
							Turkey oak	---	---	
Blanton	11S	Slight	Moderate	Moderate	Slight	Slight	Bluejack oak	---	---	Loblolly pine, longleaf pine, slash pine
							Live oak	---	---	
							Loblolly pine	85	114	
							Longleaf pine	70	86	
							Slash pine	90	157	
							Southern red oak	---	---	
							Turkey oak	---	---	
36:										
Pits.										
38:										
Quartzipsamments.										
39:										
Resota	8S	Slight	Moderate	Severe	Slight	Moderate	Longleaf pine	65	72	Longleaf pine, slash pine
							Sand live oak	---	---	
							Sand pine	60	43	
							Slash pine	70	114	
41:										
Mandarin	8S	Slight	Moderate	Severe	Slight	Moderate	Live oak	---	---	Longleaf pine, slash pine
							Longleaf pine	60	57	
							Slash pine	70	114	

Table 6.--Woodland 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
									cu ft/yr	
41:										
Lutterloh	10W	Slight	Moderate	Moderate	Slight	Moderate	Cabbage palmetto	---	---	Loblolly pine, slash pine
							Eastern redcedar	---	---	
							Hickory	---	---	
							Live oak	---	---	
							Loblolly pine	80	114	
							Slash pine	80	143	
							Southern magnolia	---	---	
							Sweetgum	---	---	
							Water oak	---	---	
42:										
Tooles	11W	Slight	Severe	Moderate	Moderate	Severe	American elm	---	---	Loblolly pine, slash pine
							Cabbage palmetto	---	---	
							Laurel oak	---	---	
							Live oak	---	---	
							Loblolly pine	95	143	
							Slash pine	85	157	
							Sweetbay	---	---	
							Sweetgum	---	---	
Wekiva	8W	Slight	Severe	Severe	Severe	Severe	Laurel oak	---	---	Loblolly pine, slash pine
							Loblolly pine	65	86	
							Magnolia	---	---	
							Slash pine	65	114	
							Southern redcedar	---	---	
							Sweetgum	---	---	
44:										
Bodiford	7W	Slight	Severe	Severe	Moderate	Severe	Baldcypress	100	86	---
							Blackgum	---	---	
							Cabbage palmetto	---	---	
							Laurel oak	---	---	
							Red maple	---	---	
							Sweetgum	---	---	
							Water oak	---	---	
Meadowbrook	7W	Slight	Severe	Severe	Moderate	Severe	Baldcypress	100	100	---

Table 6.--Woodland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Suggested trees to plant
									cu ft/yr	
47:										
Lutterloh	10W	Slight	Moderate	Moderate	Slight	Moderate	Cabbage palmetto	---	---	Loblolly pine, slash pine
							Eastern redcedar	---	---	
							Hickory	---	---	
							Live oak	---	---	
							Loblolly pine	80	114	
							Slash pine	80	143	
							Southern magnolia	---	---	
							Sweetgum	---	---	
							Water oak	---	---	
Moriah	11S	Slight	Moderate	Moderate	Slight	Moderate	Hickory	---	---	Loblolly pine, slash pine
							Laurel oak	---	---	
							Loblolly pine	---	---	
							Slash pine	85	157	
							Water oak	---	---	
Matmon	9W	Slight	Moderate	Moderate	Severe	Moderate	Cabbage palmetto	---	---	Loblolly pine, slash pine
							Laurel oak	---	---	
							Live oak	---	---	
							Loblolly pine	75	100	
							Magnolia	---	---	
							Slash pine	75	129	
							Southern redcedar	---	---	
							Sweetgum	---	---	
							Water oak	---	---	
48:										
Psammaquents.										
Rock outcrop.										
49:										
Chaires	10W	Slight	Moderate	Moderate	Slight	Moderate	Cabbage palmetto	---	---	Loblolly pine, slash pine
							Laurel oak	---	---	
							Loblolly pine	80	114	
							Longleaf pine	70	86	
							Slash pine	80	143	
							Water oak	---	---	
Meadowbrook	11W	Slight	Severe	Severe	Slight	Severe	Live oak	---	---	Loblolly pine, longleaf pine, slash pine
							Loblolly pine	91	129	
							Longleaf pine	70	86	
							Slash pine	88	157	
							Water oak	---	---	

Table 6.--Woodland 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
									cu ft/yr	
50:										
Wulfert.										
51:										
Yellowjacket-----------	7W	Slight	Severe	Severe	Severe	Severe	Baldcypress---------	105	100	---
							Red maple-----------	---	---	
							Sweetbay------------	---	---	
							Water oak-----------	---	---	
Maurepas.										
52:										
St. Augustine.										
54:										
Ridgewood--------------	10W	Slight	Moderate	Moderate	Slight	Moderate	Laurel oak----------	---	---	Longleaf pine, slash pine
							Live oak------------	---	---	
							Longleaf pine-------	65	72	
							Slash pine----------	80	143	
							Turkey oak----------	---	---	
							Water oak-----------	---	---	
55:										
Tooles-----------------	7W	Slight	Severe	Severe	Moderate	Severe	Baldcypress---------	108	100	---
							Red maple-----------	---	---	
							Water oak-----------	---	---	
							water tupelo--------	---	---	
Nutall-----------------	6W	Slight	Severe	Moderate	Moderate	Severe	American elm--------	---	---	Longleaf pine, slash pine
							Cabbage palmetto----	---	---	
							Laurel oak----------	---	---	
							Live oak------------	---	---	
							Longleaf pine-------	75	86	
							Red maple-----------	---	---	
							Slash pine----------	85	157	
							Sweetbay------------	---	---	
							Sweetgum------------	---	---	
56:										
Ortega-----------------	10S	Slight	Moderate	Moderate	Slight	Moderate	Blackjack oak-------	---	---	Loblolly pine, longleaf pine, slash pine
							Loblolly pine-------	80	114	
							Longleaf pine-------	70	86	
							Post oak------------	---	---	
							Slash pine----------	80	143	
							Turkey oak----------	---	---	

Table 6.--Woodland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Suggested trees to plant
									cu ft/yr	
57:										
Clara	11W	Slight	Severe	Severe	Slight	Severe	Blackgum	---	---	Loblolly pine, slash pine
							Cabbage palmetto	---	---	
							Laurel oak	---	---	
							Loblolly pine	91	129	
							Red maple	---	---	
							Slash pine	88	157	
							Sweetgum	---	---	
							Water oak	---	---	
Oldtown	7W	Slight	Severe	Moderate	Moderate	Severe	Baldcypress	108	100	---
							Cabbage palmetto	---	---	
							Red maple	---	---	
							Sweetgum	---	---	
							Water oak	---	---	
58:										
Talquin	10W	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine	70	86	Longleaf pine, slash pine
							Longleaf pine	70	86	
							Slash pine	80	143	
							Water oak	---	---	
Meadowbrook	11W	Slight	Severe	Severe	Slight	Severe	Blackgum	---	---	Loblolly pine, slash pine
							Laurel oak	---	---	
							Loblolly pine	91	129	
							Red maple	---	---	
							Slash pine	88	157	
							Sweetgum	---	---	
							Water oak	---	---	
59:										
Talquin	10W	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine	70	86	Longleaf pine, slash pine
							Longleaf pine	70	86	
							Slash pine	80	143	
							Water oak	---	---	
60:										
Ridgewood	10W	Slight	Moderate	Moderate	Slight	Moderate	Laurel oak	---	---	Longleaf pine, slash pine
							Live oak	---	---	
							Longleaf pine	65	72	
							Slash pine	80	143	
							Turkey oak	---	---	
							Water oak	---	---	

Table 6.--Woodland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Suggested trees to plant
									cu ft/yr	
61:										
Mandarin	8S	Slight	Moderate	Severe	Slight	Moderate	Live oak	---	---	Longleaf pine,
							Longleaf pine	60	57	slash pine
							Slash pine	70	114	
62:										
Kureb	6S	Slight	Moderate	Severe	Slight	Slight	Loblolly pine	64	86	Loblolly pine,
							Longleaf pine	53	43	longleaf pine,
							Slash pine	---	---	slash pine
63:										
Wesconnett	2W	Slight	Severe	Severe	Slight	Severe	Carolina ash	---	---	---
							Baldcypress	---	---	
							Blackgum	---	---	
							Pondcypress	75	29	
							Red maple	---	---	
							Sweetbay	---	---	
Lynn Haven	7W	Slight	Severe	Severe	Slight	Severe	Baldcypress	108	100	Baldcypress
							Pondcypress	75	29	
64:										
Ousley	8W	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine	80	114	Loblolly pine,
Leon	10W	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine	75	100	Slash pine
							Longleaf pine	70	86	
							Slash pine	80	143	
Clara	2W	Slight	Severe	Severe	Moderate	Severe	Baldcypress	---	---	---
							Cabbage palmetto	---	---	
							Pond pine	---	---	
							Pondcypress	75	29	
							Red maple	---	---	
							Water oak	---	---	

Table 7.--Recreational Development

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable]

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
2:					
Penney	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
4:					
Penney	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
Otela	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Moderate: droughty
6:					
Albany	Severe: too sandy wetness	Severe: too sandy	Severe: too sandy wetness	Severe: too sandy	Severe: droughty
Ridgewood	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
7:					
Garcon	Severe: flooding too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Moderate: flooding wetness droughty
Ousley	Severe: flooding too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
Albany	Severe: flooding too sandy wetness	Severe: too sandy	Severe: too sandy wetness	Severe: too sandy	Severe: droughty
9:					
Otela	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Moderate: droughty
Chiefland	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
Kureb	Severe: too sandy too acid	Severe: too sandy too acid	Severe: too sandy too acid	Severe: too sandy	Severe: too acid droughty
10:					
Osier	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding wetness droughty
Elloree	Severe: flooding wetness	Severe: wetness	Severe: flooding wetness	Severe: wetness	Severe: flooding wetness

Table 7.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
11:					
Clara	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding wetness
Meadowbrook	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding wetness droughty
12:					
Clara	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: ponding
Oldtown	Severe: excess humus ponding	Severe: excess humus ponding	Severe: excess humus ponding	Severe: excess humus ponding	Severe: excess humus ponding
Meadowbrook	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: ponding
14:					
Rawhide	Severe: percs slowly ponding	Severe: percs slowly ponding	Severe: ponding	Severe: ponding	Severe: ponding
15:					
Leon	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding wetness
16:					
Penney	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
Wadley	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
17:					
Leon	Severe: too sandy wetness too acid	Severe: too sandy wetness too acid	Severe: too sandy wetness too acid	Severe: too sandy wetness	Severe: wetness too acid
Leon	Severe: excess humus ponding	Severe: excess humus ponding	Severe: excess humus ponding	Severe: excess humus ponding	Severe: excess humus ponding
18:					
Chaires	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness
Chaires	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: ponding droughty

Table 7.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
19:					
Wekiva	Severe: flooding too sandy wetness	Severe: too sandy wetness depth to rock	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness depth to rock
Shired	Severe: excess humus flooding ponding	Severe: excess humus ponding	Severe: excess humus ponding	Severe: excess humus ponding	Severe: excess humus ponding
Tooles	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness
20:					
Chaires	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness
Leon	Severe: too sandy wetness too acid	Severe: too sandy wetness too acid	Severe: too sandy wetness too acid	Severe: too sandy wetness	Severe: wetness too acid
21:					
Meadowbrook	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness droughty
22:					
Lutterloh	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
Moriah	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Moderate: wetness droughty
25:					
Meadowbrook	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness droughty
Meadowbrook	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: ponding
27:					
Steinhatchee	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness
Tennille	Severe: too sandy wetness depth to rock	Severe: too sandy wetness depth to rock	Severe: too sandy wetness depth to rock	Severe: too sandy wetness	Severe: wetness depth to rock
28:					
Tooles	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness

Table 7.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
28:					
Meadowbrook----------	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness droughty
29:					
Tooles---------------	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: ponding
30:					
Yellowjacket---------	Severe: excess humus ponding	Severe: excess humus ponding	Severe: excess humus ponding	Severe: excess humus ponding	Severe: excess humus ponding
31:					
Clara----------------	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: ponding
32:					
Bayvi----------------	Severe: flooding wetness	Severe: excess salt wetness	Severe: flooding wetness	Severe: wetness	Severe: excess salt wetness
34:					
Ortega---------------	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
Blanton--------------	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
36:					
Pits-----------------	Variable	Variable	Variable	Variable	Variable
38:					
Quartzipsamments-----	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
39:					
Resota---------------	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
41:					
Mandarin-------------	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Moderate: wetness droughty
Lutterloh------------	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
42:					
Tooles---------------	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness
Wekiva---------------	Severe: too sandy wetness	Severe: too sandy wetness depth to rock	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness depth to rock

Table 7.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
44:					
Bodiford	Severe: excess humus flooding ponding	Severe: excess humus ponding	Severe: excess humus flooding ponding	Severe: excess humus ponding	Severe: excess humus flooding ponding
Meadowbrook	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding wetness
47:					
Lutterloh	Severe: flooding too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
Moriah	Severe: flooding too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Moderate: flooding wetness droughty
Matmon	Severe: flooding too sandy wetness	Severe: too sandy depth to rock	Severe: too sandy wetness depth to rock	Severe: too sandy	Severe: depth to rock
48:					
Psammaquents	Severe: flooding too sandy wetness	Severe: excess salt too sandy wetness	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: excess salt wetness droughty
Rock outcrop	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Slight	Severe: depth to rock
49:					
Chaires	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness
Meadowbrook	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness droughty
50:					
Wulfert	Severe: excess humus flooding wetness	Severe: excess humus excess salt wetness	Severe: excess humus flooding wetness	Severe: excess humus wetness	Severe: excess salt wetness excess sulfur
51:					
Yellowjacket	Severe: excess humus flooding wetness	Severe: excess humus wetness	Severe: excess humus flooding wetness	Severe: excess humus wetness	Severe: excess humus flooding wetness
Maurepas	Severe: excess humus flooding ponding	Severe: excess humus ponding	Severe: excess humus flooding ponding	Severe: excess humus ponding	Severe: excess humus flooding ponding

Table 7.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
52:					
St. Augustine--------	Severe: excess salt flooding too sandy	Severe: excess salt too sandy	Severe: excess salt too sandy	Severe: too sandy	Severe: excess salt
54:					
Ridgewood------------	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
55:					
Tooles---------------	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding wetness
Nutall---------------	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding wetness
56:					
Ortega---------------	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
57:					
Clara----------------	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: flooding wetness
Oldtown--------------	Severe: excess humus flooding ponding	Severe: excess humus ponding	Severe: excess humus flooding ponding	Severe: excess humus ponding	Severe: excess humus flooding ponding
58:					
Talquin--------------	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness
Meadowbrook----------	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness droughty
59:					
Talquin--------------	Severe: flooding too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: too sandy wetness	Severe: wetness
60:					
Ridgewood------------	Severe: flooding too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
61:					
Mandarin-------------	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Moderate: too sandy wetness droughty

Table 7.--Recreational Development--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
62:					
Kureb	Severe: too sandy too acid	Severe: too sandy too acid	Severe: too sandy too acid	Severe: too sandy	Severe: too acid droughty
63:					
Wesconnett	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: ponding
Lynn Haven	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: ponding
64:					
Ousley	Severe: flooding too sandy	Severe: too sandy	Severe: too sandy	Severe: too sandy	Severe: droughty
Leon	Severe: too sandy wetness too acid	Severe: too sandy wetness too acid	Severe: too sandy wetness too acid	Severe: too sandy wetness	Severe: wetness too acid
Clara	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: too sandy ponding	Severe: ponding

Table 8.--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: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
2:										
Penney	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
4:										
Penney	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Otela	Poor	Fair	Good	Fair	Fair	Poor	Poor	Fair	Fair	Very poor
6:										
Albany	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor
Ridgewood	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor
7:										
Garcon	Poor	Fair	Good	Poor	Fair	Poor	Poor	Fair	Fair	Poor
Ousley	Poor	Fair	Good	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
Albany	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor
9:										
Otela	Poor	Fair	Good	Fair	Fair	Poor	Poor	Fair	Fair	Very poor
Chiefland	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Kureb	Very poor	Poor	Poor	Very poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor
10:										
Osier	Very poor	Poor	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair
Elloree	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
11:										
Clara	Very poor	Very poor	Poor	Fair	Poor	Fair	Fair	Very poor	Poor	Fair
Meadowbrook	Very poor	Very poor	Poor	Fair	Poor	Good	Fair	Very poor	Poor	Fair
12:										
Clara	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Fair	Very poor	Very poor	Fair
Oldtown	Very poor	Very poor	Fair	Poor	Poor	Good	Good	Very poor	Poor	Good
Meadowbrook	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Good	Very poor	Very poor	Good

Table 8.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
14:										
Rawhide	Very poor	Very poor	Very poor	Poor	Very poor	Good	Good	Very poor	Poor	Good
15:										
Leon	Poor	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair	Fair
16:										
Penney	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Wadley	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
17:										
Leon	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor
Leon	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Good	Very poor	Very poor	Good
18:										
Chaires	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor
Chaires	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Good	Very poor	Very poor	Good
19:										
Wekiva	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair
Shired	Very poor	Very poor	Very poor	Fair	Poor	Good	Good	Very poor	Poor	Good
Tooles	Poor	Poor	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair
20:										
Chaires	Poor	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair	Fair
Leon	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor
21:										
Meadowbrook	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
22:										
Lutterloh	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor
Moriah	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
25:										
Meadowbrook	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
Meadowbrook	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Good	Very poor	Very poor	Good
27:										
Steinhatchee	Poor	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair	Fair
Tennille	Poor	Poor	Poor	Poor	Fair	Fair	Poor	Poor	Fair	Poor

Table 8.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
28:										
Tooles	Poor	Fair	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair
Meadowbrook	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
29:										
Tooles	Very poor	Very poor	Very poor	Fair	Fair	Good	Good	Very poor	Fair	Good
30:										
Yellowjacket	Very poor	Very poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
31:										
Clara	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Fair	Very poor	Very poor	Fair
32:										
Bayvi	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Good	Very poor	Very poor	Fair
34:										
Ortega	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Blanton	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
36:										
Pits	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
38:										
Quartzipsamments.										
39:										
Resota	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
41:										
Mandarin	Very poor	Poor	Poor	Poor	Fair	Very poor	Very poor	Poor	Poor	Very poor
Lutterloh	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor
42:										
Tooles	Poor	Fair	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair
Wekiva	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair
44:										
Bodiford	Very poor	Very poor	Fair	Fair	Fair	Good	Good	Very poor	Fair	Good
Meadowbrook	Poor	Fair	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair
47:										
Lutterloh	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor

Table 8.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
47:										
Moriah	Poor	Fair	Good	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Matmon	Poor	Poor	Fair	Poor	Poor	Fair	Poor	Poor	Poor	Poor
48:										
Psammaquents	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Fair	Very poor	Very poor	Fair
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
49:										
Chaires	Poor	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair	Fair
Meadowbrook	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
50:										
Wulfert	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Fair	Very poor	Very poor	Fair
51:										
Yellowjacket	Very poor	Very poor	Poor	Poor	Poor	Good	Good	Very poor	Poor	Good
Maurepas	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Very poor	Very poor	Very poor	Fair
52:										
St. Augustine	Very poor	Very poor	Very poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Poor
54:										
Ridgewood	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor
55:										
Tooles	Very poor	Poor	Poor	Poor	Poor	Fair	Good	Very poor	Poor	Fair
Nutall	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair
56:										
Ortega	Poor	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
57:										
Clara	Very poor	Very poor	Poor	Fair	Poor	Fair	Fair	Very poor	Poor	Fair
Oldtown	Very poor	Very poor	Fair	Fair	Fair	Good	Good	Very poor	Fair	Good
58:										
Talquin	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor
Meadowbrook	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
59:										
Talquin	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor

Table 8.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
60:										
Ridgewood	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor
61:										
Mandarin	Very poor	Poor	Poor	Poor	Fair	Very poor	Very poor	Poor	Poor	Very poor
62:										
Kureb	Very poor	Poor	Poor	Very poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor
63:										
Wesconnett	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Good	Very poor	Very poor	Good
Lynn Haven	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Good	Very poor	Very poor	Good
64:										
Ousley	Poor	Fair	Good	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
Leon	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor
Clara	Very poor	Very poor	Very poor	Very poor	Very poor	Fair	Fair	Very poor	Very poor	Fair

Table 9.--Building Site Development

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable]

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
2:						
Penney	Severe: cutbanks cave	Slight	Slight	Slight	Slight	Severe: droughty
4:						
Penney	Severe: cutbanks cave	Slight	Slight	Slight	Slight	Severe: droughty
Otela	Severe: cutbanks cave	Slight	Moderate: wetness	Slight	Slight	Moderate: droughty
6:						
Albany	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Moderate: wetness	Severe: droughty
Ridgewood	Severe: wetness cutbanks cave	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: wetness	Severe: droughty
7:						
Garcon	Severe: wetness cutbanks cave	Severe: flooding	Severe: flooding wetness	Severe: flooding	Severe: flooding	Moderate: flooding wetness droughty
Ousley	Severe: wetness cutbanks cave	Severe: flooding	Severe: flooding wetness	Severe: flooding	Severe: flooding	Severe: droughty
Albany	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding	Severe: droughty
9:						
Otela	Severe: cutbanks cave	Slight	Moderate: wetness	Slight	Slight	Moderate: droughty
Chiefland	Severe: cutbanks cave	Slight	Moderate: depth to rock	Slight	Slight	Severe: droughty

Table 9.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
9:						
Kureb	Severe: cutbanks cave	Slight	Slight	Slight	Slight	Severe: too acid droughty
10:						
Osier	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness droughty
Elloree	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness
11:						
Clara	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness
Meadowbrook	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness droughty
12:						
Clara	Severe: ponding cutbanks cave	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding
Oldtown	Severe: ponding cutbanks cave	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: excess humus ponding
Meadowbrook	Severe: ponding cutbanks cave	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding
14:						
Rawhide	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding
15:						
Leon	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness

Table 9.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
16:						
Penney	Severe: cutbanks cave	Slight	Slight	Slight	Slight	Severe: droughty
Wadley	Severe: cutbanks cave	Slight	Slight	Slight	Slight	Severe: droughty
17:						
Leon	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness too acid
Leon	Severe: ponding cutbanks cave	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: excess humus ponding
18:						
Chaires	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
Chaires	Severe: ponding cutbanks cave	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding droughty
19:						
Wekiva	Severe: wetness depth to rock	Severe: flooding wetness depth to rock	Severe: flooding wetness depth to rock	Severe: flooding wetness depth to rock	Severe: flooding wetness depth to rock	Severe: wetness depth to rock
Shired	Severe: ponding cutbanks cave	Severe: flooding ponding	Severe: flooding ponding	Severe: flooding ponding	Severe: flooding ponding	Severe: excess humus ponding
Tooles	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: wetness
20:						
Chaires	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
Leon	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness too acid

