

Santa Rosa County, Florida  
Nontechnical Soil Descriptions



Nontechnical soil descriptions describe soil properties or management considerations specific to a soil map unit or group of map units. These descriptions are written in terminology that nontechnical users of soil survey information can understand and are used to create reports. By linking the description to the soil survey map units these reports can be generated by conservation planners and other NRCS employees for distribution to land users. These descriptions are available through both TOOLKIT and NASIS.

In this subsection nontechnical descriptions are available through four categories they are Agronomic, Ecological Community, Urban, and Water Quality. Separate map unit to description links are provided for each category.

**AGRONOMIC**

The following agronomic categories are available and linked through the Land Capability Unit (LCU) that is listed below.

Category

- aSOI - Soil Characteristics
- bSAC - Soil Agronomic Characteristics
- cH2O - Seasonal High Water Table
- dCUL - Cultivation Limitations
- eERO - Erosion Control
- fIRR - Irrigation Needs
- hPAS - Pasture and Hayland
- iWMG - Water Table Management

<u>Map Symbol</u>	<u>Non hydric LCU</u>	<u>Hydric LCU</u>	<u>Drained LCU</u>	<u>Undrained LCU</u>
1	3e5			
2	2w3			
3	2w5	5w6 (Bibb) 6w4 (Kinston)		6w4
4		8w2		
5	3s21			
6		4w30 (Chewacla, Wahee)		
	2w5	5w6		
7		7w2		

<u>Map Symbol</u>	<u>Non hydric LCU</u>	<u>Hydric LCU</u>	<u>Drained LCU</u>	<u>Undrained LCU</u>
8	1o2			
9	2e2			
10	3e2			
11	2w5	4w23		
12	3e3			
13	4e8			
14	2s2			
15	3s2			
16	2w4	3w23		
17	8e1			
18	2w5			
19	2e1			
20	7s1			
21	4s7			
22	6s2			
23	7s6			
24	4w5	6w3		
25	2s1			
26	3s1			
27	2w5	4w23		
28	2e1			
29	3w23			
30	1o1			
31	2e1			
32	3e1			
33	3s7			
34	3s5	6w3		
35	6w3	6w3		
36	8e1			
37	2w5	4w23		
38	1o1			
39	2e1			
40		6w3	6w3	
41	1o2			
42	2e2			
43	3e2			
44	3s20			
45	4s20			
46	6s21			
47	6s21(Troup) 4e1(Orangeburg) 4e4(Cowarts)			

<u>Map Symbol</u>	<u>Non hydric LCU</u>	<u>Hydric LCU</u>	<u>Drained LCU</u>	<u>Undrained LCU</u>
48	8s1			
51	3s5	4w26		
52		3w23		
53	6s2			
54	3s7			

## **ECOLOGICAL COMMUNITY**

The following categories are available below.

kRNG - Rangeland (not developed, no significant application in the area served by this field office.)

IWLD - Wildlife Suitability

mWOD - Woodland Suitability

EC 3 (Sand Pine Scrub) - Map Unit: 20

EC 4 (Longleaf Pine-Turkey Oak Hills) - Map Units: 21, 22, 23, 33, 44, 45, 46

EC 5 (Mixed Hardwood and Pines) - Map Units: 1, 2, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 25, 26, 27, 28, 30, 31, 32, 34, 38, 39, 41, 42, 43, 47, 54

EC 7 (North Florida Flatwoods) - Map Unit: 24

EC 18 (Salt Marsh) - Map Units: 4

EC 20 (Bottomland Hardwoods) - Map Units: 3, 6\*

EC 21 (Swamp Hardwoods) - Map Units: 6\*, 7, 35, 37, 40

EC 23 (Pitcher Plant Bogs) - Map Units: 29, 51, 52

These Map Units occur in more than one type of Ecological Community.

Map Units without an Ecological Community listed are not suited to these uses or suitability is so variable that it must be determined on-site.

## **URBAN USES**

The following additional nontechnical descriptions are available for urban interpretations:

oURB - Urban Use Statement

A101 - Map Units - 3, 4, 6, 7, 18, 28, 35, 37, 40

A102 - Map Units - 1, 11, 16, 24, 27, 29, 34, 51, 52

A103 - Map Units - 2, 12, 13

A104 - Map Units - 8, 9, 10, 41, 42, 43

A105 - Map Units - 5, 14, 15, 19, 20, 21, 25, 26, 30,31, 32, 33, 38, 39, 44, 45, 53, 54

A106 -Map Units -17

A107 -Map Units -22, 23, 46, 47

Map units without a link listed are either not suited to these uses or suitability is so variable that it must be determined on-site.

## **WATER QUALITY**

The last group of nontechnical description in this subsection of this FOTG is that group dealing with water quality, specifically pesticide and nutrient management. The link between the statements and the map units is listed below.

01 - Map Units - 14, 15

02 - Map Units - 5, 19, 20, 21, 22, 25, 26, 28, 33, 44, 45, 53, 54

03 - Map Units - 1, 3 (Bibb part) , 4 (Handsboro part) , 6 (Riverview part) , 16, 18, 23, 24, 30, 31, 32, 34, 36, 38, 39, 40, 41, 42, 43, 46, 47, 48, 51, 52

04 - Map Units - 2, 3 (Kinston part) , 4 (Bohicket part) , 6 (Chewacla and Wahee parts) 7, 8, 9, 10, 11, 12, 13, 17, 27, 29, 35, 37

## Nontechnical Soil Descriptions

### 1o1 Map Units 30, 38

"aSOI", "1o1", "This map unit consists of nearly level, well drained soils on uplands. They have sandy or loamy surface layers less than 20 inches thick, and moderately permeable loamy subsoil layers. These soils are prime farmland."

"bSAC", "1o1", "These soils have a well aerated root zone more than 60 inches thick. The available water capacity averages moderate to high in the root zone. They have moderate natural fertility and crops respond well to fertilization. Rainfall is readily absorbed and retained by the soils. Runoff during rains is slow and the erosion hazard is slight."

"cH2O", "1o1", "In normal years these soils have no seasonal high water table within 72 inches."

"dCUL", "1o1", "These soils have few limitations for growing cultivated crops. A wide variety of cultivated crops are well adapted. Such crops as corn, soybeans, peanuts, and tobacco grow well without special erosion control or water control measures. Practices such as good seedbed preparation, nutrient management, and crop rotation are all that are needed to keep the soil in good condition. Cover crops should be alternated with row crops. All crop residues should be returned to the soil."

"eERO", "1o1", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "1o1", "Successful crop production on these soils does not normally require irrigation, however irrigation is necessary to insure against significant yield loss during periods of drought."

"hPAS", "1o1", "These soils are well suited to pastures and hay crops. Pasture grasses such as hybrid bermudagrass and the improved bahiagrasses are well adapted. Clovers and other legumes are also adapted. They grow well where they are properly managed. They require nutrient management and controlled grazing to maintain vigorous plants for highest yields and good soil cover."

"iWMG", "1o1", "Water table management is not needed on these soils."

### 1o2 Map Units 8, 41

"aSOI", "1o2", "This map unit consists of nearly level, well drained soils on uplands. They have sandy surface layers less than 20 inches thick, and moderately slowly permeable loamy subsoil layers. These soils are prime farmland."

"bSAC", "1o2", "The root zone is restricted by a compact subsoil and by slight wetness in wet seasons. These soils have moderate natural fertility and crops respond well to fertilization. The available water capacity averages moderate to high in the root zone. Rainfall is readily absorbed and retained by the soils. Runoff during rains is slow and the hazard of erosion is slight."

"cH2O", "1o2", "In normal years these soils have a seasonal high water table at a depth of between 36 and 48 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "1o2", "These soils have few limitations for growing cultivated crops. The variety of cultivated crops is somewhat limited by wetness. Such crops as corn, soybeans, and peanuts grow well without special conservation practices. Practices such as good seedbed preparation, nutrient management, and crop rotations are all that are needed to keep the soil in good condition. Cover crops should be alternated with row crops. All crop residues should be returned to the soil."

"eERO", "1o2", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "1o2", "Crops produced on these soils are not normally irrigated."

"hPAS", "1o2", "These soils are well suited to pastures and hay crops. Pasture grasses such as hybrid bermudagrass and improved bahiagrasses are well adapted. Clovers and other legumes are also adapted. Grasses and clovers grow well where they are properly managed. They require nutrient management and controlled grazing to maintain vigorous plants for highest yields and good soil cover."