Table 9.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
21:						
Meadowbrook	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness droughty
22:						
Lutterloh	Severe: wetness cutbanks cave	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: wetness	Severe: droughty
Moriah	Severe: wetness cutbanks cave	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: wetness	Moderate: wetness droughty
25:						
Meadowbrook	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: wetness droughty
Meadowbrook	Severe: ponding cutbanks cave	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding
27:						
Steinhatchee	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
Tennille	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock
28:						
Tooles	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
Meadowbrook	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock
29:						
Tooles	Severe: ponding cutbanks cave	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding

Table 9.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
30:						
Yellowjacket	Severe: ponding cutbanks cave	Severe: subsides ponding	Severe: subsides ponding	Severe: subsides ponding	Severe: subsides ponding	Severe: excess humus ponding
31:						
Clara	Severe: ponding cutbanks cave	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding
32:						
Bayvi	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: excess salt wetness
34:						
Ortega	Severe: cutbanks cave	Slight	Moderate: wetness	Slight	Slight	Severe: droughty
Blanton	Severe: cutbanks cave	Slight	Moderate: wetness	Slight	Slight	Severe: droughty
36:						
Pits	Variable	Variable	Variable	Variable	Variable	Variable
38:						
Quartzipsamments	Severe: wetness cutbanks cave	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: wetness	Severe: droughty
39:						
Resota	Severe: cutbanks cave	Slight	Moderate: wetness	Slight	Slight	Severe: droughty
41:						
Mandarin	Severe: wetness cutbanks cave	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: wetness	Moderate: wetness droughty
Lutterloh	Severe: wetness cutbanks cave	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: wetness	Severe: droughty

Table 9.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
42:						
Tooles	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
Wekiva	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock	Severe: wetness depth to rock
44:						
Bodiford	Severe: ponding cutbanks cave	Severe: flooding ponding	Severe: flooding ponding	Severe: flooding ponding	Severe: flooding ponding	Severe: excess humus flooding ponding
Meadowbrook	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness
47:						
Lutterloh	Severe: wetness cutbanks cave	Severe: flooding	Severe: flooding wetness	Severe: flooding	Severe: flooding	Severe: droughty
Moriah	Severe: wetness cutbanks cave	Severe: flooding	Severe: flooding wetness	Severe: flooding	Severe: flooding	Moderate: flooding wetness droughty
Matmon	Severe: wetness depth to rock	Severe: flooding wetness	Severe: flooding wetness depth to rock	Severe: flooding wetness	Severe: flooding	Severe: depth to rock
48:						
Psammaquents	Severe: wetness cutbanks cave depth to rock	Severe: flooding wetness	Severe: flooding wetness depth to rock	Severe: flooding wetness	Severe: flooding wetness	Severe: excess salt wetness droughty
Rock outcrop	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock
49:						
Chaires	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness

Table 9.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
49:						
Meadowbrook	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness droughty
50:						
Wulfert	Severe: excess humus wetness cutbanks cave	Severe: flooding wetness subsides	Severe: flooding wetness subsides	Severe: flooding wetness subsides	Severe: flooding wetness subsides	Severe: excess salt wetness excess sulfur
51:						
Yellowjacket	Severe: excess humus wetness cutbanks cave	Severe: flooding wetness subsides	Severe: flooding wetness subsides	Severe: flooding wetness subsides	Severe: flooding wetness subsides	Severe: excess humus flooding wetness
Maurepas	Severe: excess humus ponding	Severe: flooding low strength ponding	Severe: flooding low strength ponding	Severe: flooding low strength ponding	Severe: flooding ponding	Severe: excess humus flooding ponding
52:						
St. Augustine	Severe: excess humus wetness cutbanks cave	Severe: flooding	Severe: flooding low strength wetness	Severe: flooding	Moderate: flooding wetness	Severe: excess salt
54:						
Ridgewood	Severe: wetness cutbanks cave	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: wetness	Severe: droughty
55:						
Tooles	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness
Nutall	Severe: wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness
56:						
Ortega	Severe: cutbanks cave	Slight	Moderate: wetness	Slight	Slight	Severe: droughty

Table 9.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
57:						
Clara-------------------	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness
Oldtown-----------------	Severe: ponding cutbanks cave	Severe: flooding ponding	Severe: flooding ponding	Severe: flooding ponding	Severe: flooding ponding	Severe: excess humus flooding ponding
58:						
Talquin-----------------	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: wetness
Meadowbrook-------------	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: wetness droughty
59:						
Talquin-----------------	Severe: wetness cutbanks cave	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: wetness
60:						
Ridgewood---------------	Severe: wetness cutbanks cave	Severe: flooding	Severe: flooding wetness	Severe: flooding	Moderate: flooding wetness	Severe: droughty
61:						
Mandarin----------------	Severe: wetness cutbanks cave	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: wetness	Moderate: too sandy wetness droughty
62:						
Kureb-------------------	Severe: cutbanks cave	Slight	Slight	Slight	Slight	Severe: too acid droughty
63:						
Wesconnett--------------	Severe: ponding cutbanks cave	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding
Lynn Haven--------------	Severe: ponding cutbanks cave	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding

Table 9.--Building Site Development--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
64						
Ousley	Severe: wetness cutbanks cave	Severe: flooding	Severe: flooding wetness	Severe: flooding	Severe: flooding	Severe: droughty
Leon	Severe: wetness cutbanks cave	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness too acid
Clara	Severe: ponding cutbanks cave	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding

Table 10.--Sanitary Facilities

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable]

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
2:					
Penney	Slight	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: seepage too sandy
4:					
Penney	Slight	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: seepage too sandy
Otela	Moderate: percs slowly wetness depth to rock	Severe: seepage	Severe: too sandy wetness depth to rock	Severe: seepage	Poor: seepage too sandy
6:					
Albany	Severe: wetness	Severe: seepage wetness	Severe: too sandy wetness	Severe: seepage wetness	Poor: too sandy wetness
Ridgewood	Severe: wetness poor filter	Severe: seepage wetness	Severe: seepage too sandy wetness	Severe: seepage wetness	Poor: seepage too sandy
7:					
Garcon	Severe: flooding wetness poor filter	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: thin layer
Ousley	Severe: flooding wetness poor filter	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: seepage too sandy
Albany	Severe: flooding wetness	Severe: flooding seepage wetness	Severe: flooding too sandy wetness	Severe: flooding seepage wetness	Poor: too sandy wetness
9:					
Otela	Moderate: percs slowly wetness depth to rock	Severe: seepage	Severe: too sandy wetness depth to rock	Severe: seepage	Poor: seepage too sandy
Chiefland	Severe: poor filter depth to rock	Severe: seepage depth to rock	Severe: too sandy depth to rock	Severe: seepage depth to rock	Poor: seepage too sandy depth to rock
Kureb	Severe: poor filter	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: seepage too sandy

Table 10.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
10:					
Osier	Severe: flooding wetness poor filter	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
Elloree	Severe: flooding wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: wetness
11:					
Clara	Severe: flooding wetness poor filter	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
Meadowbrook	Severe: flooding percs slowly wetness	Severe: flooding seepage wetness	Severe: flooding too sandy wetness	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
12:					
Clara	Severe: ponding poor filter	Severe: seepage ponding	Severe: seepage too sandy ponding	Severe: seepage ponding	Poor: seepage too sandy ponding
Oldtown	Severe: ponding poor filter	Severe: excess humus seepage ponding	Severe: seepage too sandy ponding	Severe: seepage ponding	Poor: seepage too sandy ponding
Meadowbrook	Severe: percs slowly ponding	Severe: seepage ponding	Severe: too sandy ponding	Severe: seepage ponding	Poor: seepage too sandy ponding
14:					
Rawhide	Severe: percs slowly ponding	Severe: ponding	Severe: seepage ponding	Severe: ponding	Poor: ponding
15:					
Leon	Severe: flooding wetness poor filter	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
16:					
Penney	Slight	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: seepage too sandy
Wadley	Slight	Severe: seepage	Severe: too sandy	Severe: seepage	Poor: seepage too sandy
17:					
Leon	Severe: wetness poor filter	Severe: seepage wetness	Severe: too sandy wetness too acid	Severe: seepage wetness	Poor: seepage too sandy wetness

Table 10.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
17:					
Leon, depressional---	Severe: ponding	Severe: excess humus seepage ponding	Severe: seepage too sandy ponding	Severe: seepage ponding	Poor: seepage too sandy ponding
18:					
Chaires--------------	Severe: percs slowly wetness poor filter	Severe: seepage wetness	Severe: too sandy wetness	Severe: seepage wetness	Poor: seepage too sandy wetness
Chaires--------------	Severe: percs slowly ponding poor filter	Severe: seepage ponding	Severe: too sandy ponding	Severe: seepage ponding	Poor: seepage too sandy ponding
19:					
Wekiva---------------	Severe: flooding wetness depth to rock	Severe: flooding wetness depth to rock	Severe: flooding wetness depth to rock	Severe: flooding wetness depth to rock	Poor: wetness depth to rock
Shired---------------	Severe: flooding percs slowly ponding	Severe: excess humus flooding seepage	Severe: flooding ponding depth to rock	Severe: flooding seepage ponding	Poor: seepage too sandy ponding
Tooles---------------	Severe: flooding percs slowly wetness	Severe: flooding seepage wetness	Severe: flooding wetness depth to rock	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
20:					
Chaires--------------	Severe: percs slowly wetness	Severe: wetness	Severe: too sandy wetness depth to rock	Severe: wetness	Poor: seepage too sandy wetness
Leon-----------------	Severe: wetness poor filter	Severe: seepage wetness	Severe: too sandy wetness too acid	Severe: seepage wetness	Poor: seepage too sandy wetness
21:					
Meadowbrook----------	Severe: percs slowly wetness	Severe: seepage wetness	Severe: too sandy wetness	Severe: seepage wetness	Poor: seepage too sandy wetness
22:					
Lutterloh------------	Severe: wetness poor filter	Severe: seepage wetness	Severe: wetness depth to rock	Severe: seepage wetness	Poor: too sandy
Moriah---------------	Severe: wetness poor filter	Severe: seepage wetness	Severe: wetness depth to rock	Severe: seepage wetness	Poor: thin layer

Table 10.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
25:					
Meadowbrook	Severe: flooding percs slowly wetness	Severe: flooding seepage wetness	Severe: flooding too sandy wetness	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
Meadowbrook	Severe: percs slowly ponding	Severe: seepage ponding	Severe: too sandy ponding	Severe: seepage ponding	Poor: seepage too sandy ponding
27:					
Steinhatchee	Severe: percs slowly wetness	Severe: seepage wetness	Severe: too sandy wetness depth to rock	Severe: seepage wetness	Poor: seepage too sandy wetness
Tennille	Severe: wetness depth to rock	Severe: seepage wetness depth to rock	Severe: seepage wetness depth to rock	Severe: wetness depth to rock	Poor: seepage too sandy depth to rock
28:					
Tooles	Severe: percs slowly wetness poor filter	Severe: seepage wetness	Severe: too sandy wetness depth to rock	Severe: seepage wetness	Poor: seepage too sandy wetness
Meadowbrook	Severe: percs slowly ponding	Severe: seepage ponding	Severe: too sandy ponding	Severe: seepage ponding	Poor: seepage too sandy ponding
29:					
Tooles	Severe: percs slowly ponding	Severe: seepage ponding	Severe: ponding depth to rock	Severe: seepage ponding	Poor: seepage too sandy ponding
30:					
Yellowjacket	Severe: ponding poor filter	Severe: excess humus seepage ponding	Severe: seepage ponding depth to rock	Severe: seepage ponding	Poor: seepage too sandy ponding
31:					
Clara	Severe: ponding poor filter	Severe: seepage ponding	Severe: seepage too sandy ponding	Severe: seepage ponding	Poor: seepage too sandy ponding
32:					
Bayvi	Severe: flooding wetness	Severe: excess humus flooding seepage	Severe: flooding seepage depth to rock	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
34:					
Ortega	Moderate: wetness	Severe: seepage	Severe: seepage too sandy wetness	Severe: seepage	Poor: seepage too sandy

Table 10.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
34:					
Blanton	Moderate: wetness	Severe: seepage	Severe: too sandy	Severe: seepage	Poor: too sandy
36:					
Pits	Variable	Variable	Variable	Variable	Variable
38:					
Quartzipsamments	Severe: wetness, poor filter	Severe: seepage, wetness	Severe: seepage, too sandy, wetness	Severe: seepage, wetness	Poor: seepage, too sandy
39:					
Resota	Moderate: wetness	Severe: seepage	Severe: seepage, wetness	Severe: seepage	Poor: seepage, too sandy
41:					
Mandarin	Severe: wetness, poor filter	Severe: seepage, wetness	Severe: too sandy, wetness	Severe: seepage, wetness	Poor: seepage, too sandy
Lutterloh	Severe: wetness, poor filter	Severe: seepage, wetness	Severe: wetness, depth to rock	Severe: seepage, wetness	Poor: too sandy
42:					
Tooles	Severe: percs slowly, wetness, poor filter	Severe: seepage, wetness	Severe: too sandy, wetness, depth to rock	Severe: seepage, wetness	Poor: seepage, too sandy, wetness
Wekiva	Severe: wetness, depth to rock	Severe: wetness, depth to rock	Severe: wetness, depth to rock	Severe: wetness, depth to rock	Poor: wetness, depth to rock
44:					
Bodiford	Severe: flooding, percs slowly, ponding	Severe: excess humus, flooding, seepage	Severe: flooding, ponding, depth to rock	Severe: flooding, seepage, ponding	Poor: seepage, too sandy, ponding
Meadowbrook	Severe: flooding, wetness, poor filter	Severe: flooding, seepage, wetness	Severe: flooding, wetness, depth to rock	Severe: flooding, seepage, wetness	Poor: seepage, too sandy, wetness
47:					
Lutterloh	Severe: flooding, wetness, poor filter	Severe: flooding, seepage, wetness	Severe: flooding, wetness, depth to rock	Severe: flooding, seepage, wetness	Poor: too sandy
Moriah	Severe: flooding, wetness, poor filter	Severe: flooding, seepage, wetness	Severe: flooding, wetness, depth to rock	Severe: flooding, seepage, wetness	Poor: thin layer
Matmon	Severe: flooding, wetness, depth to rock	Severe: flooding, wetness, depth to rock	Severe: flooding, wetness, depth to rock	Severe: flooding, wetness, depth to rock	Poor: wetness, depth to rock

Table 10.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
48:					
Psammaquents	Severe: flooding wetness depth to rock	Severe: flooding seepage depth to rock	Severe: flooding seepage depth to rock	Severe: flooding seepage depth to rock	Poor: seepage too sandy depth to rock
Rock outcrop	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
49:					
Chaires	Severe: percs slowly wetness	Severe: wetness	Severe: too sandy wetness depth to rock	Severe: wetness	Poor: seepage too sandy wetness
Meadowbrook	Severe: percs slowly wetness	Severe: seepage wetness	Severe: too sandy wetness	Severe: seepage wetness	Poor: seepage too sandy wetness
50:					
Wulfert	Severe: flooding wetness poor filter	Severe: excess humus flooding seepage	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: excess humus excess salt wetness
51:					
Yellowjacket	Severe: flooding wetness poor filter	Severe: excess humus flooding seepage	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
Maurepas	Severe: flooding ponding poor filter	Severe: excess humus flooding seepage	Severe: flooding seepage ponding	Severe: flooding seepage ponding	Severe: flooding seepage ponding
52:					
St. Augustine	Severe: wetness poor filter	Severe: excess humus seepage wetness	Severe: seepage too sandy wetness	Severe: seepage wetness	Poor: seepage too sandy
54:					
Ridgewood	Severe: wetness poor filter	Severe: seepage wetness	Severe: seepage too sandy wetness	Severe: seepage wetness	Poor: seepage too sandy
55:					
Tooles	Severe: flooding percs slowly wetness	Severe: flooding seepage wetness	Severe: flooding wetness depth to rock	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
Nutall	Severe: flooding wetness depth to rock	Severe: flooding seepage depth to rock	Severe: flooding wetness depth to rock	Severe: flooding wetness depth to rock	Poor: wetness depth to rock
56:					
Ortega	Moderate: wetness	Severe: seepage	Severe: seepage too sandy wetness	Severe: seepage	Poor: seepage too sandy

Table 10.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
57:					
Clara----------------	Severe: flooding wetness poor filter	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
Oldtown--------------	Severe: flooding ponding poor filter	Severe: excess humus flooding seepage	Severe: flooding seepage ponding	Severe: flooding seepage ponding	Poor: seepage too sandy ponding
58:					
Talquin--------------	Severe: flooding wetness poor filter	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
Meadowbrook----------	Severe: flooding percs slowly wetness	Severe: flooding seepage wetness	Severe: flooding too sandy wetness	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
59:					
Talquin--------------	Severe: flooding wetness poor filter	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
60:					
Ridgewood------------	Severe: wetness poor filter	Severe: seepage wetness	Severe: seepage too sandy wetness	Severe: seepage wetness	Poor: seepage too sandy
61:					
Mandarin-------------	Severe: wetness poor filter	Severe: seepage wetness	Severe: too sandy wetness	Severe: seepage wetness	Poor: seepage too sandy
62:					
Kureb----------------	Severe: poor filter	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: seepage too sandy
63:					
Wesconnett-----------	Severe: ponding poor filter	Severe: seepage ponding	Severe: seepage too sandy ponding	Severe: seepage ponding	Poor: seepage too sandy ponding
Lynn Haven-----------	Severe: ponding poor filter	Severe: seepage ponding	Severe: seepage too sandy ponding	Severe: seepage ponding	Poor: seepage too sandy ponding

Table 10.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
64:					
Ousley	Severe: flooding wetness poor filter	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: seepage too sandy
Leon	Severe: wetness poor filter	Severe: seepage wetness	Severe: too sandy wetness too acid	Severe: seepage wetness	Poor: seepage too sandy wetness
Clara	Severe: ponding poor filter	Severe: seepage ponding	Severe: seepage too sandy ponding	Severe: seepage ponding	Poor: seepage too sandy ponding

Table 11.--Construction Materials

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable]

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
2:				
Penney	Good	Probable	Improbable: too sandy	Poor: too sandy
4:				
Penney	Good	Probable	Improbable: too sandy	Poor: too sandy
Otela	Good	Probable	Improbable: too sandy	Poor: too sandy
6:				
Albany	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
Ridgewood	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
7:				
Garcon	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
Ousley	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
Albany	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
9:				
Otela	Good	Probable	Improbable: too sandy	Poor: too sandy
Chiefland	Poor: depth to rock	Improbable: thin layer	Improbable: too sandy	Poor: too sandy
Kureb	Good	Probable	Improbable: too sandy	Poor: too sandy too acid
10:				
Osier	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
Elloree	Poor: wetness	Improbable: excess fines	Improbable: excess fines	Poor: too sandy wetness
11:				
Clara	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
Meadowbrook	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness

Table 11.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
12:				
Clara	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
Oldtown	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
Meadowbrook	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
14:				
Rawhide	Poor: wetness	Probable	Improbable: too sandy	Poor: wetness
15:				
Leon	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
16:				
Penney	Good	Probable	Improbable: too sandy	Poor: too sandy
Wadley	Good	Probable	Improbable: too sandy	Poor: too sandy
17:				
Leon	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness too acid
Leon	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
18:				
Chaires	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
Chaires	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
19:				
Wekiva	Poor: wetness depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: wetness depth to rock
Shired	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
Tooles	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness

Table 11.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
20:				
Chaires	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
Leon	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness too acid
21:				
Meadowbrook	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
22:				
Lutterloh	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
Moriah	Fair: thin layer wetness depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too sandy
25:				
Meadowbrook	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
Meadowbrook	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
27:				
Steinhatchee	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
Tennille	Poor: wetness depth to rock	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness depth to rock
28:				
Tooles	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
Meadowbrook	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
29:				
Tooles	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
30:				
Yellowjacket	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: excess humus wetness

Table 11.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
31:				
Clara	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
32:				
Bayvi	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: excess salt too sandy wetness
34:				
Ortega	Good	Probable	Improbable: too sandy	Poor: too sandy
Blanton	Good	Probable	Improbable: too sandy	Poor: too sandy
36:				
Pits	Variable	Variable	Variable	Variable
38:				
Quartzipsamments	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
39:				
Resota	Good	Probable	Improbable: too sandy	Poor: too sandy
41:				
Mandarin	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
Lutterloh	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
42:				
Tooles	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
Wekiva	Poor: wetness depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: wetness depth to rock
44:				
Bodiford	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
Meadowbrook	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
47:				
Lutterloh	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
Moriah	Fair: thin layer wetness depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too sandy

Table 11.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
47:				
Matmon	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock
48:				
Psammaquents	Poor: wetness, depth to rock	Improbable: thin layer	Improbable: too sandy	Poor: excess salt, too sandy, wetness
Rock outcrop	Poor: depth to rock	Improbable: depth to rock	Improbable: depth to rock	Poor: depth to rock
49:				
Chaires	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy, wetness
Meadowbrook	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy, wetness
50:				
Wulfert	Poor: wetness	Probable	Improbable: too sandy	Poor: excess humus, excess salt, wetness
51:				
Yellowjacket	Poor: wetness	Probable	Improbable: too sandy	Poor: excess humus, wetness
Maurepas	Poor: wetness	Improbable: excess fines	Improbable: excess fines	Poor: excess humus, wetness
52:				
St. Augustine	Fair: wetness	Probable	Improbable: too sandy	Poor: excess salt, too sandy
54:				
Ridgewood	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
55:				
Tooles	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy, wetness
Nutall	Poor: wetness, depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too sandy, wetness
56:				
Ortega	Good	Probable	Improbable: too sandy	Poor: too sandy
57:				
Clara	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy, wetness

Table 11.--Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
57:				
Oldtown	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
58:				
Talquin	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
Meadowbrook	Poor: wetness	Improbable: thin layer	Improbable: too sandy	Poor: too sandy wetness
59:				
Talquin	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
60:				
Ridgewood	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
61:				
Mandarin	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
62:				
Kureb	Good	Probable	Improbable: too sandy	Poor: too sandy too acid
63:				
Wesconnett	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
Lynn Haven	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness
64:				
Ousley	Fair: wetness	Probable	Improbable: too sandy	Poor: too sandy
Leon	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness too acid
Clara	Poor: wetness	Probable	Improbable: too sandy	Poor: too sandy wetness

Table 12.--Water Management

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable]

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
2:							
Penney	Severe: seepage	Severe: seepage piping	Severe: no water	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing	Limitation: droughty
4:							
Penney	Severe: seepage	Severe: seepage piping	Severe: no water	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing	Limitation: droughty
Otela	Severe: seepage	Severe: seepage piping	Severe: slow refill cutbanks cave	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing	Limitation: droughty
6:							
Albany	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Severe: slow refill cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
Ridgewood	Severe: seepage	Severe: seepage piping	Severe: cutbanks cave	Limitation: cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty
7:							
Garcon	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding	Limitation: wetness droughty	Limitation: wetness soil blowing	Limitation: droughty
Ousley	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty
Albany	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: flooding cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty

Table 12.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
9:							
Otela	Severe: seepage	Severe: seepage piping	Severe: slow refill cutbanks cave	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing	Limitation: droughty
Chiefland	Severe: seepage	Severe: seepage piping	Severe: no water	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing depth to rock	Limitation: depth to rock droughty
Kureb	Severe: seepage	Severe: seepage piping	Severe: no water	Limitation: deep to water	Limitation: fast intake droughty slope	Limitation: too sandy soil blowing	Limitation: depth to rock droughty rooting depth
10:							
Osier	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness	Limitation: wetness droughty
Elloree	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding	Limitation: fast intake wetness droughty	Limitation: wetness	Limitation: wetness droughty
11:							
Clara	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
Meadowbrook	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: flooding cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
12:							
Clara	Severe: seepage	Severe: seepage piping ponding	Severe: cutbanks cave	Limitation: ponding cutbanks cave	Limitation: fast intake ponding droughty	Limitation: too sandy ponding	Limitation: wetness droughty
Oldtown	Severe: seepage	Severe: seepage piping ponding	Severe: cutbanks cave	Limitation: subsides ponding cutbanks cave	Limitation: ponding	Limitation: too sandy ponding	Limitation: wetness

Table 12.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
12:							
Meadowbrook	Severe: seepage	Severe: seepage piping ponding	Severe: slow refill cutbanks cave	Limitation: ponding cutbanks cave	Limitation: fast intake ponding droughty	Limitation: too sandy ponding	Limitation: wetness droughty
14:							
Rawhide	Slight	Severe: ponding	Severe: slow refill cutbanks cave	Limitation: percs slowly ponding	Limitation: fast intake percs slowly ponding	Limitation: percs slowly ponding	Limitation: percs slowly wetness
15:							
Leon	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
16:							
Penney	Severe: seepage	Severe: seepage piping	Severe: no water	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing	Limitation: droughty
Wadley	Severe: seepage	Severe: seepage piping	Severe: no water	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing	Limitation: droughty
17:							
Leon	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: too acid cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
Leon	Severe: seepage	Severe: seepage piping ponding	Severe: cutbanks cave	Limitation: subsides ponding cutbanks cave	Limitation: ponding droughty	Limitation: too sandy ponding	Limitation: wetness droughty
18:							
Chaires	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty

Table 12.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
18:							
Chaires, depressional--	Severe: seepage	Severe: seepage piping ponding	Severe: slow refill cutbanks cave	Limitation: ponding cutbanks cave	Limitation: fast intake ponding droughty	Limitation: too sandy ponding	Limitation: wetness droughty
19:							
Wekiva----------------	Severe: depth to rock	Severe: piping wetness	Severe: slow refill depth to rock	Limitation: flooding depth to rock	Limitation: fast intake wetness droughty	Limitation: wetness soil blowing depth to rock	Limitation: wetness depth to rock droughty
Shired----------------	Severe: seepage	Severe: seepage piping ponding	Severe: slow refill cutbanks cave	Limitation: flooding ponding cutbanks cave	Limitation: flooding ponding droughty	Limitation: too sandy ponding	Limitation: wetness droughty
Tooles----------------	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: flooding percs slowly cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: percs slowly wetness droughty
20:							
Chaires---------------	Moderate: seepage depth to rock	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
Leon------------------	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: too acid cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
21:							
Meadowbrook-----------	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
22:							
Lutterloh-------------	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty

Table 12.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
22:							
Moriah	Severe: seepage	Severe: piping wetness	Severe: cutbanks cave	Favorable	Limitation: fast intake wetness droughty	Limitation: wetness soil blowing	Limitation: droughty
25:							
Meadowbrook	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: flooding cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
Meadowbrook	Severe: seepage	Severe: seepage piping ponding	Severe: slow refill cutbanks cave	Limitation: ponding cutbanks cave	Limitation: fast intake ponding droughty	Limitation: too sandy ponding	Limitation: wetness droughty
27:							
Steinhatchee	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
Tennille	Severe: depth to rock	Severe: seepage piping wetness	Severe: cutbanks cave depth to rock	Limitation: cutbanks cave depth to rock	Limitation: fast intake wetness droughty	Limitation: too sandy wetness depth to rock	Limitation: wetness depth to rock droughty
28:							
Tooles	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: percs slowly cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: percs slowly wetness droughty
Meadowbrook	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
29:							
Tooles	Severe: seepage	Severe: seepage piping ponding	Severe: slow refill cutbanks cave	Limitation: percs slowly ponding	Limitation: fast intake ponding droughty	Limitation: too sandy ponding	Limitation: percs slowly wetness droughty

Table 12.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
30: Yellowjacket	Severe: seepage	Severe: seepage piping ponding	Severe: cutbanks cave	Limitation: subsides ponding cutbanks cave	Limitation: ponding	Limitation: too sandy ponding	Limitation: wetness
31: Clara	Severe: seepage	Severe: seepage piping ponding	Severe: cutbanks cave	Limitation: ponding cutbanks cave	Limitation: fast intake ponding droughty	Limitation: too sandy ponding	Limitation: wetness droughty
32: Bayvi	Severe: seepage	Severe: seepage piping wetness	Severe: salty water cutbanks cave	Limitation: excess salt flooding cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness	Limitation: excess salt wetness droughty
34: Ortega	Severe: seepage	Severe: seepage piping	Severe: cutbanks cave	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing	Limitation: droughty
Blanton	Severe: seepage	Severe: seepage piping	Severe: no water	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing	Limitation: droughty
36: Pits	Variable	Variable	Variable	Variable	Variable	Variable	Variable
38: Quartzipsamments	Severe: seepage	Severe: seepage piping	Severe: cutbanks cave	Limitation: cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness	Limitation: droughty
39: Resota	Severe: seepage	Severe: seepage piping	Severe: cutbanks cave	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing	Limitation: droughty

Table 12.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
41:							
Mandarin	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty
Lutterloh	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty
42:							
Tooles	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: percs slowly cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: percs slowly wetness droughty
Wekiva	Severe: depth to rock	Severe: piping wetness	Severe: slow refill depth to rock	Limitation: depth to rock	Limitation: fast intake wetness droughty	Limitation: wetness soil blowing depth to rock	Limitation: wetness depth to rock droughty
44:							
Bodiford	Severe: seepage	Severe: seepage piping ponding	Severe: slow refill cutbanks cave	Limitation: flooding subsides ponding	Limitation: flooding ponding	Limitation: too sandy ponding	Limitation: wetness
Meadowbrook	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: flooding cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
47:							
Lutterloh	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty
Moriah	Severe: seepage	Severe: piping wetness	Severe: cutbanks cave	Limitation: flooding	Limitation: fast intake wetness droughty	Limitation: wetness soil blowing	Limitation: droughty

Table 12.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
47:							
Matmon	Severe: depth to rock	Severe: piping wetness	Severe: slow refill depth to rock	Limitation: flooding depth to rock	Limitation: fast intake wetness droughty	Limitation: wetness soil blowing depth to rock	Limitation: wetness depth to rock droughty
48:							
Psammaquents	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave depth to rock	Limitation: flooding cutbanks cave depth to rock	Limitation: fast intake wetness droughty	Limitation: too sandy wetness depth to rock	Limitation: excess salt wetness droughty
Rock outcrop	Severe: depth to rock	Slight	Severe: no water	Limitation: deep to water	Limitation: depth to rock	Limitation: depth to rock	Limitation: depth to rock
49:							
Chaires	Moderate: seepage depth to rock	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
Meadowbrook	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
50:							
Wulfert	Severe: seepage	Severe: excess humus excess salt wetness	Severe: salty water cutbanks cave	Limitation: excess salt flooding subsides	Limitation: flooding wetness soil blowing	Limitation: wetness soil blowing	Limitation: excess salt wetness
51:							
Yellowjacket	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding subsides cutbanks cave	Limitation: flooding wetness	Limitation: too sandy wetness	Limitation: wetness
Maurepas	Severe: seepage	Severe: excess humus ponding	Slight	Limitation: flooding subsides ponding	Limitation: flooding ponding	Limitation: ponding	Limitation: wetness

Table 12.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
52:							
St. Augustine----------	Severe: seepage	Severe: excess salt seepage piping	Severe: salty water cutbanks cave	Limitation: excess salt cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: excess salt droughty
54:							
Ridgewood--------------	Severe: seepage	Severe: seepage piping	Severe: cutbanks cave	Limitation: cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty
55:							
Tooles-----------------	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: flooding percs slowly cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: percs slowly wetness droughty
Nutall-----------------	Moderate: depth to rock	Severe: thin layer wetness	Severe: slow refill cutbanks cave depth to rock	Limitation: flooding percs slowly depth to rock	Limitation: fast intake wetness droughty	Limitation: wetness soil blowing depth to rock	Limitation: wetness depth to rock droughty
56:							
Ortega-----------------	Severe: seepage	Severe: seepage piping	Severe: cutbanks cave	Limitation: deep to water	Limitation: fast intake droughty	Limitation: too sandy soil blowing	Limitation: droughty
57:							
Clara------------------	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
Oldtown----------------	Severe: seepage	Severe: seepage piping ponding	Severe: cutbanks cave	Limitation: flooding subsides ponding	Limitation: flooding ponding	Limitation: too sandy ponding	Limitation: wetness
58:							
Talquin----------------	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty

Table 12.--Water Management--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
58:							
Meadowbrook------------	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: flooding cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
59:							
Talquin----------------	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
60:							
Ridgewood--------------	Severe: seepage	Severe: seepage piping	Severe: cutbanks cave	Limitation: cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty
61:							
Mandarin---------------	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: cutbanks cave	Limitation: fast intake wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty
62:							
Kureb------------------	Severe: seepage	Severe: seepage piping	Severe: no water	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: rooting depth droughty
63:							
Wesconnett-------------	Severe: seepage	Severe: seepage piping ponding	Severe: cutbanks cave	Limitation: ponding cutbanks cave	Limitation: fast intake ponding droughty	Limitation: too sandy ponding	Limitation: wetness droughty
Lynn Haven-------------	Severe: seepage	Severe: seepage piping ponding	Severe: cutbanks cave	Limitation: ponding cutbanks cave	Limitation: fast intake ponding	Limitation: too sandy ponding	Limitation: wetness

Table 12.--Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
64:							
Ousley	Severe: seepage	Severe: seepage piping wetness	Severe: cutbanks cave	Limitation: flooding cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: droughty
Leon	Severe: seepage	Severe: seepage piping wetness	Severe: slow refill cutbanks cave	Limitation: too acid cutbanks cave	Limitation: wetness droughty	Limitation: too sandy wetness soil blowing	Limitation: wetness droughty
Clara	Severe: seepage	Severe: seepage piping ponding	Severe: cutbanks cave	Limitation: ponding cutbanks cave	Limitation: fast intake ponding droughty	Limitation: too sandy ponding	Limitation: wetness droughty

Table 13.--Engineering Index Properties

[Absence of an entry indicates that the data were not estimated]

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
2:												
Penney----------	0-4	Fine sand	SP-SM, SP	A-3	0	0	100	95-100	75-100	2-8	0-14	NP
	4-62	Fine sand, sand	SP-SM, SP	A-3	0	0	100	95-100	75-100	2-8	0-14	NP
	62-80	Fine sand, sand	SP-SM	A-3, A-2-4	0	0	100	95-100	75-100	5-12	0-14	NP
4:												
Penney----------	0-4	Fine sand	SP-SM, SP	A-3	0	0	100	95-100	75-100	2-8	0-14	NP
	4-62	Fine sand, sand	SP-SM, SP	A-3	0	0	100	95-100	75-100	2-8	0-14	NP
	62-80	Fine sand, sand	SP-SM	A-3, A-2-4	0	0	100	95-100	75-100	5-12	0-14	NP
Otela-----------	0-53	Fine sand	SP-SM, SM	A-3, A-2-4	0	0	97-100	95-100	75-95	5-15	0-14	NP
	53-69	Sandy clay loam, sandy loam	SC, SC-SM, SM	A-2-6, A-6, A-2-4, A-4	0	0	97-100	95-100	75-95	20-50	0-40	NP-15
	69-79	Bedrock	---	---	---	---	---	---	---	---	---	---
6:												
Albany----------	0-49	Sand	SM, SP-SM	A-2	0	0	100	100	75-90	10-20	0-14	NP
	49-80	Sandy clay loam, sandy loam, fine sandy loam	SC, SC-SM, SM	A-2, A-4, A-6	0	0	97-100	95-100	70-100	20-50	0-40	NP-17
Ridgewood-------	0-6	Fine sand, sand	SP-SM	A-3, A-2-4	0	0	100	100	90-100	5-12	0-14	NP
	6-80	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	90-100	2-12	0-14	NP
7:												
Garcon----------	0-4	Fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	80-95	8-20	0-14	NP
	4-21	Fine sand, loamy fine sand, loamy sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	80-95	8-20	0-14	NP
	21-50	Sandy clay loam, fine sandy loam, sandy loam	SC-SM, SM	A-2-4	0	0	100	85-100	80-95	18-35	0-25	NP-7
	50-80	Loamy fine sand, fine sand, sand	SP, SP-SM	A-3	0	0	100	98-100	75-95	4-10	0-14	NP

Table 13.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
7:												
Ousley----------	0-4	Fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	70-100	5-25	0-14	NP
	4-80	Fine sand, sand, coarse sand	SP-SM, SP, SM	A-3, A-2, A-1	0	0	100	95-100	36-99	2-15	0-14	NP
Albany----------	0-57	Fine sand	SM, SP-SM	A-2	0	0	100	100	75-90	10-20	0-14	NP
	57-60	Sandy loam	SM	A-2	0	0	100	100	75-92	22-30	0-14	NP
	60-80	Sandy clay loam, sandy loam, fine sandy loam	SM, SC-SM, SC	A-2, A-4, A-6	0	0	97-100	95-100	70-100	20-50	0-40	NP-17
9:												
Otela-----------	0-53	Fine sand	SP-SM, SM	A-3, A-2-4	0	0	97-100	95-100	75-95	5-15	0-14	NP
	53-69	Sandy clay loam, sandy loam	SC, SC-SM, SM	A-2-6, A-6, A-2-4, A-4	0	0	97-100	95-100	75-95	20-50	0-40	NP-15
	69-79	Bedrock	---	---	---	---	---	---	---	---	---	---
Chiefland-------	0-5	Fine sand, sand	SP-SM, SM	A-3, A-2-4	---	0-4	96-100	96-100	80-95	5-15	0-14	NP
	5-26	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	80-95	5-15	0-14	NP
	26-35	Sandy clay loam, fine sandy loam, sandy loam	SC, SM	A-2-6, A-2-4	---	0-10	90-100	85-100	80-95	20-35	25-40	NP-15
	35-45	Bedrock	---	---	---	---	---	---	---	---	---	---
10:												
Osier-----------	0-3	Fine sand	SP-SM	A-3, A-2	0	0	100	98-100	60-85	5-12	0-14	NP
	3-80	Fine sand, sand, loamy sand, loamy fine sand	SP-SM, SM	A-3, A-2	0	0	100	95-100	65-96	5-20	0-14	NP

Table 13.--Engineering Index 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*	
10:												
Elloree---------	0-5	Loamy sand	SM	A-2	0	0	100	98-100	70-100	15-35	0-25	NP-4
	5-35	Sand, loamy sand, fine sand	SM, SP-SM	A-2, A-3	0	0	100	98-100	65-100	9-27	0-14	NP
	35-70	Sandy loam, fine sandy loam, sandy clay loam	SM, SC-SM, SC	A-2	0	0	100	98-100	60-100	15-35	0-30	NP-12
	70-80	Sandy loam, loamy sand, sandy clay loam	SM, SC-SM, SC	A-4, A-2, A-6	0	0	100	98-100	60-100	15-45	0-40	NP-18
11:												
Clara-----------	0-5	Sand, fine sand	SP, SP-SM	A-3	0	0	100	100	85-100	1-5	0-14	NP
	5-9	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	9-60	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	60-80	Sand, fine sand, loamy fine sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	85-100	2-16	0-14	NP
Meadowbrook-----	0-7	Fine sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	7-68	Fine sand, sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	68-80	Sandy clay loam, fine sandy loam, sandy loam	SC, SC-SM, SM	A-2-6, A-2-4	0	0	100	95-100	70-99	13-35	0-35	NP-20
12:												
Clara-----------	0-8	Sand, fine sand	SP, SP-SM	A-3	0	0	100	100	85-100	1-5	0-14	NP
	8-27	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	27-61	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	61-80	Sand, fine sand, loamy fine sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	85-100	2-16	0-14	NP
Oldtown---------	0-12	Muck	PT	A-8	---	---	100	100	100	100	0-14	---
	12-18	Sand, fine sand	SP, SP-SM	A-3	0	0	100	100	85-100	1-5	0-14	NP
	18-27	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	27-70	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	70-80	Sand, fine sand, loamy fine sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	85-100	2-16	0-14	NP

Table 13.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
12:												
Meadowbrook-----	0-6	Fine sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	70-100	4-15	0-14	NP
	6-68	Fine sand, sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	68-80	Sandy clay loam, fine sandy loam, sandy loam	SM	A-2-4	0	0	100	95-100	70-99	13-35	0-35	NP-10
14:												
Rawhide---------	0-5	Mucky loamy fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	85-100	5-20	0-14	NP
	5-45	Sandy clay loam, fine sandy loam, sandy loam	SC	A-2-6, A-2-4	0	0	100	100	85-100	20-45	23-38	7-15
	45-80	Sandy clay loam, loamy sand, fine sand	SC, SM, SP-SM	A-2-6, A-2-4	0	0	100	100	80-100	12-25	0-40	NP-10
15:												
Leon------------	0-3	Mucky fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	3-20	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	20-45	Fine sand, sand, loamy sand	SM, SP-SM, SP	A-2-4, A-3	0	0	100	100	80-100	3-20	0-14	NP
	45-80	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
16:												
Penney----------	0-2	Fine sand	SP-SM, SP	A-3	0	0	100	95-100	75-100	2-8	0-14	NP
	2-70	Fine sand, sand	SP-SM, SP	A-3	0	0	100	95-100	75-100	2-8	0-14	NP
	70-80	Fine sand, sand	SP-SM	A-3, A-2-4	0	0	100	95-100	75-100	5-12	0-14	NP
Wadley----------	0-72	Fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	75-100	8-25	0-14	NP
	72-80	Fine sandy loam, sandy loam, sandy clay loam	SM, SC-SM, SC	A-4, A-2, A-6	0	0	100	95-100	70-100	20-50	0-40	NP-17
17:												
Leon------------	0-7	Fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	7-20	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	20-40	Fine sand, sand, loamy sand	SM, SP-SM, SP	A-2-4, A-3	0	0	100	100	80-100	3-20	0-14	NP
	40-80	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	3-20	0-14	NP

Table 13.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
17:												
Leon------------	0-3	Mucky fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	3-18	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	18-80	Fine sand, sand, loamy fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0	100	100	80-100	3-20	0-14	NP
18:												
Chaires---------	0-15	Fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	15-47	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	47-80	Sandy clay loam, sandy clay	SC	A-6, A-2-6, A-2-7	0	0	100	100	85-100	25-50	25-50	10-30
Chaires---------	0-8	Muck	PT	A-8	---	---	100	100	100	100	0-14	---
	8-47	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	47-60	Loamy fine sand, fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	85-100	5-20	0-14	NP
	65-70	Fine sandy loam, sandy loam, sandy clay loam	SM, SC-SM, SC	A-2-4, A-2-6	0	0	100	100	85-100	20-35	0-40	NP-20
	70-80	Sandy clay loam, sandy clay	SC	A-6, A-2-6, A-2-7	0	0	100	100	85-100	25-50	25-50	10-30
19:												
Wekiva----------	0-6	Fine sand	SP-SM, SM	A-3, A-2-4	0-1	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-16	Fine sand, loamy fine sand	SP-SM, SM	A-3, A-2-4	0-1	0-3	98-100	98-100	98-100	6-18	0-14	NP
	16-25	Fine sandy loam, sandy clay loam	SM, SC-SM, SC	A-4, A-2-4, A-2-6, A-6	0-1	0-5	98-100	98-100	97-100	25-45	0-40	NP-24
	25-35	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Index 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*	
19:												
Shired----------	0-3	Muck	PT	A-8	---	---	100	100	100	100	0-14	---
	3-21	Sandy loam, mucky sandy loam, fine sandy loam	SM, SC-SM, SC	A-4, A-2-4	0	0	100	100	90-100	16-45	0-14	NP-10
	21-50	Loamy sand, sand, fine sand	SP-SM, SM, SP	A-3, A-2-4	0	0	100	100	75-100	2-16	0-14	NP
	50-56	Sandy clay loam, sandy loam	SC, SC-SM, SM	A-2-6, A-2-4	0	0	100	100	95-100	25-50	0-40	NP-20
	56-66	Bedrock	---	---	---	---	---	---	---	---	---	---
Tooles----------	0-4	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	4-37	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	37-45	Sandy clay loam, clay loam	SC, CL	A-6	0	0	100	100	85-95	36-55	25-30	11-15
	45-55	Bedrock	---	---	---	---	---	---	---	---	---	---
20:												
Chaires---------	0-7	Fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	7-22	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	22-48	Fine sand, loamy fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	85-100	5-20	0-14	NP
	48-68	Sandy clay loam, fine sandy loam, sandy loam	SC, SC-SM, SM	A-2-6, A-2-4	0	0	100	100	85-100	20-35	0-40	NP-20
	68-78	Bedrock	---	---	---	---	---	---	---	---	---	---
Leon------------	0-7	Fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	7-28	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	28-40	Fine sand, sand, loamy sand	SM, SP-SM, SP	A-2-4, A-3	0	0	100	100	80-100	3-20	0-14	NP
	40-80	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	3-20	0-14	NP

Table 13.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
21:												
Meadowbrook-----	0-4	Fine sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	4-55	Fine sand, sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	55-80	Sandy clay loam, fine sandy loam, sandy loam	SC, SC-SM, SM	A-2-6, A-2-4	0	0	100	95-100	70-99	13-35	0-35	NP-20
22:												
Lutterloh-------	0-50	Fine sand, sand	SP, SP-SM	A-3	0	0	100	100	85-100	2-5	0-14	NP
	50-70	Sandy clay loam, fine sandy loam, very fine sandy loam	SC, SC-SM, SM	A-6, A-2-6, A-4, A-2-4	0	0	100	100	85-100	25-40	0-35	NP-20
	70-80	Bedrock	---	---	---	---	---	---	---	---	---	---
Moriah----------	0-7	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	7-25	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	25-50	Sandy clay loam, fine sandy loam	SC, SC-SM, SM	A-2-6, A-2-4	0	0	100	100	90-100	20-35	0-30	NP-15
	50-60	Bedrock	---	---	---	---	---	---	---	---	---	---
25:												
Meadowbrook-----	0-6	Fine sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	6-42	Fine sand, sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	42-60	Loamy sand, sandy loam, fine sandy loam	SM, SC-SM	A-2-4	0	0	100	95-100	70-99	15-30	0-25	NP-7
	60-80	Sandy clay loam, fine sandy loam, sandy loam	SC, SC-SM, SM	A-2-6, A-2-4	0	0	100	95-100	70-99	13-35	0-35	NP-20
Meadowbrook-----	0-4	Fine sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	70-100	4-15	0-14	NP
	4-55	Fine sand, sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	55-80	Sandy clay loam, fine sandy loam, sandy loam	SM	A-2-4	0	0	100	95-100	70-99	13-35	0-35	NP-10

Table 13.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
27:												
Steinhatchee----	0-5	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	70-100	5-25	0-14	NP
	5-18	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	70-100	5-25	0-14	NP
	18-29	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	70-100	5-25	0-14	NP
	29-35	Sandy clay loam, fine sandy loam, sandy loam	SC, SC-SM, SM	A-6, A-2, A-4	0	0-1	99-100	98-100	60-100	30-50	0-40	NP-20
	35-45	Bedrock	---	---	---	---	---	---	---	---	---	---
Tennille--------	0-6	Fine sand	SP-SM, SM	A-3, A-2-4	0-1	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-14	Fine sand, loamy fine sand	SP-SM, SM	A-3, A-2-4	0-1	0-5	98-100	98-100	98-100	6-18	0-14	NP
	14-24	Bedrock	---	---	---	---	---	---	---	---	---	---
28:												
Tooles----------	0-8	Fine sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	8-35	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	35-46	Sandy clay loam, clay loam	SC, CL	A-6	0	0	100	100	85-95	36-55	25-30	11-15
	46-56	Bedrock	---	---	---	---	---	---	---	---	---	---
Meadowbrook-----	0-4	Fine sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	4-55	Fine sand, sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	55-80	Sandy clay loam, fine sandy loam, sandy loam	SC, SC-SM, SM	A-2-6, A-2-4	0	0	100	95-100	70-99	13-35	0-35	NP-20
29:												
Tooles----------	0-32	Fine sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	32-42	Sandy clay loam, clay loam	SC, CL	A-6	0	0	100	100	85-95	36-55	25-30	11-15
	42-52	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Index 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*	
30:												
Yellowjacket----	0-17	Muck	PT	A-8	0	0	100	100	100	100	0-14	NP
	17-25	Mucky fine sand, mucky sand, mucky loamy sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	95-100	2-16	0-14	NP
	25-48	Fine sand, sand, loamy sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	85-100	2-16	0-14	NP
	48-58	Bedrock	---	---	---	---	---	---	---	---	---	---
31:												
Clara-----------	0-9	Sand	SP, SP-SM	A-3	0	0	100	100	85-100	1-5	0-14	NP
	9-29	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	29-46	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	46-80	Sand, fine sand, loamy fine sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	85-100	2-16	0-14	NP
32:												
Bayvi-----------	0-6	Muck	PT	A-8	0	0	100	100	100	100	0-14	---
	6-40	Loamy sand, mucky loamy sand, sand	SM, SP-SM	A-3, A-2-4	0	0	100	100	80-100	5-20	0-14	NP
	40-64	Sand, fine sand, loamy sand	SM, SP-SM	A-2-4, A-3	0	0-1	100	100	80-100	5-20	0-14	NP
	64-74	Bedrock	---	---	---	---	---	---	---	---	---	---
34:												
Ortega----------	0-8	Fine sand	SP-SM, SP	A-3	0	0	100	100	90-100	3-8	0-14	NP
	8-80	Fine sand, sand	SP, SP-SM	A-3	0	0	100	100	90-100	2-7	0-14	NP
Blanton---------	0-54	Fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	90-100	65-100	5-20	0-14	NP
	54-80	Sandy clay loam, sandy loam, sandy clay	SC, SC-SM, SM	A-6, A-2-6, A-2-4, A-4	0	0	100	95-100	69-100	25-50	12-45	3-22
36:												
Pits------------	0-60	Variable	---	---	---	---	---	---	---	---	---	---
38:												
Quartzipsamments	0-80	Fine sand	SP-SM, SP	A-3	0	0	100	100	85-100	2-10	0-14	NP

Table 13.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
39:												
Resota----------	0-80	Sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	85-99	1-15	0-14	NP
41:												
Mandarin--------	0-20	Fine sand	SP-SM, SP	A-3	0	0	100	100	90-100	2-10	0-14	NP
	20-45	Fine sand, loamy fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	90-100	5-15	0-14	NP
	45-56	Fine sand, sand	SP, SP-SM	A-3	0	0	100	100	90-100	2-7	0-14	NP
	56-80	Fine sand, loamy fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	90-100	3-12	0-14	NP
Lutterloh-------	0-48	Fine sand, sand	SP, SP-SM	A-3	0	0	100	100	85-100	2-5	0-14	NP
	50-61	Sandy clay loam, fine sandy loam, very fine sandy loam	SC, SC-SM, SM	A-6, A-2-6, A-4, A-2-4	0	0	100	100	85-100	25-40	0-35	NP-20
	61-80	Bedrock	---	---	---	---	---	---	---	---	---	---
42:												
Tooles----------	0-32	Fine sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	32-41	Sandy clay loam, clay loam	SC, CL	A-6	0	0	100	100	85-95	36-55	25-30	11-15
	41-51	Bedrock	---	---	---	---	---	---	---	---	---	---
Wekiva----------	0-6	Fine sand	SP-SM, SM	A-3, A-2-4	0-1	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-15	Fine sand, loamy fine sand	SP-SM, SM	A-3, A-2-4	0-1	0-3	98-100	98-100	98-100	6-18	0-14	NP
	15-20	Fine sandy loam, sandy clay loam	SM, SC-SM, SC	A-4, A-2-4, A-2-6, A-6	0-1	0-5	98-100	98-100	97-100	25-45	0-40	NP-24
	20-30	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
44:												
Bodiford--------	0-11	Muck	PT	A-8	---	---	100	100	100	100	0-14	---
	11-15	Mucky loamy sand, mucky fine sand, mucky sand	SM, SP-SM	A-2	0	0	100	98-100	70-95	10-30	0-14	NP
	15-32	Sand, loamy sand, fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	98-100	70-95	5-30	0-14	NP
	32-48	Sandy loam, fine sandy loam, sandy clay loam	SM, SC-SM, SC	A-2-4, A-2-6, A-6	0	0	100	98-100	70-95	20-40	25-30	11-15
	48-58	Bedrock	---	---	---	---	---	---	---	---	---	---
Meadowbrook-----	0-4	Sand	SP-SM	A-3	0	0	100	100	95-100	5-10	0-14	NP
	4-58	Sand, fine sand	SP-SM, SP	A-3	0	0	100	100	95-100	3-8	0-14	NP
	58-65	Sandy loam, fine sandy loam, sandy clay loam	SM, SC-SM, SC	A-2, A-4, A-6	0	0	100	100	95-100	15-40	0-40	3-20
	65-75	Bedrock	---	---	---	---	---	---	---	---	---	---
47:												
Lutterloh-------	0-45	Fine sand, sand	SP, SP-SM	A-3	0	0	100	100	85-100	2-5	0-14	NP
	45-70	Sandy clay loam, fine sandy loam, very fine sandy loam	SC, SC-SM, SM	A-6, A-2-6, A-4, A-2-4	0	0	100	100	85-100	25-40	0-35	NP-20
	70-80	Bedrock	---	---	---	---	---	---	---	---	---	---
Moriah----------	0-6	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	6-33	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	33-48	Sandy clay loam, fine sandy loam	SC, SC-SM, SM	A-2-6, A-2-4	0	0	100	100	90-100	20-35	0-30	NP-15
	48-58	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 13.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				*Pct*	*Pct*					*Pct*	
47:												
Matmon----------	0-12	Fine sand	SP-SM, SM	A-3, A-2-4	0-3	0-5	99-100	99-100	98-100	5-18	0-14	NP
	12-19	Weathered bedrock			---	---	---	---	---	---	---	---
	19-29	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
48:												
Psammaquents----	0-35	Sand, loamy sand	SM, SP-SM	A-2-4, A-3	0	0-2	95-100	90-100	80-100	5-20	0-14	NP
	35-45	Bedrock	---	---	---	---	---	---	---	---	---	---
Rock Outcrop----	0-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
49:												
Chaires---------	0-6	Fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	6-26	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	26-58	Fine sand, loamy fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	85-100	5-20	0-14	NP
	58-68	Sandy clay loam, fine sandy loam, sandy loam	SC, SC-SM, SM	A-2-6, A-2-4	0	0	100	100	85-100	20-35	0-40	NP-20
	68-78	Bedrock	---	---	---	---	---	---	---	---	---	---
Meadowbrook-----	0-4	Fine sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	4-57	Fine sand, sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	57-80	Sandy clay loam, fine sandy loam, sandy loam	SC, SC-SM, SM	A-2-6, A-2-4	0	0	100	95-100	70-99	13-35	0-35	NP-20
50:												
Wulfert---------	0-30	Muck	PT	A-8	---	---	100	100	100	100	---	---
	30-80	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-100	5-18	0-14	NP

Table 13.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
51:												
Yellowjacket----	0-29	Muck	PT	A-8	0	0	100	100	100	100	0-14	NP
	29-32	Mucky fine sand, mucky sand, mucky loamy sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	95-100	2-16	0-14	NP
	32-48	Fine sand, sand, loamy sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	85-100	2-16	0-14	NP
Maurepas--------	0-80	Muck	PT	A-8	0	0	100	100	100	100	0-14	---
52:												
St. Augustine---	0-37	Sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-95	2-12	0-14	NP
	37-80	Muck	PT	A-8	0	0	---	---	---	---	---	---
54:												
Ridgewood-------	0-4	Fine sand, sand	SP-SM	A-3, A-2-4	0	0	100	100	90-100	5-12	0-14	NP
	4-80	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	90-100	2-12	0-14	NP
55:												
Tooles----------	0-4	Sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	4-25	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	25-41	Sandy clay loam, clay loam	SC, CL	A-6	0	0	100	100	85-95	36-55	25-30	11-15
	41-51	Bedrock	---	---	---	---	---	---	---	---	---	---
Nutall----------	0-18	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	85-95	5-15	0-14	NP
	18-37	Sandy clay loam, clay loam	SC	A-6, A-2-6	0	0	100	100	85-95	30-45	25-30	11-15
	37-47	Bedrock	---	---	---	---	---	---	---	---	---	---
56:												
Ortega----------	0-3	Fine sand	SP-SM, SP	A-3	0	0	100	100	90-100	3-8	0-14	NP
	3-80	Fine sand, sand	SP, SP-SM	A-3	0	0	100	100	90-100	2-7	0-14	NP
57:												
Clara-----------	0-5	Sand, fine sand	SP, SP-SM	A-3	0	0	100	100	85-100	1-5	0-14	NP
	5-35	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	35-60	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	60-80	Sand, fine sand, loamy fine sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	85-100	2-16	0-14	NP

Table 13.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				*Pct*	*Pct*					*Pct*	
57:												
Oldtown---------	0-8	Muck	PT	A-8	---	---	100	100	100	100	0-14	---
	8-14	Sand, fine sand	SP, SP-SM	A-3	0	0	100	100	85-100	1-5	0-14	NP
	14-20	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	20-60	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	60-80	Sand, fine sand, loamy fine sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	85-100	2-16	0-14	NP
58:												
Talquin---------	0-5	Fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	5-21	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	21-33	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	80-100	5-20	0-14	NP
	33-80	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
Meadowbrook-----	0-5	Fine sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	5-48	Fine sand, sand	SP-SM, SP	A-3	0	0	100	95-100	70-95	2-10	0-14	NP
	48-65	Loamy sand, sandy loam, fine sandy loam	SM, SC-SM	A-2-4	0	0	100	95-100	70-99	15-30	0-25	NP-7
	65-80	Sandy clay loam, fine sandy loam, sandy loam	SC, SC-SM, SM	A-2-6, A-2-4	0	0	100	95-100	70-99	13-35	0-35	NP-20
59:												
Talquin---------	0-4	Fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	4-26	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	26-37	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	80-100	5-20	0-14	NP
	37-80	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
60:												
Ridgewood-------	0-6	Fine sand, sand	SP-SM	A-3, A-2-4	0	0	100	100	90-100	5-12	0-14	NP
	6-80	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	90-100	2-12	0-14	NP
61:												
Mandarin--------	0-27	Fine sand	SP-SM, SP	A-3	0	0	100	100	90-100	2-10	0-14	NP
	27-45	Fine sand, loamy fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	90-100	5-15	0-14	NP
	45-80	Fine sand, sand	SP, SP-SM	A-3	0	0	100	100	90-100	2-7	0-14	NP
62:												
Kureb-----------	0-80	Fine sand	SP, SP-SM	A-3	0	0	100	100	60-100	0-7	10-14	NP

Table 13.--Engineering Index 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*	
63:												
Wesconnett------	0-14	Fine sand	SP-SM	A-3, A-2-4	0	0	100	100	80-100	5-12	0-14	NP
	14-28	Fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	80-100	5-15	0-14	NP
	28-61	Fine sand, sand	SP-SM	A-3, A-2-4	0	0	100	100	80-100	5-12	0-14	NP
	61-80	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	0	100	100	80-100	5-15	0-14	NP
Lynn Haven------	0-19	Mucky fine sand	SM, SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	4-15	0-14	NP
	19-27	Fine sand, sand	SP-SM, SP	A-3	0	0	100	100	80-100	2-10	0-14	NP
	27-70	Fine sand, loamy fine sand, sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	80-100	5-20	0-14	NP
64:												
Ousley----------	0-4	Fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	70-100	5-25	0-14	NP
	4-80	Fine sand, sand, coarse sand	SP-SM, SP, SM	A-3, A-2, A-1	0	0	100	95-100	36-99	2-15	0-14	NP
Leon------------	0-7	Fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	7-20	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	2-12	0-14	NP
	20-40	Fine sand, sand, loamy sand	SM, SP-SM, SP	A-2-4, A-3	0	0	100	100	80-100	3-20	0-14	NP
	40-80	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	80-100	3-20	0-14	NP
Clara-----------	0-9	Sand, fine sand	SP, SP-SM	A-3	0	0	100	100	85-100	1-5	0-14	NP
	9-29	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	29-46	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0	0	100	100	85-100	2-12	0-14	NP
	46-80	Sand, fine sand, loamy fine sand	SP-SM, SP, SM	A-3, A-2-4	0	0	100	100	85-100	2-16	0-14	NP

Table 14.--Physical Properties of the Soils

[Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*					
2:												
Penney--------------	0-4	0-3	1.30-1.55	6-20	0.04-0.08	0.0-2.9	0.0-2.0	.10	.10	5	2	134
	4-62	0-3	1.35-1.65	6-20	0.02-0.06	0.0-2.9	0.1-0.5	.10	.10			
	62-80	2-6	1.50-1.65	6-20	0.05-0.08	0.0-2.9	0.0-0.2	.10	.10			
4:												
Penney--------------	0-4	0-3	1.30-1.55	6-20	0.04-0.08	0.0-2.9	0.0-2.0	.10	.10	5	2	134
	4-62	0-3	1.35-1.65	6-20	0.02-0.06	0.0-2.9	0.1-0.5	.10	.10			
	62-80	2-6	1.50-1.65	6-20	0.05-0.08	0.0-2.9	0.0-0.2	.10	.10			
Otela---------------	0-53	2-5	1.45-1.65	6-20	0.05-0.10	0.0-2.9	0.5-2.0	.10	.10	5	1	180
	53-69	15-32	1.55-1.75	0.2-0.6	0.06-0.15	0.0-2.9	0.0-0.5	.24	.24			
	69-79	---	---	2-20	---	---	0.0-0.0	---	---			
6:												
Albany--------------	0-49	1-10	1.40-1.55	6-20	0.02-0.04	0.0-2.9	1.0-2.0	.10	.10	5	1	220
	49-80	13-35	1.55-1.65	0.2-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.24			
Ridgewood-----------	0-6	1-3	1.35-1.55	6-20	0.05-0.10	0.0-2.9	0.5-1.0	.10	.10	5	1	180
	6-80	0-5	1.35-1.65	6-20	0.03-0.08	0.0-2.9	0.1-0.5	.10	.10			
7:												
Garcon--------------	0-4	3-8	1.25-1.50	6-20	0.10-0.15	0.0-2.9	1.0-3.0	.10	.10	5	2	134
	4-21	3-8	1.40-1.65	6-20	0.05-0.10	0.0-2.9	0.1-0.5	.10	.10			
	21-50	12-30	1.55-1.70	0.6-2	0.10-0.15	0.0-2.9	0.2-0.8	.24	.24			
	50-80	3-6	1.50-1.70	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.10	.10			
Ousley--------------	0-4	1-3	1.35-1.45	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10	5	1	160
	4-80	1-2	1.45-1.60	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.15	.15			
Albany--------------	0-57	1-10	1.40-1.55	6-20	0.02-0.04	0.0-2.9	1.0-2.0	.10	.10	5	1	220
	57-60	1-20	1.50-1.70	2-6	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
	60-80	13-35	1.55-1.65	0.2-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.24			
9:												
Otela---------------	0-53	2-5	1.45-1.65	6-20	0.05-0.10	0.0-2.9	0.5-2.0	.10	.10	5	1	180
	53-69	15-32	1.55-1.75	0.2-0.6	0.06-0.15	0.0-2.9	0.0-0.5	.24	.24			
	69-79	---	---	2-20	---	---	0.0-0.0	---	---			
Chiefland-----------	0-5	1-5	1.35-1.50	6-20	0.02-0.05	0.0-2.9	0.5-2.0	.10	.10	4	2	134
	5-26	1-3	1.45-1.55	6-20	0.02-0.05	0.0-2.9	0.1-0.5	.10	.10			
	26-35	15-35	1.60-1.70	0.6-2	0.07-0.12	0.0-2.9	0.2-0.8	.20	.24			
	35-45	---	---	2-20	---	---	0.0-0.0	---	---			

Table 14.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
9:												
Kureb---------------	0-80	0-3	1.60-1.80	6-20	0.00-0.05	0.0-2.9	0.0-2.0	.10	.10	5	1	220
10:												
Osier---------------	0-3	1-10	1.35-1.60	6-20	0.03-0.10	0.0-2.9	2.0-5.0	.10	.10	5	2	134
	3-80	1-10	1.40-1.60	6-20	0.03-0.10	0.0-2.9	0.2-0.8	.10	.10			
Elloree-------------	0-5	2-8	1.40-1.60	6-20	0.06-0.11	0.0-2.9	2.0-8.0	.15	.15	5	2	134
	5-35	1-6	1.50-1.70	6-20	0.02-0.10	0.0-2.9	0.5-2.0	.10	.10			
	35-70	9-25	1.30-1.60	2-6	0.10-0.15	0.0-2.9	0.5-2.0	.15	.15			
	70-80	5-25	1.30-1.50	2-6	0.10-0.17	0.0-2.9	0.5-2.0	.17	.17			
11:												
Clara---------------	0-5	0-4	1.40-1.55	6-20	0.05-0.10	0.0-2.9	1.0-8.0	.10	.10	5	1	180
	5-9	1-3	1.40-1.55	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
	9-60	1-6	1.40-1.65	6-20	0.10-0.15	0.0-2.9	0.0-0.5	.10	.10			
	60-80	1-12	1.50-1.70	6-20	0.05-0.15	0.0-2.9	0.0-0.5	.10	.10			
Meadowbrook---------	0-7	0-3	1.35-1.65	6-20	0.05-0.10	0.0-2.9	1.0-3.0	.10	.10	5	2	134
	7-68	1-6	1.35-1.65	6-20	0.03-0.08	0.0-2.9	0.2-0.8	.10	.10			
	68-80	11-22	1.50-1.80	0.2-2	0.10-0.15	0.0-2.9	0.2-0.8	.15	.15			
12:												
Clara---------------	0-8	0-4	1.40-1.55	6-20	0.05-0.10	0.0-2.9	1.0-8.0	.10	.10	5	8	0
	8-27	1-3	1.40-1.55	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
	27-61	1-6	1.40-1.65	6-20	0.10-0.15	0.0-2.9	0.0-0.5	.10	.10			
	61-80	1-12	1.50-1.70	6-20	0.05-0.15	0.0-2.9	0.0-0.5	.10	.10			
Oldtown-------------	0-12	---	0.15-0.65	6-20	0.25-0.40	0.0-2.9	60-90	.10	.10	5	8	0
	12-18	0-4	1.40-1.55	6-20	0.05-0.10	0.0-2.9	2.0-5.0	.10	---			
	18-27	1-3	1.40-1.55	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	---			
	27-70	1-6	1.40-1.65	6-20	0.10-0.15	0.0-2.9	0.0-0.5	.10	---			
	70-80	1-12	1.50-1.70	6-20	0.05-0.15	0.0-2.9	0.0-0.5	.10	---			
Meadowbrook---------	0-6	2-5	1.10-1.35	6-20	0.15-0.20	0.0-2.9	2.0-8.0	.10	.10	5	8	0
	6-68	1-6	1.35-1.65	6-20	0.03-0.08	0.0-2.9	0.0-0.5	.10	.10			
	68-80	11-32	1.50-1.65	0.2-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
14:												
Rawhide-------------	0-5	2-8	1.10-1.35	6-20	0.15-0.25	0.0-2.9	10-20	.10	.10	5	8	0
	5-45	18-35	1.40-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.2-1.0	.20	---			
	45-80	3-30	1.45-1.70	2-6	0.05-0.15	0.0-2.9	0.1-0.5	.15	---			