"iWMG", "1o2", "Water table management is not needed on these soils."

## **2e1 Map Units 19, 28, 31, 39**

"aSOI", "2e1", "This map unit consists of gently sloping, well drained soils of the uplands. They have sandy or loamy surface layers less than 20 inches thick, and moderately permeable, loamy or clayey subsoil layers. These soils are prime farmland."

"bSAC", "2e1", "These soils have a well aerated root zone more than 60 inches thick. The available water capacity averages moderate to high in the root zone. These soils have moderate natural fertility and crops respond well to fertilization. Rainfall is readily absorbed and retained in the soil. Runoff during rain is moderate to rapid on unprotected areas and the erosion hazard is moderate."

"cH2O", "2e1", "In normal years these soils have no seasonal high water table within 72 inches."

"dCUL", "2e1", "These soils have moderate limitations for growing cultivated crops because of the hazard of erosion. A wide variety of cultivated crops is well adapted. Such crops as corn and soybeans grow well where properly managed. Moderate erosion control measures are needed. Maximum yields require good seed-soil contact, fertilizing, and liming. Nutrient management maximize yields."

"eERO", "2e1", "Moderate erosion control measures are needed on these soils. These include a system of well-designed terraces with stabilized outlets and contour cultivation of row crops in alternate strips with cover crops. Crop rotations are needed that include cover crops at least half the time. Soil-Improving cover crops and all crop residues should be left on the soil. Conservation tillage or no-till best protect the soil."

"fIRR", "2e1", "Crops produced on these soils are not normally irrigated."

"hPAS", "2e1", "These soils are well suited to pastures and hay crops. Pasture grasses such as hybrid bermudagrass and the improved bahiagrasses are well adapted. Clovers and other legumes are also adapted. They grow well where properly managed. They require nutrient management and controlled grazing to maintain vigorous plants for highest yields and good soil cover."

"iWMG", "2e1", "Water table management is not normally practiced on these soils."

## **2e2 Map Units 9, 42**

"aSOI", "2e2", "This map unit consists of gently sloping, well drained to moderately well drained soils on uplands. They have sandy or loamy surface layers less than 20 inches thick, and moderately slowly permeable loamy subsoil layers. These soils are prime farmland."

"bSAC", "2e2", "These soils have a root zone that is somewhat restricted by a compact subsoil and by slight wetness in wet seasons. The available water capacity in the root zone averages moderate. Natural fertility is low but crops respond moderately well to fertilization. The internal drainage rate is slow under natural conditions. Runoff during rains is moderate on unprotected areas and the hazard of erosion is moderate."

"cH2O", "2e2", "In normal years these soils have a seasonal high water table at a depth of between 36 and 48 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days is the water table above the normal seasonal high water table depth."

"dCUL", "2e2", "These soils have moderate limitations for growing cultivated crops due to the hazard of erosion. The variety of cultivated crops is somewhat limited by wetness. Crops such as corn and peanuts are adapted where properly managed. Moderate erosion control measures are needed. Maximum yields require good seedbed preparation and nutrient management."

"eERO", "2e2", "Moderate erosion control measures are needed on these soils. These include a system of well-designed terraces with stabilized outlets and contour cultivation of row crops in alternate strips with cover crops. Crop rotations are needed that include cover crops at least half the time. Soil improving cover crops and all crop residues should be left on the soil. Conservation tillage or no-till best protect the soil."

"fIRR", "2e2", "Crops produced on these soils are not normally irrigated."

"hPAS", "2e2", "These soils are well suited to pastures and hay crops. Improved pasture plants such as clovers, hybrid bermudagrass, and improved bahiagrasses are well adapted. They produce well where they are properly managed. They require nutrient management and controlled grazing to maintain vigorous plants and a good ground cover."

"iWMG", "2e2", "Water table management is not normally practiced on these soils; however, tile drains are needed to maintain good drainage for such crops as tobacco."

## **2s1 Map Unit 25**

"aSOI", "2s1", "This map unit consists of nearly level and gently sloping, well drained soils on uplands. They have sandy surface and subsurface layers 20 to 40 inches thick, and moderately to moderately rapidly permeable loamy subsoil layers."

"bSAC", "2s1", "These soils have a well aerated root zone more than 72 inches thick. The available water capacity averages low to moderate in the root zone. Natural fertility is low and crop response to fertilization is moderate. Rainfall is rapidly absorbed with little runoff. The erosion hazard is slight."

"cH2O", "2s1", "In normal years these soils have no seasonal high water table within 72 inches."

"dCUL", "2s1", "These soils have moderate limitations for cultivated crops due to droughtiness. They can be cultivated safely with ordinary farming methods, but droughtiness and rapid leaching of plant nutrients limit the choice of crops and the potential yields of adapted crops. With good management such crops as corn, soybeans, peanuts, and tobacco can be grown. Yields can be maximized with nutrient management."

"eERO", "2s1", "Row crops should be planted on the contour in alternate strips with cover crops. Crop rotations should include cover crops at least half the time. These cover crops and all residues of other crops should be returned to the soil."

"fIRR", "2s1", "Crops produced on these soils are not normally irrigated and good yields can be achieved without irrigation but yields can be increased with irrigation. Irrigation of some high value crops such as tobacco is usually feasible where irrigation water is readily available."

"hPAS", "2s1", "These soils are well suited to pastures. Deep rooting plants such as hybrid bermudagrass and bahiagrass are well adapted. They produce well where nutrient management is practiced. Controlled grazing is important to maintain vigorous plants for maximum yields and good cover."

"iWMG", "2s1", "Water table management is not normally practiced on these soils."

## **2s2 Map unit 14**

"aSOI", "2s2", "This map unit consists of nearly level and gently sloping, well drained to moderately well drained soils on uplands. They have sandy surface and subsurface layers 20 to 40 inches thick, and moderately slowly to slowly permeable loamy and clayey subsoil layers."

"bSAC", "2s2", "These soils have a well aerated root zone that is limited at about 45 inches by slowly permeable subsoils or by wetness. The available water capacity averages low to moderate in the root zone. Natural fertility is low and crop response to fertilization is moderate. Rainfall is rapidly absorbed with little runoff. The erosion hazard is slight."

"cH2O", "2s2", "In normal years these soils have a seasonal high water table at a depth of between 36 and 48 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "2s2", "These soils have moderate limitations for cultivated crops due to droughtiness during dry seasons and wetness during wet seasons. They can be cultivated safely with ordinary good farming methods, but droughtiness and rapid leaching of plant nutrients limit the choice of crops and the potential yields of adapted crops. With good management such crops as corn, soybeans, peanuts and tobacco can be grown. Nutrient management maximizes yields."

"eERO", "2s2", "Row crops should be planted on the contour in alternate strips with cover crops. Crop rotations should include cover crops at least half the time. Soil improving cover crops and all residues of other crops should be left on the field."

"fIRR", "2s2", "Crops produced on these soils are not normally irrigated; however, yields can be increased with irrigation. Irrigation is feasible where water is readily available."

"hPAS", "2s2", "These soils are well suited to pastures. Hybrid bermudagrass and bahiagrasses are well adapted. They produce well where nutrient management is practiced. Controlled grazing is needed to maintain vigorous plants for maximum yields and good cover."

"iWMG", "2s2", "Water table management is not normally practiced on these soils."

## **2w3 Map unit 2**

"aSOI", "2w3", "This map unit consists of nearly level, moderately well drained soils on low ridges of the uplands. They have sandy or loamy surface layers less than 20 inches thick, and slowly permeable, clayey subsoil layers. These soils are prime farmland."

"bSAC", "2w3", "A well aerated root zone is limited by a firm, clayey and slowly to very slowly permeable subsoil layers. The available water capacity of the root zone is moderate to high. Natural fertility is low and crops respond only moderately to fertilizers. Surface runoff is slow. Internal drainage is slow and response to artificial drainage is slow."

"cH2O", "2w3", "In normal years these soils have a seasonal high water table at a depth of between 30 and 60 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "2w3", "These soils have moderate limitations for cultivated crops due to wetness and a compact subsoil. These factors limit the number of adapted crops. Corn and soybeans are adapted crops. No special erosion control practices are needed. Row crops should be grown in rotation with cover crops on the land at least half the time. Soil building cover crops and all crop residue should be left on the soil. Good seedbed preparation and nutrient management are needed for best yields,"

"eERO", "2w3", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "2w3", "Crops produced on these soils are not normally irrigated."