Table 14.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*					
15:												
Leon----------------	0-3	1-6	1.10-1.30	6-20	0.15-0.20	0.0-2.9	10-20	.10	.10	5	1	180
	3-20	0-3	1.30-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
	20-45	2-8	1.35-1.70	0.6-6	0.15-0.30	0.0-2.9	1.0-4.0	.15	.15			
	45-80	1-4	1.50-1.65	0.6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
16:												
Penney--------------	0-2	0-3	1.30-1.55	6-20	0.04-0.08	0.0-2.9	0.0-2.0	.10	.10	5	2	134
	2-70	0-3	1.35-1.65	6-20	0.02-0.06	0.0-2.9	0.1-0.5	.10	.10			
	70-80	2-6	1.50-1.65	6-20	0.05-0.08	0.0-2.9	0.0-0.2	.10	.10			
Wadley--------------	0-72	1-5	1.35-1.65	6-20	0.02-0.06	0.0-2.9	0.5-1.0	.10	.10	5	1	180
	72-80	13-35	1.55-1.65	0.6-2	0.10-0.13	0.0-2.9	0.0-0.5	.20	.20			
17:												
Leon----------------	0-7	1-5	1.30-1.45	6-20	0.05-0.15	0.0-2.9	0.5-4.0	.10	.10	5	1	180
	7-20	0-3	1.40-1.60	6-20	0.02-0.05	0.0-2.9	0.0-0.5	.10	.10			
	20-40	2-8	1.25-1.65	0.6-6	0.15-0.30	0.0-2.9	2.0-4.0	.15	.15			
	40-80	2-8	1.25-1.65	0.2-2	0.15-0.30	0.0-2.9	0.2-1.0	.15	.15			
Leon----------------	0-3	1-6	1.10-1.30	6-20	0.15-0.20	0.0-2.9	10-20	.10	.10	5	8	0
	3-18	0-3	1.40-1.65	6-20	0.02-0.05	0.0-2.9	0.0-0.5	.10	.10			
	18-80	2-8	1.50-1.70	0.6-6	0.05-0.10	0.0-2.9	1.0-4.0	.15	.15			
18:												
Chaires-------------	0-15	1-3	1.10-1.45	6-20	0.05-0.15	0.0-2.9	2.0-6.0	.10	.10	5	1	180
	15-47	0-3	1.45-1.55	6-20	0.02-0.05	0.0-2.9	0.0-1.0	.10	.10			
	47-80	20-40	1.25-1.70	0.06-0.2	0.12-0.20	3.0-5.9	0.0-0.5	.32	---			
Chaires-------------	0-8	---	0.40-0.65	6-20	0.25-0.40	0.0-2.9	30-60	.10	.10	5	8	0
	8-47	0-3	1.45-1.55	6-20	0.02-0.05	0.0-2.9	0.0-1.0	.10	.10			
	47-60	2-13	1.45-1.60	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.20	.20			
	65-70	15-35	1.60-1.70	0.2-0.6	0.10-0.15	0.0-2.9	0.1-0.5	.37	.37			
	70-80	20-40	1.25-1.70	0.06-0.2	0.12-0.20	3.0-5.9	0.1-0.5	.32	---			
19:												
Wekiva--------------	0-6	2-6	1.30-1.50	6-20	0.05-0.15	0.0-2.9	2.0-5.0	.10	.10	2	2	134
	6-16	1-6	1.45-1.60	6-20	0.05-0.10	0.0-2.9	0.0-1.0	.10	.10			
	16-25	12-35	1.45-1.65	0.2-0.6	0.10-0.15	0.0-2.9	0.0-1.0	.15	.15			
	25-35	---	---	2-20	---	---	0.0-0.0	---	---			
Shired--------------	0-3	---	0.40-0.65	6-20	0.25-0.40	0.0-2.9	25-60	.10	.10	4	8	0
	3-21	8-20	1.40-1.60	0.2-0.6	0.10-0.20	0.0-2.9	9.0-20	.15	---			
	21-50	1-12	1.50-1.70	6-20	0.05-0.15	0.0-2.9	0.0-0.5	.10	---			
	50-56	12-35	1.60-1.70	0.2-0.6	0.10-0.20	0.0-2.9	0.1-0.5	.15	---			
	56-66	---	---	2-20	---	---	0.0-0.0	---	---			

Table 14.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
19:												
Tooles--------------	0-4	2-5	1.15-1.35	6-20	0.05-0.10	0.0-2.9	1.0-4.0	.10	.10	4	1	180
	4-37	2-5	1.35-1.60	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
	37-45	20-35	1.40-1.70	0.06-0.2	0.15-0.20	3.0-5.9	0.1-0.5	.28	---			
	45-55	---	---	2-20	---	---	0.0-0.0	---	---			
20:												
Chaires-------------	0-7	1-3	1.10-1.45	6-20	0.05-0.15	0.0-2.9	2.0-6.0	.10	.10	5	1	180
	7-22	0-3	1.45-1.55	6-20	0.02-0.05	0.0-2.9	0.0-1.0	.10	.10			
	22-48	2-13	1.45-1.60	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.20	.24			
	48-68	15-35	1.60-1.70	0.2-0.6	0.10-0.20	0.0-2.9	0.0-0.5	.24	---			
	68-78	---	---	2-20	---	---	0.0-0.0	---	---			
Leon----------------	0-7	1-5	1.30-1.45	6-20	0.05-0.15	0.0-2.9	0.5-4.0	.10	.10	5	1	180
	7-28	0-3	1.40-1.60	6-20	0.02-0.05	0.0-2.9	0.0-0.5	.10	.10			
	28-40	2-8	1.25-1.65	0.6-6	0.15-0.30	0.0-2.9	2.0-4.0	.15	.15			
	40-80	2-8	1.25-1.65	0.2-2	0.15-0.30	0.0-2.9	0.2-1.0	.15	.15			
21:												
Meadowbrook---------	0-4	0-3	1.35-1.65	6-20	0.05-0.10	0.0-2.9	1.0-3.0	.10	.10	5	2	134
	4-55	1-6	1.35-1.65	6-20	0.03-0.08	0.0-2.9	0.2-0.8	.10	.10			
	55-80	11-22	1.50-1.80	0.2-2	0.10-0.15	0.0-2.9	0.2-0.8	.15	.15			
22:												
Lutterloh-----------	0-50	0-5	1.45-1.55	6-20	0.02-0.05	0.0-2.9	0.5-3.0	.10	.10	5	1	180
	50-70	15-30	1.60-1.70	0.6-2	0.10-0.15	0.0-2.9	0.5-1.0	.24	---			
	70-80	---	---	2-20	---	---	0.0-0.0	---	---			
Moriah--------------	0-7	1-5	1.35-1.50	6-20	0.05-0.10	0.0-2.9	0.5-2.0	.10	.10	4	1	180
	7-25	1-3	1.45-1.55	6-20	0.02-0.05	0.0-2.9	0.0-0.5	.10	.10			
	25-50	15-35	1.60-1.70	0.6-2	0.10-0.15	0.0-2.9	0.1-0.5	.20	.20			
	50-60	---	---	2-20	---	---	0.0-0.0	---	---			
25:												
Meadowbrook---------	0-6	0-3	1.35-1.65	6-20	0.05-0.10	0.0-2.9	1.0-3.0	.10	.10	5	2	134
	6-42	1-6	1.35-1.65	6-20	0.03-0.08	0.0-2.9	0.2-0.8	.10	.10			
	42-60	9-20	1.50-1.80	0.2-2	0.10-0.15	0.0-2.9	0.1-0.5	.15	.15			
	60-80	11-22	1.50-1.80	0.2-2	0.10-0.15	0.0-2.9	0.2-0.8	.15	.15			
Meadowbrook---------	0-4	2-5	1.10-1.35	6-20	0.15-0.20	0.0-2.9	2.0-8.0	.10	.10	5	8	0
	4-55	1-6	1.35-1.65	6-20	0.03-0.08	0.0-2.9	0.0-0.5	.10	.10			
	55-80	11-32	1.50-1.65	0.2-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			

Table 14.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*					
27:												
Steinhatchee--------	0-5	0-3	1.35-1.45	6-20	0.05-0.15	0.0-2.9	2.0-5.0	.10	.10	3	1	180
	5-18	0-3	1.35-1.45	6-20	0.02-0.05	0.0-2.9	0.0-0.5	.10	.10			
	18-29	1-8	1.45-1.60	2-6	0.10-0.20	0.0-2.9	0.5-4.0	.15	.15			
	29-35	15-35	1.60-1.70	0.2-0.6	0.10-0.20	0.0-2.9	0.0-0.5	.24	.24			
	35-45	---	---	2-20	---	---	0.0-0.0	---	---			
Tennille------------	0-6	2-9	1.30-1.50	6-20	0.05-0.15	0.0-2.9	1.0-3.0	.10	.10	1	2	134
	6-14	1-9	1.45-1.60	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	---			
	14-24	---	---	2-20	---	---	0.0-0.0	---	---			
28:												
Tooles--------------	0-8	2-5	1.15-1.35	6-20	0.05-0.10	0.0-2.9	1.0-4.0	.10	.10	4	1	180
	8-35	2-5	1.35-1.60	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
	35-46	20-35	1.40-1.70	0.06-0.2	0.15-0.20	3.0-5.9	0.0-0.5	.28	---			
	46-56	---	---	2-20	---	---	0.0-0.0	---	---			
Meadowbrook---------	0-4	0-3	1.35-1.65	6-20	0.05-0.10	0.0-2.9	1.0-3.0	.10	.10	5	2	134
	4-55	1-6	1.35-1.65	6-20	0.03-0.08	0.0-2.9	0.2-0.8	.10	.10			
	55-80	11-22	1.50-1.80	0.2-2	0.10-0.15	0.0-2.9	0.2-0.8	.15	.15			
29:												
Tooles--------------	0-32	2-5	1.15-1.35	6-20	0.05-0.10	0.0-2.9	1.0-4.0	.10	.10	4	8	0
	32-42	20-35	1.40-1.70	0.06-0.2	0.15-0.20	3.0-5.9	0.0-0.5	.28	---			
	42-52	---	---	2-20	---	---	0.0-0.0	---	---			
30:												
Yellowjacket--------	0-17	---	0.15-0.70	6-20	0.35-0.45	0.0-2.9	25-65	---	---	2	8	0
	17-25	1-12	1.15-1.30	6-20	0.20-0.25	0.0-2.9	9.0-20	.10	---			
	25-48	1-12	1.40-1.55	6-20	0.05-0.15	0.0-2.9	0.2-2.0	.10	---			
	48-58	---	---	2-20	---	---	0.0-0.0	---	---			
31:												
Clara---------------	0-9	0-4	1.40-1.55	6-20	0.05-0.10	0.0-2.9	1.0-8.0	.10	.10	5	8	0
	9-29	1-3	1.40-1.55	6-20	0.05-0.10	0.0-2.9	0.1-0.5	.10	.10			
	29-46	1-6	1.40-1.65	6-20	0.10-0.15	0.0-2.9	0.0-0.5	.10	.10			
	46-80	1-12	1.50-1.70	6-20	0.05-0.15	0.0-2.9	0.0-0.5	.10	.10			
32:												
Bayvi---------------	0-6	0-0	0.20-0.40	2-6	0.24-0.30	0.0-2.9	20-60	---	---	3	8	0
	6-40	3-9	1.20-1.55	2-6	0.02-0.05	0.0-2.9	2.0-10	.10	.10			
	40-64	3-9	1.50-1.60	6-20	0.02-0.05	0.0-2.9	1.0-5.0	.10	.10			
	64-74	---	---	2-20	---	---	0.0-0.0	---	---			

Table 14.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
34:												
Ortega--------------	0-8	1-3	1.20-1.45	6-20	0.05-0.08	0.0-2.9	1.0-2.0	.10	.10	5	2	134
	8-80	1-3	1.35-1.60	6-20	0.03-0.06	0.0-2.9	0.1-0.5	.10	.10			
Blanton-------------	0-54	1-7	1.30-1.60	6-20	0.03-0.07	0.0-2.9	0.5-1.0	.10	.10	5	1	180
	54-80	12-40	1.60-1.70	0.2-2	0.10-0.15	0.0-2.9	0.0-0.5	.20	.20			
36:												
Pits----------------	0-60	---	---	---	---	---	---	---	---	---	---	---
38:												
Quartzipsamments----	0-80	1-3	1.50-1.65	6-20	0.03-0.05	0.0-2.9	0.0-0.5	.10	.10	5	2	134
39:												
Resota--------------	0-80	0-3	1.30-1.60	20-20	0.02-0.05	0.0-2.9	0.5-1.0	.10	.10	5	1	310
41:												
Mandarin------------	0-20	0-3	1.35-1.45	6-20	0.03-0.07	0.0-2.9	0.5-3.0	.10	.10	5	2	134
	20-45	2-9	1.45-1.60	0.6-2	0.10-0.15	0.0-2.9	---	.15	.15			
	45-56	0-3	1.35-1.45	6-20	0.03-0.07	0.0-2.9	---	.10	.10			
	56-80	2-9	1.45-1.60	0.6-2	0.10-0.15	0.0-2.9	---	.15	.15			
Lutterloh-----------	0-48	0-5	1.45-1.55	6-20	0.02-0.05	0.0-2.9	0.5-3.0	.10	.10	5	1	180
	50-61	15-30	1.60-1.70	0.6-2	0.10-0.15	0.0-2.9	0.5-1.0	.24	---			
	61-80	---	---	2-20	---	---	0.0-0.0	---	---			
42:												
Tooles--------------	0-32	2-5	1.15-1.35	6-20	0.05-0.10	0.0-2.9	1.0-4.0	.10	.10	4	1	180
	32-41	20-35	1.40-1.70	0.06-0.2	0.15-0.20	3.0-5.9	0.0-0.5	.28	---			
	41-51	---	---	2-20	---	---	0.0-0.0	---	---			
Wekiva--------------	0-6	2-6	1.30-1.50	6-20	0.05-0.15	0.0-2.9	2.0-5.0	.10	.10	2	2	134
	6-15	1-6	1.45-1.60	6-20	0.05-0.10	0.0-2.9	0.0-1.0	.10	.10			
	15-20	12-35	1.45-1.65	0.2-0.6	0.10-0.15	0.0-2.9	0.0-1.0	.15	.15			
	20-30	---	---	2-20	---	---	0.0-0.0	---	---			
44:												
Bodiford------------	0-11	---	0.40-0.65	6-20	0.25-0.40	0.0-2.9	30-60	.10	.10	4	8	0
	11-15	1-12	0.80-1.30	2-20	0.05-0.15	0.0-2.9	9.0-20	.10	---			
	15-32	3-12	1.20-1.50	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	---			
	32-48	15-35	1.40-1.70	0.2-0.6	0.10-0.20	0.0-2.9	0.0-0.5	.24	---			
	48-58	---	---	2-20	---	---	0.0-0.0	---	---			
Meadowbrook---------	0-4	2-5	1.30-1.50	6-20	0.05-0.15	0.0-2.9	1.0-4.0	.10	.10	5	1	180
	4-58	1-5	1.45-1.60	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
	58-65	18-35	1.50-1.65	0.2-2	0.10-0.15	3.0-5.9	0.0-0.5	.17	.17			
	65-75	---	---	2-20	---	---	0.0-0.0	---	---			

Table 14.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*					
47:												
Lutterloh-----------	0-45	0-5	1.45-1.55	6-20	0.02-0.05	0.0-2.9	0.5-3.0	.10	.10	5	1	180
	45-70	15-30	1.60-1.70	0.6-2	0.10-0.15	0.0-2.9	0.5-1.0	.24	---			
	70-80	---	---	2-20	---	---	0.0-0.0	---	---			
Moriah--------------	0-6	1-5	1.35-1.50	6-20	0.05-0.10	0.0-2.9	0.5-2.0	.10	.10	4	1	180
	6-33	1-3	1.45-1.55	6-20	0.02-0.05	0.0-2.9	0.0-0.5	.10	.10			
	33-48	15-35	1.60-1.70	0.6-2	0.10-0.15	0.0-2.9	0.1-0.5	.20	.20			
	48-58	---	---	2-20	---	---	0.0-0.0	---	---			
Matmon--------------	0-12	1-6	1.35-1.60	6-20	0.05-0.10	0.0-2.9	2.0-5.0	.15	.15	2	1	180
	12-19	---	---	2-20	---	---	---	---	---			
	19-29	---	---	2-20	---	---	---	---	---			
48:												
Psammaquents--------	0-35	3-9	1.50-1.60	6-20	0.02-0.05	0.0-2.9	1.0-5.0	.10	.10	3	8	0
	35-45	---	---	2-20	---	---	0.0-0.0	---	---			
Rock outcrop--------	0-60	---	---	---	---	---	---	---	---	---	---	0
49:												
Chaires-------------	0-6	1-3	1.10-1.45	6-20	0.05-0.15	0.0-2.9	2.0-6.0	.10	.10	5	1	180
	6-26	0-3	1.45-1.55	0.6-2	0.05-0.10	0.0-2.9	0.0-1.0	.10	.20			
	26-58	2-13	1.45-1.60	0.6-2	0.15-0.20	0.0-2.9	1.0-3.0	.20	.24			
	58-68	15-35	1.60-1.70	0.2-0.6	0.10-0.20	0.0-2.9	0.0-0.5	.24	---			
	68-78	---	---	2-20	---	---	0.0-0.0	---	---			
Meadowbrook---------	0-4	0-3	1.35-1.65	6-20	0.05-0.10	0.0-2.9	1.0-3.0	.10	.10	5	2	134
	4-57	1-6	1.35-1.65	6-20	0.03-0.08	0.0-2.9	0.2-0.8	.10	.10			
	57-80	11-22	1.50-1.80	0.2-2	0.10-0.15	0.0-2.9	0.2-0.8	.15	.15			
50:												
Wulfert-------------	0-30	0-1	0.20-0.40	6-20	0.20-0.25	---	20-60	---	---	2	2	134
	30-80	2-5	1.50-1.60	6-20	0.02-0.08	0.0-2.9	1.0-3.0	.17	.17			
51:												
Yellowjacket--------	0-29	---	0.15-0.70	6-20	0.35-0.45	0.0-2.9	25-65	---	---	2	8	0
	29-32	1-12	1.15-1.30	6-20	0.20-0.25	0.0-2.9	9.0-20	.10	---			
	32-48	1-12	1.40-1.55	6-20	0.05-0.15	0.0-2.9	0.2-2.0	.10	---			
Maurepas------------	0-80	0-0	0.05-0.25	6-20	0.20-0.50	0.0-2.9	40-80	---	---	3	---	---
52:												
St. Augustine-------	0-37	2-5	1.35-1.45	6-20	0.05-0.10	0.0-2.9	1.0-3.0	.10	.10	5	2	134
	37-80	0-0	0.25-0.35	6-20	0.15-0.20	0.0-2.9	20-60	---	---			

Table 14.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*					
54:												
Ridgewood-----------	0-4	1-3	1.35-1.55	6-20	0.05-0.10	0.0-2.9	0.5-1.0	.10	.10	5	1	180
	4-80	0-5	1.35-1.65	6-20	0.03-0.08	0.0-2.9	0.1-0.5	.10	.10			
55:												
Tooles--------------	0-4	2-5	1.15-1.35	6-20	0.05-0.10	0.0-2.9	1.0-4.0	.10	.10	4	1	180
	4-25	2-5	1.35-1.60	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
	25-41	20-35	1.40-1.70	0.06-0.2	0.15-0.20	3.0-5.9	0.0-0.5	.28	---			
	41-51	---	---	2-20	---	---	0.0-0.0	---	---			
Nutall--------------	0-18	2-5	1.20-1.40	6-20	0.05-0.10	0.0-2.9	1.0-4.0	.10	.10	3	2	134
	18-37	20-35	1.40-1.70	0.06-0.2	0.15-0.20	3.0-5.9	---	.28	.28			
	37-47	---	---	2-20	---	---	0.0-0.0	---	---			
56:												
Ortega--------------	0-3	1-3	1.20-1.45	6-20	0.05-0.08	0.0-2.9	1.0-2.0	.10	.10	5	2	134
	3-80	1-3	1.35-1.60	6-20	0.03-0.06	0.0-2.9	0.1-0.5	.10	.10			
57:												
Clara---------------	0-5	0-4	1.40-1.55	6-20	0.05-0.10	0.0-2.9	1.0-8.0	.10	.10	5	1	180
	5-35	1-3	1.40-1.55	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
	35-60	1-6	1.40-1.65	6-20	0.10-0.15	0.0-2.9	0.0-0.5	.10	.10			
	60-80	1-12	1.50-1.70	6-20	0.05-0.15	0.0-2.9	0.0-0.5	.10	.10			
Oldtown-------------	0-8	---	0.15-0.65	6-20	0.25-0.40	0.0-2.9	60-90	.10	.10	5	8	0
	8-14	0-4	1.40-1.55	6-20	0.05-0.10	0.0-2.9	2.0-5.0	.10	.10			
	14-20	1-3	1.40-1.55	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
	20-60	1-6	1.40-1.65	6-20	0.10-0.15	0.0-2.9	0.0-0.5	.10	.10			
	60-80	1-12	1.50-1.70	6-20	0.05-0.15	0.0-2.9	0.0-0.5	.10	.10			
58:												
Talquin-------------	0-5	1-5	1.30-1.45	6-20	0.05-0.15	0.0-2.9	0.5-2.0	.10	.10	5	1	180
	5-21	0-6	1.35-1.60	6-20	0.02-0.05	0.0-2.9	0.0-0.5	.10	.10			
	21-33	2-8	1.50-1.70	0.6-6	0.15-0.20	0.0-2.9	1.0-3.0	.15	.15			
	33-80	0-4	1.40-1.65	6-20	0.02-0.10	0.0-2.9	0.0-15	.10	---			
Meadowbrook---------	0-5	0-3	1.35-1.65	6-20	0.05-0.10	0.0-2.9	1.0-3.0	.10	.10	5	2	134
	5-48	1-6	1.35-1.65	6-20	0.03-0.08	0.0-2.9	0.2-0.8	.10	.10			
	48-65	9-20	1.50-1.80	0.2-2	0.10-0.15	0.0-2.9	0.1-0.5	.15	.15			
	65-80	11-22	1.50-1.80	0.2-2	0.10-0.15	0.0-2.9	0.2-0.8	.15	.15			
59:												
Talquin-------------	0-4	1-5	1.30-1.45	6-20	0.05-0.15	0.0-2.9	0.5-2.0	.10	.10	5	1	180
	4-26	0-6	1.35-1.60	6-20	0.02-0.05	0.0-2.9	0.0-0.5	.10	.10			
	26-37	2-8	1.50-1.70	0.6-6	0.15-0.20	0.0-2.9	1.0-3.0	.15	.15			
	37-80	0-4	1.40-1.65	6-20	0.02-0.10	0.0-2.9	0.0-15	.10	---			

Table 14.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*					
60:												
Ridgewood-----------	0-6	1-3	1.35-1.55	6-20	0.05-0.10	0.0-2.9	0.5-1.0	.10	.10	5	1	180
	6-80	0-5	1.35-1.65	6-20	0.03-0.08	0.0-2.9	0.1-0.5	.10	.10			
61:												
Mandarin------------	0-27	0-3	1.35-1.45	6-20	0.03-0.07	0.0-2.9	0.5-3.0	.10	.10	5	2	134
	27-45	2-9	1.45-1.60	0.6-2	0.10-0.15	0.0-2.9	---	.15	.15			
	45-80	0-3	1.35-1.45	6-20	0.03-0.07	0.0-2.9	---	.10	.10			
62:												
Kureb---------------	0-80	0-3	1.60-1.80	6-20	0.00-0.05	0.0-2.9	0.0-2.0	.10	.10	5	1	220
63:												
Wesconnett----------	0-14	1-7	1.10-1.40	6-20	0.10-0.15	0.0-2.9	2.0-10	.10	.10	5	8	0
	14-28	3-8	1.30-1.55	0.6-6	0.10-0.15	0.0-2.9	2.0-4.0	.15	.15			
	28-61	2-7	1.35-1.50	6-20	0.05-0.08	0.0-2.9	0.2-1.0	.10	.10			
	61-80	2-8	1.40-1.65	0.6-6	0.10-0.15	0.0-2.9	0.2-1.0	.15	.15			
Lynn Haven----------	0-19	2-5	1.10-1.35	6-20	0.15-0.20	0.0-2.9	10-20	.10	.10	5	8	0
	19-27	1-4	1.40-1.55	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.10	.10			
	27-70	2-8	1.50-1.65	0.6-6	0.15-0.30	0.0-2.9	1.0-4.0	.15	.15			
64:												
Ousley--------------	0-4	1-3	1.35-1.45	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10	5	1	160
	4-80	1-2	1.45-1.60	6-20	0.02-0.06	0.0-2.9	0.0-0.5	.15	.15			
Leon----------------	0-7	1-5	1.30-1.45	6-20	0.05-0.15	0.0-2.9	0.5-4.0	.10	.10	5	1	180
	7-20	0-3	1.40-1.60	6-20	0.02-0.05	0.0-2.9	0.0-0.5	.10	.10			
	20-40	2-8	1.25-1.65	0.6-6	0.15-0.30	0.0-2.9	2.0-4.0	.15	.15			
	40-80	2-8	1.25-1.65	0.2-2	0.15-0.30	0.0-2.9	0.2-1.0	.15	.15			
Clara---------------	0-9	0-4	1.40-1.55	6-20	0.05-0.10	0.0-2.9	1.0-8.0	.10	.10	5	8	0
	9-29	1-3	1.40-1.55	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.10	.10			
	29-46	1-6	1.40-1.65	6-20	0.10-0.15	0.0-2.9	0.0-0.5	.10	.10			
	46-80	1-12	1.50-1.70	6-20	0.05-0.15	0.0-2.9	0.0-0.5	.10	.10			

Table 15.--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	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	*meq/100 g*	*meq/100 g*	*pH*	*Pct*	*Pct*	*mmhos/cm*	
2:								
Penney----------------	0-8	---	---	3.6-6.0	---	---	0	---
	8-62	---	---	3.6-6.0	---	---	0	---
	62-80	---	---	3.6-6.0	---	---	0	---
4:								
Penney----------------	0-6	---	---	3.6-6.0	---	---	0	---
	6-60	---	---	3.6-6.0	---	---	0	---
	60-80	---	---	3.6-6.0	---	---	0	---
Otela-----------------	0-53	---	1.0-3.0	4.5-6.0	0	0	0.0-2.0	0
	53-69	5.0-15	---	4.5-8.4	0	0	0.0-2.0	0
	69-79	---	---	---	---	---	---	---
6:								
Albany----------------	0-49	---	1.0-3.0	3.6-6.5	0	0	0	0
	49-80	---	3.0-5.0	4.5-6.0	0	0	0	0
Ridgewood-------------	0-6	---	---	4.5-7.3	---	---	0	---
	6-80	---	---	4.5-7.3	---	---	0	---
7:								
Garcon----------------	0-4	---	---	4.5-5.5	---	---	0	---
	4-21	---	---	4.5-5.5	---	---	0	---
	21-50	---	---	4.5-5.5	---	---	0	---
	50-80	---	---	4.5-5.5	---	---	0	---
Ousley----------------	0-4	---	---	4.5-6.0	0	0	0	0
	4-80	---	---	4.5-6.0	0	0	0	0
Albany----------------	0-57	---	1.0-3.0	3.6-6.5	0	0	0	0
	57-60	---	3.0-5.0	4.5-6.0	0	0	0	0
	60-80	---	3.0-5.0	4.5-6.0	0	0	0	0
9:								
Otela-----------------	0-41	---	1.0-3.0	4.5-6.0	0	0	0.0-2.0	0
	41-75	5.0-15	---	4.5-8.4	0	0	0.0-2.0	0
	75-85	---	---	---	---	---	---	---
Chiefland-------------	0-5	---	---	5.1-7.3	---	---	0	---
	5-26	---	---	5.6-7.3	---	---	0	---
	26-35	---	---	5.6-8.4	---	---	0	---
	35-45	---	---	---	---	---	---	---
Kureb-----------------	0-80	---	0.0-5.0	3.5-7.3	0	0	0	0
10:								
Osier-----------------	0-3	---	---	3.6-6.0	---	---	0	---
	3-80	---	---	3.6-6.0	---	---	0	---
Elloree---------------	0-5	4.0-9.0	---	4.5-7.3	0	0	0	0
	5-35	0.5-2.0	---	5.1-7.3	0	0	0	0
	35-70	5.0-13	---	5.1-8.4	0	0	0	0
	70-80	4.0-12	---	5.1-8.4	0	0	0	0

Table 15.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	*meq/100 g*	*meq/100 g*	*pH*	*Pct*	*Pct*	*mmhos/cm*	
11:								
Clara----------------	0-5	2.0-15	---	5.1-8.4	0	0	0.0-2.0	0
	5-9	1.0-5.0	---	5.1-8.4	0	0	0.0-2.0	0
	9-60	4.0-20	---	5.1-8.4	0	0	0.0-2.0	0
	60-80	2.0-20	---	5.1-8.4	0	0	0.0-2.0	0
Meadowbrook----------	0-7	---	---	3.6-7.3	---	---	0	---
	7-68	---	---	3.6-8.4	---	---	0	---
	68-80	---	---	4.5-8.4	---	---	0	---
12:								
Clara----------------	0-8	15-50	---	3.6-7.3	0	0	0.0-2.0	0
	8-27	1.0-5.0	---	3.6-7.3	0	0	0.0-2.0	0
	27-61	4.0-20	---	3.6-7.3	0	0	0.0-2.0	0
	61-80	2.0-20	---	3.6-7.3	0	0	0.0-2.0	0
Oldtown--------------	0-12	90-200	---	4.5-8.4	0	0	0.0-2.0	0
	12-18	2.0-15	---	4.5-8.4	0	0	0.0-2.0	0
	18-27	1.0-5.0	---	5.1-8.4	0	0	0.0-2.0	0
	27-70	4.0-20	---	5.1-8.4	0	0	0.0-2.0	0
	70-80	2.0-20	---	5.1-8.4	0	0	0.0-2.0	0
Meadowbrook----------	0-6	15-30	---	3.6-7.3	0	0	0.0-2.0	0
	6-68	1.0-5.0	---	3.6-8.4	0	0	0.0-2.0	0
	68-80	15-25	---	4.5-8.4	0	0	0.0-2.0	0
14:								
Rawhide--------------	0-5	30-80	---	5.6-6.5	0	0	0.0-2.0	0
	5-45	25-55	---	6.1-8.4	0-1	0	0.0-2.0	0
	45-80	10-35	---	6.1-8.4	0-5	0	0.0-2.0	0
15:								
Leon-----------------	0-3	---	12-30	3.6-5.5	0	0	0.0-2.0	0
	3-20	---	0.3-1.0	3.6-5.5	0	0	0.0-2.0	0
	20-45	---	8.0-30	3.6-5.5	0	0	0.0-2.0	0
	45-80	---	0.5-3.0	3.6-5.5	0	0	0.0-2.0	0
16:								
Penney---------------	0-2	---	---	3.6-6.0	---	---	0	---
	2-70	---	---	3.6-6.0	---	---	0	---
	70-80	---	---	3.6-6.0	---	---	0	---
Wadley---------------	0-72	---	1.0-5.0	4.5-6.0	0	0	0.0-2.0	0
	72-80	---	5.0-20	4.5-6.0	0	0	0.0-2.0	0
17:								
Leon-----------------	0-7	---	2.0-12	3.5-6.5	0	0	0.0-2.0	0
	7-20	---	0.3-1.0	3.5-6.5	0	0	0.0-2.0	0
	20-40	---	8.0-30	3.5-6.5	0	0	0.0-2.0	0
	40-80	---	8.0-30	3.5-6.5	0	0	0.0-2.0	0
Leon-----------------	0-3	---	90-200	3.6-5.5	0	0	0.0-2.0	0
	3-18	---	0.3-2.0	3.6-5.5	---	---	0.0-2.0	0
	18-80	---	8.0-30	3.6-5.5	0	0	0.0-2.0	0
18:								
Chaires--------------	0-15	---	5.0-20	3.6-5.5	0	0	0.0-2.0	0
	15-47	---	1.0-5.0	3.6-5.5	0	0	0.0-2.0	0
	47-60	---	6.0-25	3.6-5.5	0	0	0.0-2.0	0
	60-80	5.0-30	---	4.5-7.3	0	0	0.0-2.0	0

Table 15.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
18:								
Chaires, depressional	0-8	---	5.0-20	3.6-5.5	0	0	0.0-2.0	0
	8-28	---	1.0-5.0	3.6-6.5	0	0	0.0-2.0	0
	28-65	---	6.0-25	3.6-6.5	0	0	0.0-2.0	0
	65-70	9.0-20	---	4.5-7.3	0	0	0.0-2.0	0
	70-80	5.0-30	---	4.5-7.3	0	0	0.0-2.0	0
19:								
Wekiva---------------	0-6	15-30	---	6.1-7.3	0	0	0.0-2.0	0
	6-16	2.0-10	---	6.1-7.3	0	0	0.0-2.0	0
	16-25	20-30	---	6.1-7.3	0	0	0.0-2.0	0
	25-35	---	---	---	---	---	---	---
Shired---------------	0-3	90-200	---	5.6-7.3	0	0	0.0-2.0	0
	3-21	15-30	---	6.1-8.4	0	0	0.0-2.0	0
	21-50	2.0-15	---	6.1-8.4	0	0	0.0-2.0	0
	50-56	10-30	---	6.6-8.4	0	0	0.0-2.0	0
	56-66	---	---	---	---	---	---	---
Tooles---------------	0-4	5.0-20	---	4.5-7.3	0	0	0.0-2.0	0
	4-37	1.0-5.0	---	4.5-7.3	0	0	0.0-2.0	0
	37-45	15-25	---	6.6-8.4	0-1	0	0.0-2.0	0
	45-55	---	---	---	---	---	---	---
20:								
Chaires--------------	0-7	---	5.0-20	3.6-5.5	0	0	0.0-2.0	0
	7-22	---	0.5-5.0	3.6-5.5	0	0	0.0-2.0	0
	22-48	---	10-25	3.6-5.5	0	0	0.0-2.0	0
	48-68	12-30	---	4.5-7.3	0	0	0.0-2.0	0
	68-78	---	---	---	---	---	---	---
Leon-----------------	0-7	---	2.0-12	3.5-6.5	0	0	0.0-2.0	0
	7-28	---	0.3-1.0	3.5-6.5	0	0	0.0-2.0	0
	28-40	---	8.0-30	3.5-6.5	0	0	0.0-2.0	0
	40-80	---	8.0-30	3.5-6.5	0	0	0.0-2.0	0
21:								
Meadowbrook----------	0-5	---	---	3.6-7.3	---	---	0	---
	5-42	---	---	3.6-8.4	---	---	0	---
	42-80	---	---	4.5-8.4	---	---	0	---
22:								
Lutterloh------------	0-50	1.0-8.0	---	5.1-6.5	0	0	0.0-2.0	0
	50-70	5.0-10	---	5.1-7.3	0	0	0.0-2.0	0
	70-80	---	---	---	---	---	---	---
Moriah---------------	0-7	---	2.0-7.0	3.6-5.0	0	0	0.0-2.0	0
	7-25	---	0.5-3.0	3.6-5.0	0	0	0.0-2.0	0
	25-50	7.0-17	---	5.6-8.4	0-1	0	0.0-2.0	0
	50-60	---	---	---	---	---	---	---
25:								
Meadowbrook----------	0-6	---	---	3.6-7.3	---	---	0	---
	6-42	---	---	3.6-8.4	---	---	0	---
	42-60	---	---	4.5-8.4	---	---	0	---
	60-70	---	---	4.5-8.4	---	---	0	---
Meadowbrook----------	0-4	15-30	---	3.6-7.3	0	0	0.0-2.0	0
	4-55	1.0-5.0	---	3.6-8.4	0	0	0.0-2.0	0
	55-80	15-25	---	4.5-8.4	0	0	0.0-2.0	0

Table 15.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	*meq/100 g*	*meq/100 g*	*pH*	*Pct*	*Pct*	*mmhos/cm*	
27:								
Steinhatchee---------	0-5	---	2.0-15	4.5-6.0	0	0	0	0
	5-18	---	1.0-5.0	4.5-6.0	0	0	0	0
	18-29	---	10-25	4.5-6.0	0	0	0	0
	29-35	7.0-30	---	5.6-7.3	0	0	0	0
	35-45	---	---	---	---	---	---	---
Tennille-------------	0-6	10-20	---	6.1-7.3	0	0	0.0-2.0	0
	6-14	2.0-10	---	6.1-7.3	0	0	0.0-2.0	0
	14-24	---	---	---	---	---	---	---
28:								
Tooles---------------	0-8	5.0-20	---	4.5-7.3	0	0	0.0-2.0	0
	8-35	1.0-5.0	---	4.5-7.3	0	0	0.0-2.0	0
	35-46	15-25	---	6.6-8.4	0	0	0.0-2.0	0
	46-56	---	---	---	---	---	---	---
Meadowbrook----------	0-5	---	---	3.6-7.3	---	---	0	---
	5-42	---	---	3.6-8.4	---	---	0	---
	42-80	---	---	4.5-8.4	---	---	0	---
29:								
Tooles---------------	0-32	5.0-20	---	4.5-7.3	0	0	0.0-2.0	0
	32-42	15-25	---	6.6-8.4	0-1	0	0.0-2.0	0
	42-52	---	---	---	---	---	---	---
30:								
Yellowjacket---------	0-17	90-200	---	5.6-8.4	0	0	0.0-2.0	0
	17-25	15-30	---	6.6-8.4	0	0	0.0-2.0	0
	25-48	2.0-15	---	6.6-8.4	0	0	0.0-2.0	0
	48-58	---	---	---	0	0	0	0
31:								
Clara----------------	0-9	2.0-15	---	3.6-7.3	0	0	0.0-2.0	0
	9-29	1.0-5.0	---	3.6-7.3	0	0	0.0-2.0	0
	29-46	4.0-20	---	3.6-7.3	0	0	0.0-2.0	0
	46-80	2.0-20	---	3.6-7.3	0	0	0.0-2.0	0
32:								
Bayvi----------------	0-6	60-75	---	6.1-8.4	0	0	4.0-32.0	0
	6-16	2.0-50	---	6.1-8.4	0	0	4.0-32.0	0
	16-59	2.0-20	---	6.1-8.4	0	0	4.0-16.0	0
	59-69	---	---	---	---	---	---	---
34:								
Ortega---------------	0-8	---	---	3.6-6.5	---	---	0	---
	8-80	---	---	3.6-6.5	---	---	0	---
Blanton--------------	0-54	---	1.0-8.0	4.5-6.0	0	0	0.0-2.0	0
	54-80	---	5.0-10	4.5-5.5	0	0	0.0-2.0	0
36:								
Pits-----------------	0-60	---	---	---	---	---	---	---
38:								
Quartzipsamments-----	0-80	---	---	4.5-7.3	---	---	---	---
39:								
Resota---------------	0-80	---	---	3.6-6.5	---	---	0	---

Table 15.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	*meq/100 g*	*meq/100 g*	*pH*	*Pct*	*Pct*	*mmhos/cm*	
41:								
Mandarin-------------	0-20	---	---	3.6-6.0	---	---	0	---
	20-45	---	---	3.6-6.0	---	---	0	---
	45-56	---	---	3.6-7.3	---	---	0	---
	56-80	---	---	3.6-7.3	---	---	0	---
Lutterloh------------	0-48	1.0-8.0	---	5.1-6.5	0	0	0.0-2.0	0
	48-61	5.0-10	---	5.1-7.3	0	0	0.0-2.0	0
	61-71	---	---	---	---	---	---	---
42:								
Tooles---------------	0-32	5.0-20	---	4.5-7.3	0	0	0.0-2.0	0
	32-41	15-25	---	6.6-8.4	0	0	0.0-2.0	0
	41-51	---	---	---	---	---	---	---
Wekiva---------------	0-6	15-30	---	6.1-7.3	0	0	0.0-2.0	0
	6-15	2.0-10	---	6.1-7.3	0	0	0.0-2.0	0
	15-20	20-30	---	6.1-7.3	0	0	0.0-2.0	0
	20-30	---	---	---	---	---	---	---
44:								
Bodiford-------------	0-11	90-200	---	3.6-7.3	0	0	0.0-2.0	0
	11-15	15-30	---	6.1-7.8	0	0	0.0-2.0	0
	15-32	2.0-15	---	6.6-7.8	0	0	0.0-2.0	0
	32-48	10-30	---	6.6-8.4	0	0	0.0-2.0	0
	48-58	---	---	---	---	---	---	---
Meadowbrook----------	0-4	2.0-4.0	---	4.5-6.5	0	0	0.0-2.0	0
	4-58	1.0-2.0	---	4.5-7.8	0	0	0.0-2.0	0
	58-65	6.0-8.0	---	5.6-8.4	0	0	0.0-2.0	0
	65-75	---	---	---	---	---	---	---
47:								
Lutterloh------------	0-45	1.0-8.0	---	5.1-6.5	0	0	0.0-2.0	0
	45-70	5.0-10	---	5.1-7.3	0	0	0.0-2.0	0
	70-80	---	---	---	---	---	---	---
Moriah---------------	0-6	---	2.0-7.0	3.6-5.0	0	0	0.0-2.0	0
	6-33	---	0.5-3.0	3.6-5.0	0	0	0.0-2.0	0
	33-48	7.0-17	---	5.6-8.4	0-1	0	0.0-2.0	0
	48-58	---	---	---	---	---	---	---
Matmon---------------	0-12	6.0-15	---	5.1-7.3	0	0	0.0-2.0	0
	12-19	---	---	---	---	---	---	---
	19-29	---	---	---	---	---	---	---
48:								
Psammaquents---------	0-35	2.0-20	---	6.1-8.4	0	0	4.0-16.0	0
	35-45	---	---	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---	---	---
49:								
Chaires--------------	0-6	---	5.0-20	3.6-5.5	0	0	0.0-2.0	0
	6-26	---	0.5-5.0	3.6-5.5	0	0	0.0-2.0	0
	26-58	---	10-25	3.6-5.5	0	0	0.0-2.0	0
	58-68	12-30	---	4.5-7.3	0	0	0.0-2.0	0
	68-78	---	---	---	---	---	---	---
Meadowbrook----------	0-4	---	---	3.6-7.3	---	---	0	---
	4-57	---	---	3.6-8.4	---	---	0	---
	57-80	---	---	4.5-8.4	---	---	0	---

Table 15.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	*meq/100 g*	*meq/100 g*	*pH*	*Pct*	*Pct*	*mmhos/cm*	
50:								
Wulfert--------------	0-30	---	---	5.6-7.3	---	---	16.0-32.0	---
	30-80	---	---	3.6-7.3	---	---	16.0-32.0	---
51:								
Yellowjacket---------	0-29	90-200	---	5.6-8.4	0	0	0.0-2.0	0
	29-32	15-30	---	6.6-8.4	0	0	0.0-2.0	0
	32-80	2.0-15	---	6.6-8.4	0	0	0.0-2.0	0
Maurepas-------------	0-80	---	---	5.6-8.4	---	---	0.0-4.0	---
52:								
St. Augustine--------	0-37	---	---	7.4-8.4	---	---	8.0-16.0	---
	37-80	---	---	3.6-6.5	---	---	16.0-32.0	---
54:								
Ridgewood------------	0-4	---	---	4.5-7.3	---	---	0	---
	4-80	---	---	4.5-7.3	---	---	0	---
55:								
Tooles---------------	0-4	5.0-20	---	4.5-7.3	0	0	0.0-2.0	0
	4-25	1.0-5.0	---	4.5-7.3	0	0	0.0-2.0	0
	25-41	15-25	---	6.6-8.4	0-1	0	0.0-2.0	0
	41-51	---	---	---	---	---	---	---
Nutall---------------	0-18	---	---	4.5-7.3	---	---	0	---
	18-37	---	---	6.6-8.4	---	---	0	---
	37-47	---	---	---	---	---	---	---
56:								
Ortega---------------	0-3	---	---	3.6-6.5	---	---	0	---
	3-80	---	---	3.6-6.5	---	---	0	---
57:								
Clara----------------	0-5	2.0-15	---	5.1-8.4	0	0	0.0-2.0	0
	5-35	1.0-5.0	---	5.1-8.4	0	0	0.0-2.0	0
	35-60	4.0-20	---	5.1-8.4	0	0	0.0-2.0	0
	60-80	2.0-20	---	5.1-8.4	0	0	0.0-2.0	0
Oldtown--------------	0-8	90-200	---	4.5-8.4	0	0	0.0-2.0	0
	8-14	2.0-15	---	4.5-8.4	0	0	0.0-2.0	0
	14-20	1.0-5.0	---	5.1-8.4	0	0	0.0-2.0	0
	20-60	4.0-20	---	5.1-8.4	0	0	0.0-2.0	---
	60-80	2.0-20	---	5.1-8.4	0	0	0.0-2.0	0
58:								
Talquin--------------	0-5	---	2.0-12	3.6-5.5	0	0	0.0-2.0	0
	5-21	---	0.3-1.0	3.6-5.5	0	0	0.0-2.0	0
	21-33	---	5.0-15	3.6-5.5	0	0	0.0-2.0	0
	33-80	---	0.5-3.0	3.6-5.5	0	0	0.0-2.0	0
Meadowbrook----------	0-5	---	---	3.6-7.3	---	---	0	---
	5-48	---	---	3.6-8.4	---	---	0	---
	48-65	---	---	4.5-8.4	---	---	0	---
	65-80	---	---	4.5-8.4	---	---	0	---
59:								
Talquin--------------	0-4	---	2.0-12	3.6-5.5	0	0	0.0-2.0	0
	4-26	---	0.3-1.0	3.6-5.5	0	0	0.0-2.0	0
	26-37	---	5.0-15	3.6-5.5	0	0	0.0-2.0	0
	37-80	---	0.5-3.0	3.6-5.5	0	0	0.0-2.0	0