"hPAS", "2w3", "These soils are moderately well suited to pastures. Clovers are poorly adapted. Hybrid bermudagrass and improved bahiagrasses are moderately adapted under good management. Best yields require fertilization, liming, and careful controlled grazing."

"iWMG", "2w3", "Drainage is not normally needed; however, some crops show increased yields after drainage ditches that remove excess surface water are installed."

## **2w4 Map Unit 16**

"aSOI", "2w4", "This map unit consists of nearly level, moderately well drained and somewhat poorly drained soils on uplands. They have sandy surface and subsurface layers 20 to 40 inches thick and moderately permeable loamy subsoil layers."

"bSAC", "2w4", "A well aerated root zone is limited by a seasonal high water table in wet seasons. The available water capacity averages moderate in the root zone. Natural fertility is low, but the soils respond well to fertilization. Internal drainage rate is moderate, and the soils respond well to water table management. Water table management is needed for highest yields of some crops."

"cH2O", "2w4", "In normal years these soils have a seasonal high water table at a depth of between 1a and 36 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "2w4", "These soils have moderate limitations for cultivated crops due to wetness. In their natural condition the variety of adapted crops is limited to those that are tolerant of slight wetness. Crop rotations should include close growing crops, on the land at least half the time. All crop residues should be left on the land. Best yields require good seedbed preparation and nutrient management."

"eERO", "2w4", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "2w4", "Crops produced on these soils are not normally irrigated."

"hPAS", "2w4", "These soils are well suited to pastures and hay crops. Such grasses as hybrid bermudagrass and improved bahiagrasses grow well where well managed. Several legumes are also well adapted. These plants require nutrient management and controlled grazing for highest yields."

"iWMG", "2w4", "These soils need a water table management system designed to remove excess water rapidly after heavy rains. Carefully designed tile or open drains are needed. Tile drains can also be used to supply water to plants during periods of low rainfall by subirrigation."

### **2w5 Map units 11, 18, 27**

"aSOI", "2w5", "This map unit consists of nearly level, somewhat poorly drained soils on stream terraces and on interstream divides of the uplands. They have loamy surface layers less than 20 inches thick, and moderate or moderately slowly permeable subsoil layers."

"bSAC", "2w5", "A well aerated root zone is limited by a seasonal high water table in wet seasons. The available water capacity is low to moderate in the root zone. Natural fertility is low, but crops respond well to fertilization. The internal drainage is slow and response to artificial drainage is moderately slow."

"cH2O", "2w5", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "2w5", "These soils have moderate limitations for cultivated crops due to wetness. They are well suited to some cultivated crops but the variety is limited by the presence of a water table near the surface. Crop rotations should include a close-growing crop at least half the time. Soil improving cover crops and crop residues should be returned to the soil. High yields require good seedbed preparation with the rows bedded and nutrient management."

"eERO", "2w5", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "2w5", "Crops produced on these soils are not normally irrigated."

"hPAS", "2w5", "These soils are well suited to pastures and hay crops. Such grasses as hybrid bermudagrass and the improved bahiagrasses are well adapted. White clover and other legumes are moderately well adapted. Best yields require nutrient management and carefully controlled grazing to maintain vigorous plants for maximum yields and good cover."

"iWMG", "2w5", "Water table management is needed for successful use of these soils for most cultivated crops. Crops such as corn, soybeans, and peanuts do well if a drainage system is maintained or crops are planted and harvested during periods of low rainfall. Tile drains or shallow surface ditches provide an adequate water management system. Tile drains can also supply water through subirrigation."

### **3e1 Map unit 32**

"aSOI", "3e1", "This map unit consists of sloping, well drained soils on side slopes of uplands. They have sandy or loamy surface layers less than 20 inches thick, and moderately permeable, loamy or clayey subsoil layers. These soils are prime farmland."

"bSAC", "3e1", "These soils have a well aerated root zone more than 60 inches thick. The available water capacity is moderate to high in the root zone. They have moderate natural fertility and crops respond well to fertilization. Rainfall is readily absorbed and retained in the soil. Runoff after rains is rapid on unprotected areas and the erosion hazard is severe."

"cH2O", "3e1", "In normal years these soils have no seasonal high water table within 72 inches."

"dCUL", "3e1", "These soils have severe limitations for growing cultivated crops because of the hazard of erosion. A wide variety of cultivated crops is well adapted. Such crops as corn and soybeans grow well when properly managed. Maximum yields require good soil tilth and nutrient management."

"eERO", "3e1", "Intensive erosion control measures are needed. These measures include a system of well designed terraces with stabilized outlets and contour cultivation of row crops in alternate strips with cover crops. Crop rotations are needed that include cover crops at least two-thirds of the time. Soil improving cover crops and all crop residues should be left on the soil. Conservation tillage or no-till best protect the soil."

"fIRR", "3e1", "Crops produced on these soils are not normally irrigated."

"hPAS", "3e1", "These soils are well suited to pastures and hay crops. Pasture grasses such as hybrid bermudagrass and the improved bahiagrasses are well adapted. Clovers and other legumes are also well adapted. They grow well where properly managed and require nutrient management and controlled grazing to maintain vigorous plants for highest yields and good soil cover to reduce the hazard of erosion."

"iWMG", "3e1", "Water table management is not normally practiced on these soils."

### **3e2 Map units 10, 43**

"aSOI", "3e2", "This map unit consists of sloping, well drained to moderately well drained soils on low ridges of the uplands. They have sandy or loamy surface layers less than 20 inches thick, and moderately slowly to slowly permeable loamy subsoil layers."

"bSAC", "3e2", "A well aerated root zone is limited by compact subsoil layers at 30 to 50 inches below the surface. The available water capacity averages moderate to high in the root zone. Natural fertility is low and the crops respond only moderately to fertilization. Runoff during rains is rapid on unprotected areas and the hazard of erosion is severe."

"cH2O", "3e2", "In normal years these soils have a seasonal high water table at a depth of between 36 and 60 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3e2", "These soils have severe limitations for cultivated crops due to the hazard of erosion. They are only moderately suited for most crops. The variety of adapted crops is somewhat limited by occasional wetness. Crops such as corn, soybeans, and peanuts are only moderately suited. Maximum yields require good soil tilth and nutrient management."

"eERO", "3e2", "Intensive erosion control measures are needed. Such measures include carefully designed terraces with stabilized outlets, contour cultivation of row crops grown in alternate strips with close growing crops, and crop rotations that include close growing crops on the land at least two-thirds of the time. Soil improving cover crops and all crop residues should be left on the land. Conservation tillage or no-till best protects the soil."

"fIRR", "3e2", "Crops produced on these soils are not normally irrigated."

"hPAS", "3e2", "The soils are only moderately suited to pastures. Hybrid bermudagrass and improved bahiagrasses are only moderately adapted. They produce only moderate yields where nutrient management is practiced. Controlled grazing is needed to maintain vigorous plants for maximum yields and good soil cover to control erosion."

"iWMG", "3e2", "Tile or open drains may be needed to intercept seepage water from higher areas."

### **3e5 Map Unit 1**

"aSOI", "3e5", "This map unit consists of nearly level and gently sloping, somewhat poorly drained soils on low ridges within the flatwoods and broad flats of the uplands. They have rapidly permeable sandy layers to depths of 20 to 60 inches over moderately to moderately rapidly permeable subsoil."

"bSAC", "3e5", "The root zone of these soils is limited by a seasonal high water table in wet seasons and by droughtiness during periods of low rainfall. The available water capacity is low in the root zone. Natural fertility is low but the response to fertilizers is moderate. Rainfall is rapidly absorbed and there is little runoff. The hazard of erosion is moderate on that part of the map unit between 2 to S percent slopes which has been assigned to this capability class."

"cH2O", "3e5", "In normal years these soils have a seasonal high water table at a depth of between 18 and 40 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3e5", "These soils have severe limitations for most cultivated crops due to wetness in wet seasons, droughtiness during periods of low rainfall, rapid leaching of plant nutrients and the hazard of erosion on slopes greater than 2 percent. These factors also limit the choice of plants and reduces potential yields of adapted crops. Maximum yields require proper seedbeds and nutrient management. Soil improving cover crops and all crop residues should be left on the ground. Erosion control measures are needed on that part of the map unit between 2 to 5 percent slopes which has been assigned to this capability class."

"eERO", "3e5", "Erosion control measures are needed on these soils on slopes above 2 percent. These include contour cultivation of row crops in alternate strips with cover crops. Crop rotations are needed that include cover crops at least two-thirds of the time. Soil improving cover crops and all crop residues should be left on the soil. Conservation tillage or no-till best protect the soil."

"fIRR", "3e5", "Irrigation of high value crops is usually feasible where irrigation water is readily available."

"hPAS", "3e5", "These soils are moderately suited to pastures. Hybrid bermudagrass and bahiagrasses are adapted. White clover and lespedezas are also adapted. These soils produce good yields where nutrient management is practiced. Controlled grazing is needed to maintain vigorous plants for maximum yields."

"iWMG", "3e5", "Tile, or other types of drains, are needed for some crops such as tobacco that are damaged by high water table during the growing season. Tiles can also be used as a source for subirrigation during periods of low rainfall."

### **3s1 Map unit 26**

"aSOI", "3s1", "This map unit consists of sloping, well drained soils on side slopes of the uplands. They have sandy surface and subsurface layers 20 to 40 inches thick, and moderately to moderately rapidly permeable loamy subsoil layers."

"bSAC", "3s1", "These soils have a well aerated root zone more than 72 inches thick. The available water capacity averages low to moderate in the root zone. Natural fertility is low and crop response to fertilization is moderate. Rainfall is rapidly absorbed on well vegetated areas. Runoff from unprotected areas is moderate and the hazard of erosion on these areas is moderate."

"cH2O", "3s1", "In normal years these soils have no seasonal high water table within 72 inches."

"dCUL", "3s1", "These soils have severe limitations for cultivated crops due to droughtiness and erosion. Droughtiness and rapid leaching of plant nutrients limit the choice of crops and the potential yields of adapted crops. The steepness of slopes further limits the suitability by making cultivation more difficult and increasing the hazard of erosion. Yields can be maximized with nutrient management."

"eERO", "3s1", "Intensive erosion control measures such as cultivating row crops on the contour in alternate strips with cover crops are needed. Crop rotations should include cover crops at least two-thirds of the time. These cover crops and all residues of other crops should be returned to the soil."

"fIRR", "3s1", "Irrigation of some high value crops is usually feasible where irrigation water is readily available."

"hPAS", "3s1", "These soils are moderately well suited to pastures. Deep rooting plants such as hybrid bermudagrass and bahiagrass are well adapted. They produce well where nutrient management is practiced. Controlled grazing is important to maintain vigorous plants for maximum yields and to provide good cover to minimize erosion."

"iWMG", "3s1", "Water table management is not normally practiced on these soils."

### **3s2 Map unit 15**

aSOI", "3s2", "This map unit consists of sloping, well or moderately well drained soils on low ridges. They have sandy surface and subsurface layers that are 20 to 40 inches thick, and moderately slowly permeable to slowly permeable loamy and clayey subsoil layers."

"bSAC", "3s2", "These soils have a well aerated root zone that is limited at about 45 inches by slowly permeable subsoils or by wetness. The available water capacity averages low to moderate in the root zone. Natural fertility is low and crop response to fertilization is moderate. Rainfall is rapidly absorbed on well vegetated areas. Runoff from unprotected areas is moderate and the hazard of erosion on these areas is moderate."

"cH2O", "3s2", "In normal years these soils have a seasonal high water table at a depth of between 36 and 48 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3s2", "These soils have severe limitations for cultivated crops due to droughtiness and erosion. Droughtiness and rapid leaching of plant nutrients limit the choice of crops and the potential yields of adapted crops. The steepness of slopes further limits the suitability by making cultivation more difficult and increasing the hazard of erosion. Yields can be maximized with nutrient management."

"eERO", "3s2", "Intensive erosion control measures such as cultivating row crops on the contour and in alternate strips with cover crops are needed. Crop rotations should include cover crops at least two-thirds of the time. These cover crops and all residues of other crops should be returned to the soil."

"fIRR", "3s2", "Irrigation of some high value crops such as tobacco is usually feasible where irrigation water is readily available."

"hPAS", "3s2", "These soils are moderately well suited to pastures. Hybrid bermudagrass and bahiagrasses are well adapted but yields are reduced during periodic droughts. They produce well where nutrient management is practiced. Controlled grazing is needed to maintain vigorous plants for maximum yields, minimize the effects of droughts and to maintain good ground cover to minimize erosion."

"iWMG", "3s2", "Water table management is not normally practiced on these soils."

### **3s5 Map unit 34**

"aSOI", "3s5", "This map unit consists of nearly level and gently sloping, somewhat poorly drained to moderately well drained soils on broad low ridges. They have sandy layers that are rapidly permeable to depths of more than 80 inches."

"bSAC", "3s5", "The root zone of these soils is limited by a seasonal high water table in wet seasons as well as droughtiness. The available water capacity is low to very low in all layers. Natural fertility is low and crop response to fertilization is moderate to low. Rainfall is rapidly absorbed and there is little runoff. The hazard of erosion is slight."

"cH2O", "3s5", "In normal years these soils have a seasonal high water table at a depth of between 18 and 40 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3s5", "These soils have severe limitations for cultivated crops. Droughtiness and rapid leaching of plant nutrients limit the choice of plants and reduces potential yields of adapted crops. Soil management should include row crops on the contour in alternate strips with close growing crops. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the land."

"eERO", "3s5", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "3s5", "Irrigation of high value crops is usually feasible where irrigation water is readily available."

"hPAS", "3s5", "These soils are moderately well suited to pastures and hay. Plants such as hybrid bermudagrass and bahiagrasses are well adapted. These soils require nutrient management to maximize yields. Controlled grazing is needed to maintain vigorous plants for maximum yields."

"iWMG", "3s5", "Tile or other kinds of drains are needed for some crops that are damaged by high water table during the growing season. Tile drains can also be used for subirrigation during periods of low rainfall."

### **3s7 Map units 33, 54**

"aSOI", "3s7", "This map unit consists of nearly level and gently sloping, moderately well drained soils that occur on narrow to broad ridges and isolated knolls. They have very rapidly permeable sandy layers to depths of more than 80 inches."

"bSAC", "3s7", "The root zone of these soils is limited by a seasonal high water table in wet seasons and by droughtiness during periods of low rainfall. The available water capacity is low in the root zone. Natural fertility is low and crop response to fertilization is low to moderate. Rainfall is rapidly absorbed and there is little runoff. The hazard of erosion is slight."

"cH2O", "3s7", "In normal years these soils have a seasonal high water table at a depth of between 40 and 60 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3s7", "These soils have severe limitations for most cultivated crops due to droughtiness and the rapid leaching of plant nutrients. These factors also limit the choice of plants and reduces potential yields of adapted crops. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"fIRR", "3s7", "Irrigation of high value crops is usually feasible where irrigation water is readily available."

"hPAS", "3s7", "These soils are moderately well suited to pastures. Hybrid bermudagrass and bahiagrasses are adapted. White clover, and lespedezas are also adapted. These soils produce good yields where nutrient management is practiced. Controlled grazing is needed to maintain vigorous plants for maximum yields."

"iWMG", "3s7", "Tile, or other types of drains, are needed for some crops such as tobacco that are damaged by high water table during the growing season. Tiles can also be used as a source for subirrigation during periods of low rainfall."

### **3s20 Map unit 44**

"aSOI", "3s20", "This map unit consists of gently sloping, well drained soils on upland ridges. They have sandy surface and subsurface layers that are 40 to 80 inches thick, and moderately permeable loamy subsoil layers."

"bSAC", "3s20", "These soils have a well aerated root zone that is not limited above a depth of about 72 inches. The available water capacity averages low to moderate in the root zone. Natural fertility is low and crop response to fertilization is moderate. Rainfall is rapidly absorbed on well vegetated areas. Runoff from unprotected areas is slight and the hazard of erosion on these areas is slight to moderate."

"cH2O", "3s20", "In normal years these soils do not have a seasonal high water table within a depth of 72 inches."

"dCUL", "3s20", "These soils have severe limitations for cultivated crops due to droughtiness. Droughtiness and the rapid leaching of plant nutrients limit the choice of crops and the potential yields of adapted crops. Yields can be maximized with nutrient management. Crop rotations should include cover crops at least two-thirds of the time. These cover crops and all residues of other crops should be returned to the soil."