Table 15.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	*meq/100 g*	*meq/100 g*	*pH*	*Pct*	*Pct*	*mmhos/cm*	
60:								
Ridgewood------------	0-6	---	---	4.5-7.3	---	---	0	---
	6-80	---	---	4.5-7.3	---	---	0	---
61:								
Mandarin-------------	0-27	---	---	3.6-6.0	---	---	0	---
	27-45	---	---	3.6-6.0	---	---	0	---
	45-80	---	---	3.6-7.3	---	---	0	---
62:								
Kureb----------------	0-80	---	0.0-5.0	3.5-7.3	0	0	0	0
63:								
Wesconnett-----------	0-14	---	15-30	3.6-6.5	0	0	0.0-2.0	0
	14-28	---	10-30	3.6-6.5	0	0	0.0-2.0	0
	28-61	---	1.0-5.0	3.6-6.5	0	0	0.0-2.0	0
	61-80	---	10-30	3.6-6.5	0	0	0.0-2.0	0
Lynn Haven-----------	0-19	---	15-30	3.6-5.5	0	0	0.0-2.0	0
	19-27	---	0.3-1.0	3.6-5.5	0	0	0.0-2.0	0
	27-70	---	8.0-30	3.6-5.5	0	0	0.0-2.0	0
64:								
Ousley---------------	0-4	---	---	4.5-6.0	0	0	0	0
	4-80	---	---	4.5-6.0	0	0	0	0
Leon-----------------	0-7	---	2.0-12	3.5-6.5	0	0	0.0-2.0	0
	7-20	---	0.3-1.0	3.5-6.5	0	0	0.0-2.0	0
	20-40	---	8.0-30	3.5-6.5	0	0	0.0-2.0	0
	40-80	---	8.0-30	3.5-6.5	0	0	0.0-2.0	0
Clara----------------	0-9	2.0-15	---	3.6-7.3	0	0	0.0-2.0	0
	9-29	1.0-5.0	---	3.6-7.3	0	0	0.0-2.0	0
	29-46	4.0-20	---	3.6-7.3	0	0	0.0-2.0	0
	46-80	2.0-20	---	3.6-7.3	0	0	0.0-2.0	0

Table 16.--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	Initial	Total		Uncoated steel	Concrete
		In	*In*	*In*			
2:							
Penney	---	---	0	---	None	Low	High
4:							
Penney	---	---	0	---	None	Low	High
Otela	Bedrock (paralithic)	60-80	0	---	None	Low	Low
6:							
Albany	---	---	0	---	None	High	High
Ridgewood	---	---	0	---	None	Low	High
7:							
Garcon	---	---	0	---	None	High	High
Ousley	---	---	0	---	None	Low	High
Albany	---	---	0	---	None	High	High
9:							
Otela	Bedrock (paralithic)	60-80	0	---	None	Low	Low
Chiefland	Bedrock (paralithic)	24-60	0	---	None	Low	Low
Kureb	---	---	0	---	None	Low	Low
10:							
Osier	---	---	0	---	None	High	High
Elloree	---	---	0	---	None	High	Moderate
11:							
Clara	---	---	0	---	None	High	Moderate
Meadowbrook	---	---	0	---	None	Moderate	High
12:							
Clara	---	---	0	---	None	High	Moderate
Oldtown	---	---	2-6	8-15	None	Moderate	Moderate
Meadowbrook	---	---	0	---	None	Moderate	High
14:							
Rawhide	---	---	0	---	None	High	High
15:							
Leon	---	---	0	---	None	High	High
16:							
Penney	---	---	0	---	None	Low	High
Wadley	---	---	0	---	None	Low	High

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
		In	*In*	*In*			
17:							
Leon	---	---	0	---	None	High	High
Leon	---	---	1-2	2-3	None	High	High
18:							
Chaires	---	---	0	---	None	High	High
Chaires	---	---	0	---	None	Moderate	High
19:							
Wekiva	Bedrock (lithic)	10-30	0	---	None	High	Low
Shired	Bedrock (paralithic)	45-60	0	---	None	High	Low
Tooles	Bedrock (paralithic)	40-60	0	---	None	High	Moderate
20:							
Chaires	Bedrock (lithic)	50-80	0	---	None	High	High
Leon	---	---	0	---	None	High	High
21:							
Meadowbrook	---	---	0	---	None	Moderate	High
22:							
Lutterloh	Bedrock (paralithic)	60-80	0	---	None	High	Moderate
Moriah	Bedrock (paralithic)	40-60	0	---	None	High	High
25:							
Meadowbrook	---	---	0	---	None	Moderate	High
Meadowbrook	---	---	0	---	None	Moderate	High
27:							
Steinhatchee	Bedrock (lithic)	40-80	0	---	None	Moderate	Moderate
Tennille	Bedrock (lithic)	6-20	0	---	None	High	Low
28:							
Tooles	Bedrock (paralithic)	40-60	0	---	None	High	Moderate
Meadowbrook	---	---	0	---	None	Moderate	High
29:							
Tooles	Bedrock (paralithic)	40-60	0	---	None	High	Moderate
30:							
Yellowjacket	Bedrock (lithic)	40-60	4-10	16-24	None	High	Low
31:							
Clara	---	---	0	---	None	High	Moderate
32:							
Bayvi	Bedrock (lithic)	40-80	0	---	None	High	Moderate

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
		In	In	In			
34:							
Ortega	---	---	0	---	None	Low	High
Blanton	---	---	0	---	None	High	High
36:							
Pits	---	---	---	---	None	---	---
38:							
Quartzipsamments	---	---	0	---	None	Low	High
39:							
Resota	---	---	0	---	None	Low	High
41:							
Mandarin	---	---	0	---	None	Moderate	High
Lutterloh	Bedrock (paralithic)	60-80	0	---	None	High	Moderate
42:							
Tooles	Bedrock (paralithic)	40-60	0	---	None	High	Moderate
Wekiva	Bedrock (lithic)	10-30	0	---	None	High	Low
44:							
Bodiford	Bedrock (paralithic)	40-60	2-6	8-15	None	High	Low
Meadowbrook	Bedrock (lithic)	60-80	0	---	None	High	Low
47:							
Lutterloh	Bedrock (paralithic)	60-80	0	---	None	High	Moderate
Moriah	Bedrock (paralithic)	40-60	0	---	None	High	High
Matmon	Bedrock (paralithic)	10-20	0	---	None	High	Low
48:							
Psammaquents	Bedrock (lithic)	20-60	0	---	None	High	Moderate
Rock outcrop	Bedrock (lithic)	0	0	---	None	---	---
49:							
Chaires	Bedrock (lithic)	50-80	0	---	None	High	High
Meadowbrook	---	---	0	---	None	Moderate	High
50:							
Wulfert	---	---	16-18	24-36	None	High	High
51:							
Yellowjacket	---	---	4-10	16-24	None	High	Low
Maurepas	---	---	15-30	51	None	High	High
52:							
St. Augustine	---	---	0	---	None	High	Moderate

Table 16.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Initial	Total		Uncoated steel	Concrete
		In	*In*	*In*			
54:							
Ridgewood	---	---	0	---	None	Low	High
55:							
Tooles	Bedrock (paralithic)	40-60	0	---	None	High	Moderate
Nutall	Bedrock (paralithic)	20-40	0	---	None	High	Moderate
56:							
Ortega	---	---	0	---	None	Low	High
57:							
Clara	---	---	0	---	None	High	Moderate
Oldtown	---	---	2-6	8-15	None	High	Moderate
58:							
Talquin	---	---	0	---	None	High	High
Meadowbrook	---	---	0	---	None	Moderate	High
59:							
Talquin	---	---	0	---	None	High	High
60:							
Ridgewood	---	---	0	---	None	Low	High
61:							
Mandarin	---	---	0	---	None	Moderate	High
62:							
Kureb	---	---	0	---	None	Low	Low
63:							
Wesconnett	---	---	0	---	None	Moderate	High
Lynn Haven	---	---	0	---	None	Moderate	High
64:							
Ousley	---	---	0	---	None	Low	High
Leon	---	---	0	---	None	High	High
Clara	---	---	0	---	None	High	Moderate

Table 17.--Water Features

[Depths of layers are in feet. See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
2:							
Penney	A	All months	---	---	---	---	---
4:							
Penney	A	All months	---	---	---	---	---
Otela	A	February	4.0-6.0	>6.0	---	---	---
		March	4.0-6.0	>6.0	---	---	---
		April	4.0-6.0	>6.0	---	---	---
		May	4.0-6.0	>6.0	---	---	---
		June	4.0-6.0	>6.0	---	---	---
		July	4.0-6.0	>6.0	---	---	---
		August	4.0-6.0	>6.0	---	---	---
		September	4.0-6.0	>6.0	---	---	---
		October	4.0-6.0	>6.0	---	---	---
6:							
Albany	C	January	1.0-2.5	>6.0	---	---	---
		February	1.0-2.5	>6.0	---	---	---
		March	1.0-2.5	>6.0	---	---	---
		December	1.0-2.5	>6.0	---	---	---
Ridgewood	C	June	2.0-3.5	>6.0	---	---	---
		July	2.0-3.5	>6.0	---	---	---
		August	2.0-3.5	>6.0	---	---	---
		September	2.0-3.5	>6.0	---	---	---
		October	2.0-3.5	>6.0	---	---	---
		November	2.0-3.5	>6.0	---	---	---
7:							
Garcon	C	January	1.5-3.0	>6.0	---	Brief	Occasional
		February	1.5-3.0	>6.0	---	Brief	Occasional
		March	1.5-3.0	>6.0	---	Brief	Occasional
		April	1.5-3.0	>6.0	---	Brief	Occasional
		December	1.5-3.0	>6.0	---	Brief	Occasional
Ousley	C	January	1.5-3.0	>6.0	---	Brief	Occasional
		February	1.5-3.0	>6.0	---	Brief	Occasional
		March	1.5-3.0	>6.0	---	Brief	Occasional
		April	1.5-3.0	>6.0	---	Brief	Occasional
		May	1.5-3.0	>6.0	---	---	---
		December	1.5-3.0	>6.0	---	Brief	Occasional
Albany	C	January	1.0-2.5	>6.0	---	Brief	Occasional
		February	1.0-2.5	>6.0	---	Brief	Occasional
		March	1.0-2.5	>6.0	---	Brief	Occasional
		November	---	---	---	Brief	Occasional
		December	1.0-2.5	>6.0	---	Brief	Occasional

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table Upper limit	Water table Lower limit	Ponding surface water depth	Flooding Duration	Flooding Frequency
9:							
Otela	A	February	4.0-6.0	>6.0	---	---	---
		March	4.0-6.0	>6.0	---	---	---
		April	4.0-6.0	>6.0	---	---	---
		May	4.0-6.0	>6.0	---	---	---
		June	4.0-6.0	>6.0	---	---	---
		July	4.0-6.0	>6.0	---	---	---
		August	4.0-6.0	>6.0	---	---	---
		September	4.0-6.0	>6.0	---	---	---
		October	4.0-6.0	>6.0	---	---	---
Chiefland	B	All months	---	---	---	---	---
Kureb	A	All months	---	---	---	---	---
10:							
Osier	A/D	January	0.0-0.5	>6.0	---	Long	Frequent
		February	0.0-0.5	>6.0	---	Long	Frequent
		March	0.0-0.5	>6.0	---	Long	Frequent
		April	---	---	---	Long	Frequent
		November	0.0-0.5	>6.0	---	---	---
		December	0.0-0.5	>6.0	---	Long	Frequent
Elloree	D	January	0.0-1.0	>6.0	---	Long	Frequent
		February	0.0-1.0	>6.0	---	Long	Frequent
		March	0.0-1.0	>6.0	---	Long	Frequent
		April	0.0-1.0	>6.0	---	Long	Frequent
		November	0.0-1.0	>6.0	---	---	---
		December	0.0-1.0	>6.0	---	Long	Frequent
11:							
Clara	B/D	January	0.0-1.0	>6.0	---	Brief	Frequent
		February	0.0-1.0	>6.0	---	Brief	Frequent
		March	0.0-1.0	>6.0	---	Brief	Frequent
		April	0.0-1.0	>6.0	---	---	---
		May	0.0-1.0	>6.0	---	---	---
		June	0.0-1.0	>6.0	---	---	---
		July	0.0-1.0	>6.0	---	---	---
		August	0.0-1.0	>6.0	---	---	---
		September	0.0-1.0	>6.0	---	---	---
		October	0.0-1.0	>6.0	---	---	---
		November	0.0-1.0	>6.0	---	---	---
		December	0.0-1.0	>6.0	---	---	---
Meadowbrook	B/D	January	0.0-1.0	>6.0	---	---	---
		February	0.0-1.0	>6.0	---	---	---
		March	0.0-1.0	>6.0	---	Long	Frequent
		April	0.0-1.0	>6.0	---	Long	Frequent
		May	0.0-1.0	>6.0	---	Long	Frequent
		June	0.0-1.0	>6.0	---	Long	Frequent
		July	0.0-1.0	>6.0	---	Long	Frequent
		August	0.0-1.0	>6.0	---	Long	Frequent
		September	0.0-1.0	>6.0	---	Long	Frequent
		October	0.0-1.0	>6.0	---	---	---
		November	0.0-1.0	>6.0	---	---	---
		December	0.0-1.0	>6.0	---	---	---

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
12:							
Clara	D	January	0.0	>6.0	0.0-2.0	---	---
		February	0.0	>6.0	0.0-2.0	---	---
		March	0.0	>6.0	0.0-2.0	---	---
		April	0.0	>6.0	0.0-2.0	---	---
		May	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
		October	0.0	>6.0	0.0-2.0	---	---
		November	0.0	>6.0	0.0-2.0	---	---
		December	0.0	>6.0	0.0-2.0	---	---
Oldtown	D	February	0.0	>6.0	0.0-2.0	---	---
		March	0.0	>6.0	0.0-2.0	---	---
		April	0.0	>6.0	0.0-2.0	---	---
		May	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
		October	0.0	>6.0	0.0-2.0	---	---
Meadowbrook	D	January	0.0	>6.0	0.0-2.0	---	---
		February	0.0	>6.0	0.0-2.0	---	---
		March	0.0	>6.0	0.0-2.0	---	---
		April	0.0	>6.0	0.0-2.0	---	---
		May	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
14:							
Rawhide	D	January	0.0	>6.0	0.0-2.0	---	---
		February	0.0	>6.0	0.0-2.0	---	---
		March	0.0	>6.0	0.0-2.0	---	---
		April	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
		October	0.0	>6.0	0.0-2.0	---	---
		November	0.0	>6.0	0.0-2.0	---	---
		December	0.0	>6.0	0.0-2.0	---	---
15:							
Leon	D	March	0.0-1.0	>6.0	---	Long	Frequent
		April	0.0-1.0	>6.0	---	Long	Frequent
		May	0.0-1.0	>6.0	---	Long	Frequent
		June	0.0-1.0	>6.0	---	Long	Frequent
		July	0.0-1.0	>6.0	---	Long	Frequent
		August	0.0-1.0	>6.0	---	Long	Frequent
		September	0.0-1.0	>6.0	---	Long	Frequent
16:							
Penney	A	All months	---	---	---	---	---
Wadley	A	All months	---	---	---	---	---

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
17:							
Leon	B/D	March	0.5-1.5	>6.0	---	---	---
		April	0.5-1.5	>6.0	---	---	---
		May	0.5-1.5	>6.0	---	---	---
		June	0.5-1.5	>6.0	---	---	---
		July	0.5-1.5	>6.0	---	---	---
		August	0.5-1.5	>6.0	---	---	---
		September	0.5-1.5	>6.0	---	---	---
Leon	D	January	0.0	>6.0	0.0-2.0	---	---
		February	0.0	>6.0	0.0-2.0	---	---
		March	0.0	>6.0	0.0-2.0	---	---
		April	0.0	>6.0	0.0-2.0	---	---
		May	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
18:							
Chaires	B/D	March	0.5-1.5	>6.0	---	---	---
		April	0.5-1.5	>6.0	---	---	---
		May	0.5-1.5	>6.0	---	---	---
		June	0.5-1.5	>6.0	---	---	---
		July	0.5-1.5	>6.0	---	---	---
		August	0.5-1.5	>6.0	---	---	---
		September	0.5-1.5	>6.0	---	---	---
Chaires	D	January	0.0	>6.0	0.0-2.0	---	---
		February	0.0	>6.0	0.0-2.0	---	---
		March	0.0	>6.0	0.0-2.0	---	---
		April	0.0	>6.0	0.0-2.0	---	---
		May	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
19:							
Wekiva	D	January	0.0-1.0	>6.0	---	Brief	Occasional
		February	0.0-1.0	>6.0	---	Brief	Occasional
		March	0.0-1.0	>6.0	---	Brief	Occasional
		June	0.0-1.0	>6.0	---	Brief	Occasional
		July	0.0-1.0	>6.0	---	Brief	Occasional
		August	0.0-1.0	>6.0	---	Brief	Occasional
		September	0.0-1.0	>6.0	---	Brief	Occasional
		October	0.0-1.0	>6.0	---	Brief	Occasional
		November	0.0-1.0	>6.0	---	Brief	Occasional
		December	0.0-1.0	>6.0	---	Brief	Occasional
Shired	D	February	0.0	>6.0	0.0-2.0	Long	Occasional
		March	0.0	>6.0	0.0-2.0	Long	Occasional
		April	0.0	>6.0	0.0-2.0	Long	Occasional
		May	0.0	>6.0	0.0-2.0	Long	Occasional
		June	0.0	>6.0	0.0-2.0	Long	Occasional
		July	0.0	>6.0	0.0-2.0	Long	Occasional
		August	0.0	>6.0	0.0-2.0	Long	Occasional
		September	0.0	>6.0	0.0-2.0	Long	Occasional
		October	0.0	>6.0	0.0-2.0	Long	Occasional

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
19:							
Tooles--------------------	D	February	0.0-0.5	>6.0	---	Long	Occasional
		March	0.0-0.5	>6.0	---	Long	Occasional
		April	0.0-0.5	>6.0	---	Long	Occasional
		May	0.0-0.5	>6.0	---	Long	Occasional
		June	0.0-0.5	>6.0	---	---	---
		July	0.0-0.5	>6.0	---	---	---
		August	0.0-0.5	>6.0	---	---	---
		September	0.0-0.5	>6.0	---	---	---
20:							
Chaires-------------------	B/D	March	0.5-1.5	>6.0	---	---	---
		April	0.5-1.5	>6.0	---	---	---
		May	0.5-1.5	>6.0	---	---	---
		June	0.5-1.5	>6.0	---	---	---
		July	0.5-1.5	>6.0	---	---	---
		August	0.5-1.5	>6.0	---	---	---
		September	0.5-1.5	>6.0	---	---	---
Leon----------------------	B/D	March	0.5-1.5	>6.0	---	---	---
		April	0.5-1.5	>6.0	---	---	---
		May	0.5-1.5	>6.0	---	---	---
		June	0.5-1.5	>6.0	---	---	---
		July	0.5-1.5	>6.0	---	---	---
		August	0.5-1.5	>6.0	---	---	---
		September	0.5-1.5	>6.0	---	---	---
21:							
Meadowbrook---------------	B/D	January	0.0-1.0	>6.0	---	---	---
		February	0.0-1.0	>6.0	---	---	---
		March	0.0-1.0	>6.0	---	---	---
		August	0.0-1.0	>6.0	---	---	---
		September	0.0-1.0	>6.0	---	---	---
		October	0.0-1.0	>6.0	---	---	---
		November	0.0-1.0	>6.0	---	---	---
		December	0.0-1.0	>6.0	---	---	---
22:							
Lutterloh-----------------	C	March	1.5-2.5	>6.0	---	---	---
		April	1.5-2.5	>6.0	---	---	---
		May	1.5-2.5	>6.0	---	---	---
		June	1.5-2.5	>6.0	---	---	---
		July	1.5-2.5	>6.0	---	---	---
		August	1.5-2.5	>6.0	---	---	---
Moriah--------------------	B	February	1.5-3.0	>6.0	---	---	---
		March	1.5-3.0	>6.0	---	---	---
		April	1.5-3.0	>6.0	---	---	---
		May	1.5-3.0	>6.0	---	---	---
		June	1.5-3.0	>6.0	---	---	---

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
25:							
Meadowbrook---------------	B/D	January	0.0-1.0	>6.0	---	---	---
		February	0.0-1.0	>6.0	---	---	---
		March	0.0-1.0	>6.0	---	Long	Occasional
		April	0.0-1.0	>6.0	---	Long	Occasional
		May	0.0-1.0	>6.0	---	Long	Occasional
		June	0.0-1.0	>6.0	---	Long	Occasional
		July	0.0-1.0	>6.0	---	Long	Occasional
		August	0.0-1.0	>6.0	---	Long	Occasional
		September	0.0-1.0	>6.0	---	Long	Occasional
		October	0.0-1.0	>6.0	---	---	---
		November	0.0-1.0	>6.0	---	---	---
		December	0.0-1.0	>6.0	---	---	---
Meadowbrook---------------	D	January	0.0	>6.0	0.0-2.0	Long	Occasional
		February	0.0	>6.0	0.0-2.0	Long	Occasional
		March	0.0	>6.0	0.0-2.0	Long	Occasional
		April	0.0	>6.0	0.0-2.0	Long	Occasional
		May	0.0	>6.0	0.0-2.0	Long	Occasional
		June	0.0	>6.0	0.0-2.0	Long	Occasional
		July	0.0	>6.0	0.0-2.0	Long	Occasional
		August	0.0	>6.0	0.0-2.0	Long	Occasional
		September	0.0	>6.0	0.0-2.0	Long	Occasional
27:							
Steinhatchee--------------	B/D	March	0.5-1.5	>6.0	---	---	---
		April	0.5-1.5	>6.0	---	---	---
		May	0.5-1.5	>6.0	---	---	---
		June	0.5-1.5	>6.0	---	---	---
		July	0.5-1.5	>6.0	---	---	---
		August	0.5-1.5	>6.0	---	---	---
		September	0.5-1.5	>6.0	---	---	---
Tennille------------------	D	March	0.5-1.5	>6.0	---	---	---
		April	0.5-1.5	>6.0	---	---	---
		May	0.5-1.5	>6.0	---	---	---
		June	0.5-1.5	>6.0	---	---	---
		July	0.5-1.5	>6.0	---	---	---
		August	0.5-1.5	>6.0	---	---	---
		September	0.5-1.5	>6.0	---	---	---
28:							
Tooles--------------------	B/D	February	0.5-1.0	>6.0	---	---	---
		March	0.5-1.0	>6.0	---	---	---
		April	0.5-1.0	>6.0	---	---	---
		May	0.5-1.0	>6.0	---	---	---
		June	0.5-1.0	>6.0	---	---	---
		July	0.5-1.0	>6.0	---	---	---
		August	0.5-1.0	>6.0	---	---	---
		September	0.5-1.0	>6.0	---	---	---
Meadowbrook---------------	B/D	January	0.0-1.0	>6.0	---	---	---
		February	0.0-1.0	>6.0	---	---	---
		March	0.0-1.0	>6.0	---	---	---
		August	0.0-1.0	>6.0	---	---	---
		September	0.0-1.0	>6.0	---	---	---
		October	0.0-1.0	>6.0	---	---	---
		November	0.0-1.0	>6.0	---	---	---
		December	0.0-1.0	>6.0	---	---	---