"eERO", "3s20", "Moderate erosion control measures such as cultivating row crops on the contour and in alternate strips with cover crops are needed."

"fIRR", "3s20", "Irrigation of some high value crops is usually feasible where irrigation water is readily available."

"hPAS", "3s20", "These soils are moderately well suited to pastures. Hybrid bermudagrass and bahiagrasses are well adapted but yields are reduced during periodic droughts. They produce well where nutrient management is practiced. Controlled grazing is needed to maintain vigorous plants for maximum yields, minimize the effects of droughts and to maintain good ground cover to minimize erosion."

"iWMG", "3s20", "Water table management is not normally practiced on these soils."

### **3s21 Map unit 5**

"aSOI", "3s21", "This map unit consists of sloping, well drained soils on upland ridges. They have sandy surface and subsurface layers that are 40 to 80 inches thick, and moderately permeable loamy subsoil layers."

"bSAC", "3s21", "These soils have a well aerated root zone that is limited by a seasonal high water table in wet season and droughtiness during periods of low rainfall. The available water capacity averages low to moderate in the root zone. Natural fertility is low and crop response to fertilization is moderate. Rainfall is rapidly absorbed on well vegetated areas. Runoff from unprotected areas is slight and the hazard of erosion on these areas is slight to moderate."

"cH2O", "3s21", "In normal years these soils have a seasonal high water table at a depth of between 48 and 72 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3s21", "These soils have severe limitations for cultivated crops due to droughtiness. Droughtiness and the rapid leaching of plant nutrients limit the choice of crops and the potential yields of adapted crops. Yields can be maximized with nutrient management. Crop rotations should include cover crops at least two-thirds of the time. These cover crops and all residues of other crops should be returned to the soil."

"eERO", "3s21", "Moderate erosion control measures such as cultivating Irow crops on the contour in alternate strips with cover crops are needed."

"fIRR", "3s21", "Irrigation of some high value crops is usually feasible where irrigation water is readily available."

"hPAS", "3s21", "These soils are moderately well suited to pastures. Hybrid bermudagrass and bahiagrasses are well adapted but yields are reduced during periodic droughts. They produce well where nutrient management is practiced. Controlled grazing is needed to maintain vigorous plants for maximum yields, minimize the effects of droughts and to maintain good ground cover to minimize erosion."

"iWMG", "3s21", "Water table management is not normally practiced on these soils."

### **3w23 Map unit 29, 52**

"aSOI", "3w23", "This map unit consists of nearly level, poorly drained soils on low flatwoods, low hammocks, and sloughs. They have sandy surface and subsurface layers 20 to 40 inches thick over moderately to moderately rapidly permeable loamy layers."

"bSAC", "3w23", "The root zone is limited by a seasonal high water table that is at or slightly above the surface in wet seasons. The available water capacity averages moderate in the root zone. Natural fertility is low but crop response to fertilization is good. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "3w23", "In normal years these soils have a seasonal high water table at a depth of 6 inches or less for 2 to 6 months. In other months the water table is usually below this depths. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "3w23", "Cultivation of these hydric soils is not recommended. If cultivated, these soils have severe limitations because of wetness. With a total water management system these soils are suited to a variety of fruit and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. The cover crops and all other crop residue should be returned to the soil. Maximum yields require good soil tilth and nutrient management."

"eERO", "3w23", "Crops produced on these hydric soils do not normally need special erosion control practices."

"fIRR", "3w23", "If cultivated, highest yields require irrigation during periods of low rainfall. Water can be supplied through subirrigation with a water table management system or by sprinklers."

"hPAS", "3w23", "These hydric soils are well suited to pastures and hay crops. Improved grasses such as the improved bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "3w23", "If cropped, these hydric soils need a total water table management system to remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

#### **4e1 Map unit 47 (Orangeburg part)**

"aSOI", "4e1", "This map unit consists of strongly sloping, well drained soils on the side slopes of upland ridges. They have sandy or loamy surface layers less than 20 inches thick and moderately permeable loamy or clayey subsoil layers."

"bSAC", "4e1", "These soils have a well aerated root zone more than 72 inches thick. The available water capacity averages moderate to high in the root zone. They have moderate natural fertility and crops respond well to fertilization. Rainfall is readily absorbed and retained in the soils. Runoff from unprotected areas during rain is very rapid. The erosion hazard is very severe."

"cH2O", "4e1", "In normal years these soils do not have a seasonal high water table within 72 inches of the surface."

"dCUL", "4e1", "These soils are poorly suited to row crops because slopes are too steep and the hazard of erosion is too great to be safely cultivated. Crops such as corn, soybeans, and peanuts are only moderately suited. The slopes are too steep to be effectively terraced and erosion control measures are limited to the use of vegetative cover. All crops grown on these soils require nutrient management for best yields."

"eERO", "4e1", "Intensive erosion control measures are needed. Such measures include contour cultivation of row crops with alternating strips of close growing crops and crop rotations that include close growing vegetation on the land at least three-fourths of the time. All crop residues should be left on the land."

"hPAS", "4e1", "These soils are moderately well suited to improved pastures. Hybrid bermudagrass and improved bahiagrasses are well adapted. Nutrient management and controlled grazing are needed for best yields and to assure a complete vegetative cover to prevent severe erosion."

"IRR", "4e1", "Crops produced on these soils are not normally irrigated"

"iWMG", "4e1", "Water table management is not normally practiced on crops produced on these soils."

### **4e8 Map unit 13**

"aSOI", "4e8", "This map unit consists of sloping, well drained soils on side slopes or low knolls and ridges of the upland. They have sandy or loamy surface layers less than 20 inches thick, and slowly permeable clayey subsoil layers."

"bSAC", "4e8", "These soils have a well aerated root zone restricted within 40 inches by loamy or clayey subsoils with slow permeability. The available water capacity is low to moderate in the root zone. The soils have low natural fertility and crop response to fertilizers is poor. Runoff from rain is very rapid on unprotected areas and the erosion hazard is very severe."

"cH2O", "4e8", "In normal years these soils do not have a seasonal high water table within 42 inches of the surface."

"dCUL", "4e8", "These eroded soils are poorly suited to row crops because of slope and because or the hazard of additional erosion is too great to be safely cultivated. Crops such as corn, soybeans, and peanuts are only fairly suited. The slopes are too short or steep to be effectively terraced and erosion control measures are limited to the use of vegetative cover. All crops grown on these soils require nutrient management for best yields."

"eERO", "4e8", "Intensive erosion control measures are needed. Such measures include contour cultivation of row crops with alternating strips of close growing crops and crop rotations that include close growing vegetation on the land at least three-fourths of the time. All crop residues should be left on the land."

"fIRR", "4e8", "Crops produced on these soils are not normally irrigated"

"hPAS", "4e8", "These soils are fairly suited to improved pastures. Hybrid bermudagrass and improved bahiagrasses are moderately adapted. Nutrient management and controlled grazing are needed for best yields and to assure a complete vegetative cover to prevent severe erosion."

"iWMG", "4e8", "Water table management is not normally practiced on crops produced on these soils."

#### **4s7 Map unit 21**

"aSOI", "4s7", "This map unit consists of nearly level and gently sloping, well drained to excessively drained soils on to broad ridges. These soils have very rapidly permeable sandy layers to , depths of more than 80 inches."

"bSAC", "4s7", "The root zone of these soils well aerated to a depth of 80 inches or more. Root development is limited by droughtiness. The available water capacity is low to very low in the root zone. Natural fertility is low and crop response to fertilization is low to moderate. Rainfall is rapidly absorbed and there is little runoff. The hazard of erosion is slight."

"cH2O", "4s7", "In normal years these soils do not have a seasonal high water table within a depth of 80 inches."

"dCUL", "4s7", "These soils have very severe limitations for most cultivated crops due to droughtiness and the rapid leaching of plant nutrients. These factors also limit the choice of plants and reduces potential yields of adapted crops. Crop rotations should include close growing crops on the land at least two-thirds of the time. Irrigation and nutrient management are requirements for acceptable yields. Soil improving cover crops and all crop residues should be left on the ground."

"fIRR", "4s7", "Although irrigation is a requirement for acceptable yields, due to the low water holding capacity of these soils, irrigation of all crops except a high value crops is not usually feasible. Locating a reliable and economical source of irrigation water is another management concern."