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
29:							
Tooles----------------------	D	January	0.0	>6.0	0.0-2.0	---	---
		February	0.0	>6.0	0.0-2.0	---	---
		March	0.0	>6.0	0.0-2.0	---	---
		April	0.0	>6.0	0.0-2.0	---	---
		May	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
30:							
Yellowjacket--------------	D	February	0.0	>6.0	0.0-2.0	---	---
		March	0.0	>6.0	0.0-2.0	---	---
		April	0.0	>6.0	0.0-2.0	---	---
		May	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
		October	0.0	>6.0	0.0-2.0	---	---
31:							
Clara-----------------------	D	January	0.0	>6.0	0.0-2.0	---	---
		February	0.0	>6.0	0.0-2.0	---	---
		March	0.0	>6.0	0.0-2.0	---	---
		April	0.0	>6.0	0.0-2.0	---	---
		May	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
		October	0.0	>6.0	0.0-2.0	---	---
		November	0.0	>6.0	0.0-2.0	---	---
		December	0.0	>6.0	0.0-2.0	---	---
32:							
Bayvi-----------------------	D	January	0.0-1.0	>6.0	---	Very brief	Frequent
		February	0.0-1.0	>6.0	---	Very brief	Frequent
		March	0.0-1.0	>6.0	---	Very brief	Frequent
		April	0.0-1.0	>6.0	---	Very brief	Frequent
		May	0.0-1.0	>6.0	---	Very brief	Frequent
		June	0.0-1.0	>6.0	---	Very brief	Frequent
		July	0.0-1.0	>6.0	---	Very brief	Frequent
		August	0.0-1.0	>6.0	---	Very brief	Frequent
		September	0.0-1.0	>6.0	---	Very brief	Frequent
		October	0.0-1.0	>6.0	---	Very brief	Frequent
		November	0.0-1.0	>6.0	---	Very brief	Frequent
		December	0.0-1.0	>6.0	---	Very brief	Frequent
34:							
Ortega----------------------	A	January	3.5-5.0	>6.0	---	---	---
		June	3.5-5.0	>6.0	---	---	---
		July	3.5-5.0	>6.0	---	---	---
		August	3.5-5.0	>6.0	---	---	---
		September	3.5-5.0	>6.0	---	---	---
		October	3.5-5.0	>6.0	---	---	---
		November	3.5-5.0	>6.0	---	---	---
		December	3.5-5.0	>6.0	---	---	---

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
34:							
Blanton	A	March	4.0-5.5	4.5-6.0	---	---	---
		April	4.0-5.5	4.5-6.0	---	---	---
		May	4.0-5.5	4.5-6.0	---	---	---
		June	4.0-5.5	4.5-6.0	---	---	---
		July	4.0-5.5	4.5-6.0	---	---	---
		August	4.0-5.5	4.5-6.0	---	---	---
36:							
Pits.							
38:							
Quartzipsamments	A	June	2.0-5.0	>6.0	---	---	---
		July	2.0-5.0	>6.0	---	---	---
		August	2.0-5.0	>6.0	---	---	---
		September	2.0-5.0	>6.0	---	---	---
39:							
Resota	A	January	3.5-5.0	>6.0	---	---	---
		February	3.5-5.0	>6.0	---	---	---
		March	3.5-5.0	>6.0	---	---	---
		April	3.5-5.0	>6.0	---	---	---
		December	3.5-5.0	>6.0	---	---	---
41:							
Mandarin	C	June	1.5-3.5	>6.0	---	---	---
		July	1.5-3.5	>6.0	---	---	---
		August	1.5-3.5	>6.0	---	---	---
		September	1.5-3.5	>6.0	---	---	---
		October	1.5-3.5	>6.0	---	---	---
		November	1.5-3.5	>6.0	---	---	---
		December	1.5-3.5	>6.0	---	---	---
Lutterloh	C	March	1.5-2.5	>6.0	---	---	---
		April	1.5-2.5	>6.0	---	---	---
		May	1.5-2.5	>6.0	---	---	---
		June	1.5-2.5	>6.0	---	---	---
		July	1.5-2.5	>6.0	---	---	---
		August	1.5-2.5	>6.0	---	---	---
42:							
Tooles	B/D	February	0.5-1.0	>6.0	---	---	---
		March	0.5-1.0	>6.0	---	---	---
		April	0.5-1.0	>6.0	---	---	---
		May	0.5-1.0	>6.0	---	---	---
		June	0.5-1.0	>6.0	---	---	---
		July	0.5-1.0	>6.0	---	---	---
		August	0.5-1.0	>6.0	---	---	---
		September	0.5-1.0	>6.0	---	---	---
Wekiva	D	January	0.0-1.0	>6.0	---	---	---
		February	0.0-1.0	>6.0	---	---	---
		March	0.0-1.0	>6.0	---	---	---
		June	0.0-1.0	>6.0	---	---	---
		July	0.0-1.0	>6.0	---	---	---
		August	0.0-1.0	>6.0	---	---	---
		September	0.0-1.0	>6.0	---	---	---
		October	0.0-1.0	>6.0	---	---	---
		November	0.0-1.0	>6.0	---	---	---
		December	0.0-1.0	>6.0	---	---	---

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
44:							
Bodiford------------------	D	February	0.0	>6.0	0.0-2.0	Long	Frequent
		March	0.0	>6.0	0.0-2.0	Long	Frequent
		April	0.0	>6.0	0.0-2.0	Long	Frequent
		May	0.0	>6.0	0.0-2.0	Long	Frequent
		June	0.0	>6.0	0.0-2.0	Long	Frequent
		July	0.0	>6.0	0.0-2.0	Long	Frequent
		August	0.0	>6.0	0.0-2.0	Long	Frequent
		September	0.0	>6.0	0.0-2.0	Long	Frequent
		October	0.0	>6.0	0.0-2.0	Long	Frequent
Meadowbrook---------------	D	June	0.0-0.5	>6.0	---	---	---
		July	0.0-0.5	>6.0	---	Long	Frequent
		August	0.0-0.5	>6.0	---	Long	Frequent
		September	0.0-0.5	>6.0	---	Long	Frequent
		October	0.0-0.5	>6.0	---	Long	Frequent
		November	0.0-0.5	>6.0	---	Long	Frequent
		December	0.0-0.5	>6.0	---	---	---
47:							
Lutterloh-----------------	C	March	1.5-2.5	>6.0	---	Brief	Occasional
		April	1.5-2.5	>6.0	---	Brief	Occasional
		May	1.5-2.5	>6.0	---	---	---
		June	1.5-2.5	>6.0	---	---	---
		July	1.5-2.5	>6.0	---	---	---
		August	1.5-2.5	>6.0	---	---	---
Moriah--------------------	B	January	1.5-3.0	>6.0	---	Long	Occasional
		February	1.5-3.0	>6.0	---	Long	Occasional
		March	1.5-3.0	>6.0	---	Long	Occasional
		April	1.5-3.0	>6.0	---	---	---
		May	1.5-3.0	>6.0	---	---	---
		June	1.5-3.0	>6.0	---	---	---
Matmon--------------------	D	January	1.0-2.0	>6.0	---	Long	Occasional
		February	1.0-2.0	>6.0	---	Long	Occasional
		March	1.0-2.0	>6.0	---	Long	Occasional
		April	1.0-2.0	>6.0	---	---	---
		May	1.0-2.0	>6.0	---	---	---
		June	1.0-2.0	>6.0	---	---	---
		July	1.0-2.0	>6.0	---	---	---
		August	1.0-2.0	>6.0	---	---	---
		September	1.0-2.0	>6.0	---	---	---
		October	1.0-2.0	>6.0	---	---	---
		November	1.0-2.0	>6.0	---	---	---
		December	1.0-2.0	>6.0	---	---	---
48:							
Psammaquents--------------	D	January	0.0-1.0	>6.0	---	Very brief	Frequent
		February	0.0-1.0	>6.0	---	Very brief	Frequent
		March	0.0-1.0	>6.0	---	Very brief	Frequent
		April	0.0-1.0	>6.0	---	Very brief	Frequent
		May	0.0-1.0	>6.0	---	Very brief	Frequent
		June	0.0-1.0	>6.0	---	Very brief	Frequent
		July	0.0-1.0	>6.0	---	Very brief	Frequent
		August	0.0-1.0	>6.0	---	Very brief	Frequent
		September	0.0-1.0	>6.0	---	Very brief	Frequent
		October	0.0-1.0	>6.0	---	Very brief	Frequent
		November	0.0-1.0	>6.0	---	Very brief	Frequent
		December	0.0-1.0	>6.0	---	Very brief	Frequent
Rock outcrop--------------	D	All months	---	---	---	---	---

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
49:							
Chaires	B/D	March	0.5-1.5	>6.0	---	---	---
		April	0.5-1.5	>6.0	---	---	---
		May	0.5-1.5	>6.0	---	---	---
		June	0.5-1.5	>6.0	---	---	---
		July	0.5-1.5	>6.0	---	---	---
		August	0.5-1.5	>6.0	---	---	---
		September	0.5-1.5	>6.0	---	---	---
Meadowbrook	B/D	January	0.0-1.0	>6.0	---	---	---
		February	0.0-1.0	>6.0	---	---	---
		March	0.0-1.0	>6.0	---	---	---
		August	0.0-1.0	>6.0	---	---	---
		September	0.0-1.0	>6.0	---	---	---
		October	0.0-1.0	>6.0	---	---	---
		November	0.0-1.0	>6.0	---	---	---
		December	0.0-1.0	>6.0	---	---	---
50:							
Wulfert	D	January	0.0-0.5	>6.0	---	Long	Frequent
		February	0.0-0.5	>6.0	---	Long	Frequent
		March	0.0-0.5	>6.0	---	Long	Frequent
		April	0.0-0.5	>6.0	---	Long	Frequent
		May	0.0-0.5	>6.0	---	Long	Frequent
		June	0.0-0.5	>6.0	---	Long	Frequent
		July	0.0-0.5	>6.0	---	Long	Frequent
		August	0.0-0.5	>6.0	---	Long	Frequent
		September	0.0-0.5	>6.0	---	Long	Frequent
		October	0.0-0.5	>6.0	---	Long	Frequent
		November	0.0-0.5	>6.0	---	Long	Frequent
		December	0.0-0.5	>6.0	---	Long	Frequent
51:							
Yellowjacket	D	January	0.0-0.5	>6.0	---	Long	Frequent
		February	0.0-0.5	>6.0	---	Long	Frequent
		March	0.0-0.5	>6.0	---	Long	Frequent
		April	0.0-0.5	>6.0	---	---	---
		May	0.0-0.5	>6.0	---	---	---
		June	0.0-0.5	>6.0	---	---	---
		July	0.0-0.5	>6.0	---	---	---
		August	0.0-0.5	>6.0	---	---	---
		September	0.0-0.5	>6.0	---	---	---
		October	0.0-0.5	>6.0	---	---	---
		November	0.0-0.5	>6.0	---	---	---
		December	0.0-0.5	>6.0	---	---	---
Maurepas	D	January	0.0	>6.0	0.0-1.0	Long	Frequent
		February	0.0	>6.0	0.0-1.0	Long	Frequent
		March	0.0	>6.0	0.0-1.0	Long	Frequent
		April	0.0	>6.0	0.0-1.0	Long	Frequent
		May	0.0	>6.0	0.0-1.0	Long	Frequent
		June	0.0	>6.0	0.0-1.0	Long	Frequent
		July	0.0	>6.0	0.0-1.0	Long	Frequent
		August	0.0	>6.0	0.0-1.0	Long	Frequent
		September	0.0	>6.0	0.0-1.0	Long	Frequent
		October	0.0	>6.0	0.0-1.0	Long	Frequent
		November	0.0	>6.0	0.0-1.0	Long	Frequent
		December	0.0	>6.0	0.0-1.0	Long	Frequent

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
52:							
St. Augustine	B	June	2.0-3.0	>6.0	---	Brief	Rare
		July	2.0-3.0	>6.0	---	Brief	Rare
		August	2.0-3.0	>6.0	---	Brief	Rare
		September	2.0-3.0	>6.0	---	Brief	Rare
		October	2.0-3.0	>6.0	---	Brief	Rare
54:							
Ridgewood	C	June	2.0-3.5	>6.0	---	---	---
		July	2.0-3.5	>6.0	---	---	---
		August	2.0-3.5	>6.0	---	---	---
		September	2.0-3.5	>6.0	---	---	---
		October	2.0-3.5	>6.0	---	---	---
		November	2.0-3.5	>6.0	---	---	---
55:							
Tooles	D	February	0.0-0.5	>6.0	---	Long	Frequent
		March	0.0-0.5	>6.0	---	Long	Frequent
		April	0.0-0.5	>6.0	---	Long	Frequent
		May	0.0-0.5	>6.0	---	Long	Frequent
		June	0.0-0.5	>6.0	---	---	---
		July	0.0-0.5	>6.0	---	---	---
		August	0.0-0.5	>6.0	---	---	---
		September	0.0-0.5	>6.0	---	---	---
Nutall	D	February	0.0-1.0	>6.0	---	Long	Frequent
		March	0.0-1.0	>6.0	---	Long	Frequent
		April	0.0-1.0	>6.0	---	Long	Frequent
		May	0.0-1.0	>6.0	---	Long	Frequent
		June	0.0-1.0	>6.0	---	---	---
		July	0.0-1.0	>6.0	---	---	---
		August	0.0-1.0	>6.0	---	---	---
		September	0.0-1.0	>6.0	---	---	---
56:							
Ortega	A	January	3.5-5.0	>6.0	---	---	---
		June	3.5-5.0	>6.0	---	---	---
		July	3.5-5.0	>6.0	---	---	---
		August	3.5-5.0	>6.0	---	---	---
		September	3.5-5.0	>6.0	---	---	---
		October	3.5-5.0	>6.0	---	---	---
		November	3.5-5.0	>6.0	---	---	---
		December	3.5-5.0	>6.0	---	---	---
57:							
Clara	B/D	January	---	---	---	Brief	Frequent
		February	---	---	---	Brief	Frequent
		March	---	---	---	Brief	Frequent
		June	0.0-1.0	>6.0	---	---	---
		July	0.0-1.0	>6.0	---	---	---
		August	0.0-1.0	>6.0	---	---	---
		September	0.0-1.0	>6.0	---	---	---
		October	0.0-1.0	>6.0	---	---	---
		November	0.0-1.0	>6.0	---	---	---
		December	0.0-1.0	>6.0	---	---	---

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
57:							
Oldtown-------------------	D	February	0.0	>6.0	0.0-2.0	Long	Frequent
		March	0.0	>6.0	0.0-2.0	Long	Frequent
		April	0.0	>6.0	0.0-2.0	Long	Frequent
		May	0.0	>6.0	0.0-2.0	Long	Frequent
		June	0.0	>6.0	0.0-2.0	Long	Frequent
		July	0.0	>6.0	0.0-2.0	Long	Frequent
		August	0.0	>6.0	0.0-2.0	Long	Frequent
		September	0.0	>6.0	0.0-2.0	Long	Frequent
		October	0.0	>6.0	0.0-2.0	Long	Frequent
58:							
Talquin-------------------	B/D	March	0.5-1.5	>6.0	---	Long	Occasional
		April	0.5-1.5	>6.0	---	Long	Occasional
		May	0.5-1.5	>6.0	---	Long	Occasional
		June	0.5-1.5	>6.0	---	Long	Occasional
		July	0.5-1.5	>6.0	---	Long	Occasional
		August	0.5-1.5	>6.0	---	Long	Occasional
		September	0.5-1.5	>6.0	---	Long	Occasional
Meadowbrook---------------	B/D	January	0.0-1.0	>6.0	---	---	---
		February	0.0-1.0	>6.0	---	---	---
		March	0.0-1.0	>6.0	---	Long	Occasional
		April	0.0-1.0	>6.0	---	Long	Occasional
		May	0.0-1.0	>6.0	---	Long	Occasional
		June	0.0-1.0	>6.0	---	Long	Occasional
		July	0.0-1.0	>6.0	---	Long	Occasional
		August	0.0-1.0	>6.0	---	Long	Occasional
		September	0.0-1.0	>6.0	---	Long	Occasional
		October	0.0-1.0	>6.0	---	---	---
		November	0.0-1.0	>6.0	---	---	---
		December	0.0-1.0	>6.0	---	---	---
59:							
Talquin-------------------	B/D	March	0.5-1.5	>6.0	---	Long	Occasional
		April	0.5-1.5	>6.0	---	Long	Occasional
		May	0.5-1.5	>6.0	---	Long	Occasional
		June	0.5-1.5	>6.0	---	Long	Occasional
		July	0.5-1.5	>6.0	---	Long	Occasional
		August	0.5-1.5	>6.0	---	Long	Occasional
		September	0.5-1.5	>6.0	---	Long	Occasional
60:							
Ridgewood-----------------	C	June	2.0-3.5	>6.0	---	Brief	Rare
		July	2.0-3.5	>6.0	---	Brief	Rare
		August	2.0-3.5	>6.0	---	Brief	Rare
		September	2.0-3.5	>6.0	---	Brief	Rare
		October	2.0-3.5	>6.0	---	Brief	Rare
		November	2.0-3.5	>6.0	---	Brief	Rare
61:							
Mandarin------------------	C	June	1.5-3.5	>6.0	---	---	---
		July	1.5-3.5	>6.0	---	---	---
		August	1.5-3.5	>6.0	---	---	---
		September	1.5-3.5	>6.0	---	---	---
		October	1.5-3.5	>6.0	---	---	---
		November	1.5-3.5	>6.0	---	---	---
		December	1.5-3.5	>6.0	---	---	---
62:							
Kureb---------------------	A	All months	---	---	---	---	---

Table 17.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding surface water depth	Flooding: Duration	Flooding: Frequency
63:							
Wesconnett	D	January	0.0	>6.0	0.0-2.0	---	---
		February	0.0	>6.0	0.0-2.0	---	---
		March	0.0	>6.0	0.0-2.0	---	---
		April	0.0	>6.0	0.0-2.0	---	---
		May	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
Lynn Haven	D	January	0.0	>6.0	0.0-2.0	---	---
		February	0.0	>6.0	0.0-2.0	---	---
		March	0.0	>6.0	0.0-2.0	---	---
		April	0.0	>6.0	0.0-2.0	---	---
		May	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
64:							
Ousley	C	January	1.5-3.0	>6.0	---	Brief	Occasional
		February	1.5-3.0	>6.0	---	Brief	Occasional
		March	1.5-3.0	>6.0	---	Brief	Occasional
		April	1.5-3.0	>6.0	---	Brief	Occasional
		May	1.5-3.0	>6.0	---	---	---
		December	1.5-3.0	>6.0	---	Brief	Occasional
Leon	B/D	March	0.5-1.5	>6.0	---	Brief	Occasional
		April	0.5-1.5	>6.0	---	Brief	Occasional
		May	0.5-1.5	>6.0	---	---	---
		June	0.5-1.5	>6.0	---	---	---
		July	0.5-1.5	>6.0	---	---	---
		August	0.5-1.5	>6.0	---	---	---
		September	0.5-1.5	>6.0	---	---	---
Clara	D	January	0.0	>6.0	0.0-2.0	Brief	Occasional
		February	0.0	>6.0	0.0-2.0	Brief	Occasional
		March	0.0	>6.0	0.0-2.0	Brief	Occasional
		April	0.0	>6.0	0.0-2.0	Brief	Occasional
		May	0.0	>6.0	0.0-2.0	---	---
		June	0.0	>6.0	0.0-2.0	---	---
		July	0.0	>6.0	0.0-2.0	---	---
		August	0.0	>6.0	0.0-2.0	---	---
		September	0.0	>6.0	0.0-2.0	---	---
		October	0.0	>6.0	0.0-2.0	---	---
		November	0.0	>6.0	0.0-2.0	---	---
		December	0.0	>6.0	0.0-2.0	Brief	Occasional

Table 18.--Classification of the Soils

Soil name	Family or higher taxonomic class
Albany	Loamy, siliceous, subactive, thermic Grossarenic Paleudults
Bayvi	Sandy, siliceous, thermic Cumulic Endoaquolls
Blanton	Loamy, siliceous, semiactive, thermic Grossarenic Paleudults
Bodiford	Loamy, siliceous, superactive, thermic Arenic Endoaqualfs
Chaires	Sandy, siliceous, thermic Alfic Alaquods
Chiefland	Loamy, siliceous, superactive, thermic Arenic Hapludalfs
Clara	Siliceous, thermic Spodic Psammaquents
Elloree	Loamy, siliceous, active, thermic Arenic Endoaqualfs
Garcon	Loamy, siliceous, active, thermic Arenic Hapludults
Kureb	Thermic, uncoated Spodic Quartzipsamments
Leon	Sandy, siliceous, thermic Aeric Alaquods
Lutterloh	Loamy, siliceous, subactive, thermic Grossarenic Paleudalfs
Lynn Haven	Sandy, siliceous, thermic Typic Alaquods
Mandarin	Sandy, siliceous, thermic Oxyaquic Alorthods
Matmon	Loamy, siliceous, active, thermic, shallow Aquic Hapludalfs
Maurepas	Euic, thermic Typic Medisaprists
Meadowbrook	Loamy, siliceous, superactive, thermic Grossarenic Endoaqualfs
Moriah	Loamy, siliceous, superactive, thermic Aquic Arenic Hapludalfs
Nutall	Fine-loamy, siliceous, superactive, thermic Mollic Albaqualfs
Oldtown	Sandy, siliceous, thermic Histic Humaquepts
Ortega	Thermic, uncoated Typic Quartzipsamments
Osier	Siliceous, thermic Typic Psammaquents
Otela	Loamy, siliceous, semiactive, thermic Grossarenic Paleudalfs
Ousley	Thermic, uncoated Aquic Quartzipsamments
Penney	Thermic, uncoated Typic Quartzipsamments
Psammaquents	Thermic, coated Psammaquents
Quartzipsamments	Hyperthermic, uncoated Quartzipsamments
Rawhide	Fine-loamy, siliceous, superactive, thermic Typic Argiaquolls
Resota	Thermic, uncoated Spodic Quartzipsamments
Ridgewood	Thermic, uncoated Aquic Quartzipsamments
Shired	Coarse-loamy, siliceous, superactive, thermic Typic Argiaquolls
St. Augustine	Sandy, siliceous, hyperthermic Alfic Udarents
Steinhatchee	Sandy, siliceous, thermic Alfic Alaquods
Talquin	Sandy, siliceous, thermic Typic Haplaquods
Tennille	Siliceous, thermic Lithic Psammaquents
Tooles	Loamy, siliceous, superactive, thermic Arenic Albaqualfs
Wadley	Loamy, siliceous, subactive, thermic Grossarenic Paleudults
Wekiva	Loamy, siliceous, active, thermic, shallow Aeric Endoaqualfs
Wesconnett	Sandy, siliceous, thermic Typic Alaquods
Wulfert	Sandy or sandy-skeletal, siliceous, euic, hyperthermic Terric Sulfisaprists
Yellowjacket	Sandy or sandy-skeletal, siliceous, euic, thermic Terric Medisaprists

NRCS Accessibility Statement

The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at 1-800-457-3642 or by e-mail at ServiceDesk-FTC@ftc.usda.gov. For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at http://offices.sc.egov.usda.gov/locator/app.