"hPAS", "4s7", "These soils are moderately suited to pastures. Deep-rooting plants such as Hybrid bermudagrass and bahiagrasses are adapted but yields are restricted due to droughtiness. Nutrient management is a required practice. Controlled grazing is needed to maintain vigorous plants for maximum yields."

"iWMG", "4s7", "Water table management is not normally practiced on these soils."

#### **4s20 Map unit 45**

"aSOI", "4s20", "This map unit consists of sloping, well drained soils on upland ridges. They have sandy surface and subsurface layers that are 40 to 80 inches thick, and moderately permeable loamy subsoil layers."

"bSAC", "4s20", "These soils have a well aerated root zone that is not limited above a depth of about 72 inches. The available water capacity averages low to moderate in the root zone. Natural fertility is low and response to fertilization is moderate. Rainfall is rapidly absorbed on well vegetated areas. Runoff from unprotected areas is slight and the hazard of erosion on these areas is moderate."

"cH2O", "4s20", "In normal years these soils do not have a seasonal high water table within a depth of 72 inches."

"dCUL", "4s20", "These soils have severe limitations for cultivated crops due to droughtiness. Droughtiness and the rapid leaching of plant nutrients limit the choice of crops and the potential yields of adapted crops. Erosion is an additional hazard. Yields can be maximized with nutrient management."

"eERO", "4s20", "Moderate erosion control measures such as cultivating row crops the contour in alternate strips with cover crops are needed. Crop rotations should include cover crops at least two-thirds of the time. These cover crops and all residues of other crops should be returned to the soil."

"fIRR", "4s20", "Irrigation of some high value crops is usually feasible where irrigation water is readily available."

"hPAS", "4s20", "These soils are moderately suited to pastures. Hybrid bermudagrass and bahiagrasses are well adapted but yields are reduced during periodic droughts. They produce well when they are fertilized and limed. Controlled grazing is needed to maintain vigorous plants for maximum yields, minimize the effects of droughts and to maintain good ground cover to minimize erosion."

"iWMG", "4s20", "Water table management is not normally practiced on these soils."

#### **4w5 Map unit 24**

"aSOI", "4w5", "This map unit consists of nearly level, poorly drained soils on flatwoods, hammocks, and other flat areas. They have sandy layers more than 72 inches thick and a spodic horizon within 30 inches of the surface."

"bSAC", "4w5", "The root zone is limited by a seasonal high water table that comes to near the surface in wet seasons. The available water capacity averages moderate in the root zone. Natural fertility is low but crop response to fertilization is good. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "4w5", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "4w5", "These soils have severe limitations for cultivated crops because of wetness. With a total water management system these soils are suited to such crops as corn and soybeans. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. The cover crops and all other crop residue should be returned to the soil. Maximum yields require good soil tilth and nutrient management."

"eERO", "4w5", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "4w5", "Crops produced on these soils are not normally irrigated."

"hPAS", "4w5", "These soils are well suited to pastures and hay crops. Improved grasses such as improved bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w5", "A total water table management system should remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

#### **4w23 Map units 3 (Kinston part), 37**

"aSOI", "4w23", "This map unit consists of nearly level, poorly drained soils on low flatwoods, low hammocks, and sloughs. They have sandy surface and subsurface layers less than 20 inches thick over moderately to slowly permeable loamy and clayey layers."

"bSAC", "4w23", "The root zone is limited by a seasonal high water table that is at or slightly above the surface in wet seasons. The available water capacity averages moderate in the root zone. Natural fertility is low but crop response to fertilization is good. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "4w23", "In normal years these soils have a seasonal high water table at a depth of 6 inches or less for 2 to 6 months. In other months the water table is usually below this depths. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "4w23", "Cultivation of these hydric soils is not recommended. If cultivated, these soils have severe limitations because of wetness. With a total water management system these soils are suited to a variety of fruit and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. The cover crops and all other crop residue should be returned to the soil. Maximum yields require good soil tilth and nutrient management."

"eERO", "4w23", "Crops produced on these hydric soils do not normally need special erosion control practices."

"fIRR", "4w23", "If cultivated, highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"hPAS", "4w23", "These hydric soils are well suited to pastures and hay crops. Improved grasses such as the improved bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w23", "If cropped, these hydric soils need a total water table management system to remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

#### **4w30 Map unit 6 (Chewacla and Wahee parts)**

"aSOI", "4w30", "This map unit consists of nearly level, somewhat poorly drained soils on floodplains of river swamps. They have moderately slowly to slowly permeable subsoils within 10 inches of the surface."

"bSAC", "4w30", "The root zone is limited by a seasonal high water table and by flooding. The available water capacity is high to very high. Natural fertility is moderate and crops respond well to fertilization. The internal drainage rate is slow under natural conditions, but response to drainage is rapid."

"cH2O", "4w30", "In normal years these hydric soils have a seasonal high water table at a depth of 18 to 24 inches for 1 to 4 months. In other months the water table is usually below these depths. Rarely is the water table above 18 inches. These soils are flooded frequently for long duration. Most often flooding occurs in the spring, but it may occur during any wet season."

"dCUL", "4w30", "These soils have severe limitations to cultivated crops because of flooding. In their natural conditions these soils are not suited to cultivated crops; however, with a total water table management system they are well suited to most crops grown in the area. Nutrient management maximizes yields. All crop residue should be returned to the soil. The erosion hazard is slight."

"eERO", "4w30", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "4w30", "Crops produced on these soils are not normally irrigated."

"hPAS", "4w30", "These soils have severe limitations to pasture crops because of flooding. In their natural conditions, these soils are not suited to pasture grasses; however, with a total water table management system they are well suited to most grasses grown in the area. Nutrient management maximizes yields."

"iWMG", "4w30", "A total water table management system is needed for crop and pasture production on these soils. It should remove excess water rapidly and provide a means of applying subirrigation. Dikes and a pumping systems are needed for flood control and tile drains and open ditches are needed to maintain the preferred water table depth. Rarely are drainage and flood protection economically feasible and environmentally sound."

### **5w6 Map unit 6 (Bibb part)**

"aSOI", "5w6", "This map unit consists of nearly level, very poorly drained and poorly drained soils on flood plains. They are saturated or flooded with water much of the time."

"bSAC", "5w6", "Wetness and flooding severely limits the use of the root zone of these soils for agronomic crops."

"cH2O", "5w6", "In normal years these hydric soils have a seasonal high water table within 6 inches of the surface for 2 to 6 months or more. In other months the water table is usually below these depths. These soils are also flooded commonly for long duration. Most often flooding occurs in the winter and spring, but it may occur during any wet season."

"dCUL", "5w6", "These hydric soils are not suited to cultivated crops without an extensive water table management system."

"eERO", "5w6", "Erosion is not a management concern on crops produced on these hydric soils."

"fIRR", "5w6", "If cultivated, highest yields require irrigation either subirrigated through the extensive water table management system or by sprinklers."

"hPAS", "5w6", "These hydric soils are not suited to pasture or hay crops without an extensive water table management system."

"iWMG", "5w6", "If these hydric soils are cultivated, an extensive water table management system is needed for crop and pasture production on these soils. It should remove excess water rapidly and provide a means of applying subirrigation. Dikes and a pumping systems are needed for flood control and tile drains and open ditches are needed to maintain the preferred water table depth. Rarely are drainage and flood protection economically feasible and environmentally sound."

### **6s2 Map unit 22, 53**

"aSOI", "6s2", "This map unit consists of sloping to strongly sloping excessively drained soils on side slopes of the uplands. They have rapidly permeable sandy layers to depths of more than 80 inches."

"bSAC", "6s2", "These soils have a well aerated root zone more than 80 inches thick. Available water capacity averages very low in the root zone. Natural fertility is low and response to fertilization is low. Rainfall is absorbed on protected areas and there is little runoff. The hazard of sheet erosion is moderate on unprotected areas and the hazard of gully erosion is severe where runoff water is concentrated."

"cH2O", "6s2", "In normal years these soils do not have a seasonal high water table within a depth of 72 inches."

"dCUL", "6s2", "These soils are not suitable for cultivated crops because of droughtiness, steepness of slope, and susceptibility to gully erosion."

"eERO", "6s2", "If these soils are cultivated, erosion control measures that would adequately protect the soil and water resource base are difficult to install and/or maintain."

"fIRR", "6s2", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "6s2", "These soils are moderately suited for pastures. Deep rooting plants such as hybrid bermudagrass and bahiagrass are well adapted but yields are reduced by periodic droughts. Nutrient management is needed. Grazing should be controlled to permit plants to maintain vigor for highest yields."

"iWMG", "6s2", "Water table management is not normally practiced on these soils."

### **6s21 Map units 46, 47 (Troup part)**

"aSOI", "6s21", "This map unit consists of strongly sloping, well drained soils on side slopes of low ridges of the uplands. They have sandy surface and subsurface layers 40 to 80 inches thick and moderately permeable, loamy subsoil layers."

"bSAC", "6s21", "These soils have root zones thicker than 80 inches. The available water capacity averages low to very low in the root zone. Natural fertility is low and crop response to fertilizers is only moderate. Rainfall is absorbed on protected areas and there is little runoff. The hazard of gully erosion is severe on unprotected areas."

"cH2O", "6s21", "In normal years these soils do not have a seasonal high water table within a depth of 72 inches."

"dCUL", "6s21", "Due to steepness of slope, droughtiness, and the hazard of erosion, these soils are not suited to cultivated crops."

"eERO", "6s21", "If these soils are cultivated, erosion control measures that would adequately protect the soil and water resource base are difficult to install and/or maintain."

"fIRR", "6s21", "Irrigation of high value crops is usually feasible where irrigation water is readily available. The rate of water application should be low enough to prevent runoff and erosion."

"hPAS", "6s21", "These soils are moderately suited for pastures. Deep rooting plants such as hybrid bermudagrass and bahiagrass are well adapted but yields are reduced by periodic droughts. Nutrient management is needed. Grazing should be controlled to permit plants to maintain vigor for highest yields."

"iWMG", "6s21", "Water table management is not normally practiced on these soils."

## **7s1 Map unit 20**

"aSOI", "7s1", "This map unit consists of excessively drained nearly level to strongly sloping soils on low dunelike ridges near the coast and on low ridges and knolls in the flatwoods. They have uncoated sand layers to depths of more than 80 inches."

"bSAC", "7s1", "These soils have an excessively aerated root zone to depths of more than 80 inches. The available water capacity is very low. Natural fertility is very low and response to fertilizers is very low. Rainfall is rapidly absorbed but moves rapidly through the soil and very little is retained. There is a hazard of gully erosion."

"cH2O", "7s1", "In normal years these soils do not have a seasonal high water table within 72 inches of the surface."

"dCUL", "7s1", "Due to extreme droughtiness, these soils are not suited to cultivated crops."

"eERO", "7s1", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "7s1", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "7s1", "Due to extreme droughtiness, these soils are not suited to hay and pasture."

"iWMG", "7s1", "Water table management is not a normal practice on these soils because of the lack of cultivation and an available water source."

## **7s6 Map unit 23**

"aSOI", "7s6", "This map unit consists of excessively drained strongly sloping to steep, soils on side slopes of upland ridges. They have sandy layers to depths greater than 80 inches."

"bSAC", "7s6", "These soils have a loose, well aerated root zone to depths of more than 80 inches. Natural fertility is low and response to fertilizers is low. The available water capacity is very low. Rainfall is rapidly absorbed into the soil but runoff from unprotected areas during heavy rainfall is rapid. On these areas the gully erosion hazard is severe."

"cH2O", "7s6", "In normal years these soils do not have a seasonal high water table within 72 inches."

"dCUL", "7s6", "Due to extreme droughtiness and the hazard of erosion, these soils are not suited to cultivated crops."

"eERO", "7s6", "Due to the lack of these soils being cultivated, erosion control is not normally a management concern."

"fIRR", "7s6", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "7s6", "Due to extreme droughtiness and the hazard of erosion, these soils are not suited to hay and pasture."

"iWMG", "7s6", "Water table management is not a normal practice on these soils because of the lack of cultivation."

### **7w2 Map unit 7**

"aSOI", "7w2", "This map unit consists of nearly level, very poorly drained organic soils in depressions and floodplains. These are hydric soils."

"bSAC", "7w2", "The root zone is limited by water that is above the surface in wet seasons. The available water capacity averages high in the root zone. Natural fertility is high. The internal drainage rate is very slow in the natural condition and seepage water seeps from the soil in wet seasons."

"cH2O", "7w2", "In normal years these soils have a seasonal high water table within 6 inches of the surface for 2 to 6 months of most years. During other months the water table is deeper. These soils are also subject to frequent ponding and/or flooding. Only rarely is the water table below the surface for an extended period."

"dCUL", "7w2", "These soils are not suited to cultivated crops without extensive water table and flood control management systems. Wetness, restricted rooting zone, slow internal drainage, and difficulty in obtaining adequate drainage outlets severely limit their use for cultivated crops. Water table management systems are hard to establish and maintain."

"eERO", "7w2", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "7w2", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "7w2", "These hydric soils are not suited to pasture or hay crops without an extensive water table management system. Due to the difficulty of installing these measures and the lack of outlets in most areas, they have seldom, if ever, been used for pasture."

"iWMG", "7w2", "Water table management is not a normal practice on these soils because of the lack of cultivation."

### **8e1 Map units 17, 36**

"aSOI", "8e1", "This map unit consists of areas where soil materials have been removed by excavation or mining operations. Some of these areas fill with water periodically and other areas have geologic materials exposed."

"bSAC", "8e1", "Due to infertile exposed geologic soil material, these areas are not vegetated."

"cH2O", "8e1", "These soils have a highly variable water table."

"dCUL", "8e1", "Due to the infertile material, these soils are not suited to cultivated crops."

"eERO", "8e1", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "8e1", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "8e1", "Due to the infertile material, these soils are not suited to hay and pasture."

"iWMG", "8e1", "Water table management is not a normal practice on these soils because of the lack of cultivation."

### **8s1 Map unit 48**

"aSOI", "8s1", "This map unit consists of miscellaneous areas where the structures and paved areas associated with urban development preclude its use for agricultural purposes."

"bSAC", "8s1", "Due to an impervious surface these areas are not vegetated."

"cH2O", "8s1", "These soils have a highly variable water table."

"dCUL", "8s1", "Due to the impervious surface, these soils are not suited to cultivated crops."

"eERO", "8s1", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "8s1", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "8s1", "Due to the impervious surface, these soils are not suited to hay and pasture."

"iWMG", "8s1", "Water table management is not a normal practice on these soils because of the lack of cultivation."

## **ECOLOGICAL COMMUNITIES**

kRNG - Rangeland (not developed, no significant application in the area served by this field office.)

IWLD - Wildlife

mWOD – Woodland

### **Longleaf Pine-Turkey Oak Hills - Map Units 21, 22, 23, 33, 44, 45, 46**

("IWLD", "04") "This ecological community is suited for deer and turkey, especially as escape cover. Many birds inhabit the area including warblers, towhees, flycatchers, scrub jays, and quail. Several varieties of native legumes furnish food (seeds) for the birds. Timber harvest and other disturbances increase wildlife food by increasing the amount and types of herbaceous plants and by sprout production."

("mWOD", "04") "This community has a moderately high potential for commercial production of pulp and timber. These soils create moderate equipment limitations and seedling mortality problems. Sand pine and longleaf pine are the commercial species suited to planting."

### **Mixed Hardwood And Pine - Map Units 1, 2, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 25, 26, 27, 28, 30, 31, 32, 34, 38, 39, 41, 42, 43, 47**

("IWLD", "05") "This community offers very good habitat for deer, turkey, squirrel, and many songbirds. Hardwood mast (acorns, nuts, fruits, buds, berries) furnish a good source of wildlife food. Mature hardwoods and snags provide good nesting sites for birds. Habitat is good for raccoons, opossums, bobwhite quail and dove, fair for reptiles, and poor for most amphibians."

("mWOD","05")"This community has a high potential productivity for commercial wood production. There are no serious management problems. Slash pine and loblolly pine are the commercial species suited to planting."

#### **North Florida Flatwoods - Map Unit 24**

("IWLD","07")"The North Florida Flatwoods community is well suited for deer, quail and turkey. It is fair for squirrels and well suited for many songbirds, particularly warblers. It is also well suited for bobcat, skunks, opossums, and raccoons. It is poorly suited for dove."

("mWOD","07")"This community has a moderate potential productivity for commercial wood production. There are moderate equipment limitations and seedling mortality due to wet soil conditions. The commercial species suitable for planting is slash pine."

#### **Salt Marsh - Map Unit 4**

("IWLD","18")"Salt Marshes are good habitat for a variety of wildlife. The habitat type is usually maintained by natural forces and influences such as tidal action and periodic hurricanes."

("mWOD","18")"These soils are not suited for commercial woodland production."

#### **Bottom Land Hardwoods - Map Units 3, 6\***

("IWLD","20")"This community host a large variety of wildlife. It is well suited for squirrel, deer, and birds such as chickadees, titmice, flycatchers, owls, towhee, turkey, vireos, warbler, cedar waxwing, woodpeckers and wren. The various species of hardwood vegetation provide good food and cover for these species."

("mWOD","20")"This community has a high potential productivity for commercial woodland production on areas with adequate surface drainage. There are severe equipment limitations and seedling mortality due to the poorly to very poorly drained soil conditions. Slash and loblolly pine are suitable for planting in areas with adequate surface drainage. Most areas are better suited to natural regeneration."

### **Swamp Hardwoods - Map Unit 6\*, 7, 35, 37, 40**

("IWLD", "21") "This community hosts a large variety of wildlife. It is especially well suited for waterfowl, reptiles, amphibians, and mammals. Animals found in this community must withstand the flooding which occurs periodically. Gray squirrel, mink, raccoon, and river otter are the most commonly found mammals. Many birds inhabit this area including chickadees, titmice, yellow-billed cuckoo, wood duck, limpkin, flycatchers, owls, turkey, woodcock, hooded warbler, cedar waxwing, woodpeckers, and wren. The various species of hardwood vegetation provide good food and cover for these species."

("mWOD", "21") "This Swamp Hardwoods community is generally not used for commercial woodland production except for limited harvest of hardwoods. However, this community does have a high potential for commercial woodland production on areas with adequate surface drainage. There are severe equipment limitations and seedling mortality due to the poorly to very poorly drained soil conditions. Slash pine is suitable for planting in areas with adequate surface drainage."

### **Pitcher Plant Bogs - Map Unit 29**

("IWLD", "23") "This ecological community is one of the least productive for wildlife which is probably due to the low diversity of plant species and growth forms limiting food and cover. It provides fair habitat for white-tailed deer and bobwhite quail. It is also suited for raccoons, armadillos, and grass-country birds."

("mWOD", "23") "This ecological community is not generally recommended for woodland. "

## **URBAN USES**

### **oURB -Urban Use Statement**

#### **Map Units 3, 4, 6, 7, 18, 28, 35, 37, 40**

"AREA 1 oURB GROUP", "A101", "Soils in this group have severe limitations for urban uses. Seasonal flooding or ponding is the primary limiting factor. Additionally, other severely limiting factors probably will be present in these soils."

#### **Map Units 1, 11, 16, 24, 27, 29, 34**

"AREA 1 oURB GROUP", "A102", "Soils in this group have severe limitations for most urban uses. A seasonal high water table saturating these soils at or near the surface is the primary limiting factor. Additionally, other severely limiting factors may be present in these soils."

### **Map Units 2, 12, 13**

"AREA 1 oURB GROUP", "A103", "Soils in this group have moderate to severe limitations for most urban uses. Limitations resulting from the properties of clayey layers within these soils dominate this group. Additionally, other limiting factors may be present in these soils."

### **Map Units 8, 9, 10, 41, 42, 43**

"AREA 1 oURB GROUP", "A104", "Soils in this group have moderate limitations for many urban uses. Soil properties related to texture and wetness primarily affect this group. Soils of this group may have severe limitations for a specific urban use."

### **Map Units 5, 14, 15, 19, 20, 21, 22, 23, 25, 26, 30, 31, 32, 33, 38, 39, 44, 45, 46, 47**

"AREA 1 oURB GROUP", "A105", "Soils in this group have slight limitations for many urban uses. Soils of this group may have moderate or even severe limitations for a specific urban use. Soil properties related to texture, slope, or wetness may affect a specific urban use."

### **Map Unit 17**

"AREA 1 oURB GROUP", "106", "Soils in this group have severe limitations for urban uses. Moderately steep to very steep slopes is the primary limiting factor. Additionally, other severely limiting factors may be present in these soils such as texture or shallow depth to rock."

## **WATER QUALITY: PESTICIDE AND NUTRIENT MANAGEMENT**

sWQ - Water Quality Statement

tPES - Pesticide Management Statement

uNUT - Nutrient Management Statement

### **Map Units - 14, 15**

"sWQ", "01", "These soils have a low potential for pesticide leaching to groundwater and a low potential for pesticide runoff to surface water. They have a medium or high potential for nitrogen leaching to groundwater and a low potential for phosphorous runoff to surface runoff."

"tPES", "01", "The Florida Pest Control Guide contains a listing of pesticides suitable for each type of pest and is available from the Cooperative Extension Service. Read and follow pesticide labels."

"uNUT", "01", "A soil test will be used as a guide to determine plant nutrient needs. In addition, a listing of nitrogen and phosphorous requirements by crop type is available from the Cooperative Extension Service. Nutrients should be added at the rate needed by the crop grown or according to the producer's goals, whichever is lower."

**Map Units - 5, 19, 20, 21, 22, 25, 26, 28, 33, 44, 45**

"sWQ", "02", "These soils have a medium or high potential for pesticide leaching to the groundwater and a low potential for pesticide runoff from the field(s) to surface water. They have a medium or high potential for nitrogen leaching to the groundwater and a low potential for phosphorous runoff to surface runoff."

"tPES", "02", "The Florida Pest Control Guide from the Cooperative Extension Service contains a list of pesticides suited to each pest. This list also contains Relative Leaching Potential Index (RLPI) values. While any approved pesticide listed in the guide can be used, the applicator should consider for use pesticides with a larger RLPI value and Health Advisory Level (HAL or HALEQ) value. Read and follow pesticide labels."

"uNUT", "02", "A soil test will be used as a guide to determine plant nutrient needs. In addition, a listing of nitrogen and phosphorous requirements by crop type is available from the Cooperative Extension Service. Nutrients shall be added at the rate needed by the crop grown or according to the producer's goals, whichever is lower."

**Map Units - 1, 3 (Bibb part), 4 (Handsboro part), 6 (Riverview part), 16, 18, 23, 24, 30, 31, 32, 34, 36, 38, 39, 40, 41, 42, 43, 46, 47, 48**

"sWQ", "03", "These soils have a medium or high potential for pesticide leaching to groundwater and a medium to high potential for pesticide runoff to surface water. They have a medium or high potential for nitrogen leaching to the groundwater and a medium or high potential for phosphorous runoff to surface runoff."

"tPES", "03", "The Florida Pest Control Guide from the Cooperative Extension Service contains a list of pesticides suited to each pest. This list also contains Relative Leaching Potential Index (RLPI) and Relative Runoff Potential Index (RRPI) values. While any approved pesticide listed in the guide can be used, the applicator should consider for use pesticides with a larger RLPI value, RRPI value, Health Advisory Level (HAL or HALEQ) value, and Aquatic Toxicity value. Read and follow pesticide labels."

"uNUT", "03", "A soil test will be used as a guide to determine plant nutrient needs. In addition, a listing of nitrogen and phosphorous requirements by crop type is available from the Cooperative Extension Service. Nutrients shall be added at the rate needed by the crop grown or according to the producer's goals, whichever is lower."

**Map Units - 2, 3 (Kinston part), 4 (Bohicket part), 6 (Chewacla and Wahee parts) 7, 8, 9, 10, 11, 12, 13, 17, 27, 29, 35, 37**

"sWQ", "04", "These soils have a low potential for pesticide leaching to groundwater and a medium or high potential for pesticide runoff to surface water. They have a medium or high potential for nitrogen leaching to groundwater and a medium or high potential for phosphorous runoff to surface runoff."

"tPES", "04", "The Florida Pest Control Guide from the Cooperative Extension Service contains a listing of pesticides suited to each pest. This list also contains Relative Runoff Potential Index (RRPI) values. While any approved pesticide listed in the guide can be used, the applicator should consider for use pesticides with a larger RRPI value and a larger Aquatic Toxicity value. Read and follow pesticide labels."

"uNUT", "04", "A soil test will be used as a guide to determine plant nutrient needs. In addition, a listing of nitrogen and phosphorous requirements by crop type is available from the Cooperative Extension Service. Nutrients shall be added at the rate needed by the crop grown, or according to the producer's goals, whichever is lower."