

South Sumter Trail
from Withlacoochee State Trail to Van Fleet Trail
Project Development and Environment (PD&E) Study

Natural Resources Evaluation
Sumter and Hernando Counties

Financial Project Number
435471-1

Prepared for



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The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by the Federal Highway Administration and FDOT.



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A. PROJECT OVERVIEW

I. Proposed Project, Purpose, and Need

Background and Project Development. This Natural Resource Evaluation (NRE) Report was prepared as part of the Project Development and Environment (PD&E) study conducted by FDOT D5 for the proposed South Sumter Trail project (FM No. 435471-1).

In 2014 and 2015, the Florida legislature identified that increasing demands continue to be placed on the state's transportation system by a growing economy, continued population growth, and increased tourism, which bring significant challenges regarding additional capacity to the conventional transportation system. To be proactive in meeting these challenges, the legislature recognized that enhanced accommodation of alternative travel modes to meet the needs of residents and visitors is in the public interest, and that improving bicyclist and pedestrian safety for both residents and visitors is a high priority. Therefore, the legislature (with support of the governor) declared that the development of a non-motorized trail network will increase mobility and recreational alternatives for Florida's residents and visitors, enhance economic prosperity, enrich quality of life, enhance safety, and reflect responsible environmental stewardship. To that end, the Legislature directed the Florida Department of Transportation (FDOT) make use of its expertise in efficiently providing transportation projects to develop the Florida Shared-Use Non-motorized (SUN) Trail Network, consisting of a statewide network of trails that allow non-motorized vehicles and pedestrians to access a variety of origins and destinations with limited exposure to motorized vehicles.

To support this effort, the Florida SUN Trail Network would become a component of the Florida Greenways and Trails System established by Florida Statutes (FS) chapter 260. The statewide network consists of multiuse trails or shared-use paths physically separated from motor-vehicle traffic and constructed with asphalt, concrete, or another hard surface which, by virtue of design, location, extent of connectivity or potential connectivity, and allowable uses, provides non-motorized transportation opportunities for bicyclists and pedestrians statewide between and within a wide range of points of origin and destinations, including, but not limited to, communities, conservation areas, state parks, beaches, and other natural or cultural attractions for a variety of trip purposes, including work, school, shopping, and other personal business, as well as social, recreational, and personal fitness purposes (FS 339.81).

Beyond the designation of the SUN Trail Network, the Legislature appropriated \$25 million (beginning in Fiscal Year 2015/2016) for the express purpose of further developing this trail. Funds were specifically identified to design, construct and purchase right of way (ROW) for development of the network. In addition, FDOT may enter into a memorandum of agreement with a local government or other agency of the state to transfer maintenance responsibilities of an individual network component. The department may also contract with a not-for-profit entity or private sector business or entity to provide maintenance services on an individual network component.

Given the above, FDOT, working in collaboration with the Florida Department of Environmental Protection (FDEP), identified several existing corridors that could be the initial components of the SUN Trail Network, including the St. John's River to Sea Trail and the Florida Coast to Coast (C2C) Connector Trail. The current Florida C2C trail was identified in December 2015 to provide a continuous 250-mile transportation connection for pedestrians, bicyclists and other recreational uses from St. Petersburg to Titusville. The trail is already in place and operational along most of the corridor, but gaps in completing the corridor remain.



In 2016, FDOT commissioned a planning-level study to identify potential corridors that could close the trail's gap in Sumter County. While there was strong support for closing this gap, the results of the planning study recommended that future efforts focus on using existing highway alignments as well as abandoned railroad corridors to complete this segment.

The purpose of this study is to evaluate natural resources along the route proposed for installation of a new trail segment that would span the majority of the existing 22-mile gap in the Coast to Coast Trail. The multi-use trail would be planned and constructed in accordance with SUN Trail standards. Identified as the "South Sumter Connector Trail," this gap-closing trail corridor would complete a critical connection between the recently completed sections of the Good Neighbor Trail (at its junction with the Withlacoochee State Trail) in Hernando County with a site (Tarrytown, Florida) five miles west of the Van Fleet Trail (near State Road or "S.R." 50) in Sumter County.

Currently within the project limits of South Sumter Trail Connector there are no separate facilities for non-vehicular uses such as pedestrians, bicyclists, and inline skaters to travel through the area. In addition, there are no continuous sidewalk systems or other pedestrian features that could serve as a multi-use facility. Providing a separate multi-use facility is paramount to providing safety improvements for non-vehicular area trail users. Currently, there are no such facilities in the corridor which forces both pedestrians and bicyclists to share narrow, high-speed roadway corridors which have tremendous amounts of truck traffic. This project will provide a safe travel facility largely eliminating those conflicts.

In addition to improved safety, a separate trail facility will also provide numerous other benefits including encouraging healthy physical activity, providing a safe alternate mode of transportation, connecting two existing multi-use trails, providing the potential to raise property values, providing the potential to spur re-development in downtown areas and aid in developing an increased sense of community within an area.

Project Description. The South Sumter Connector Trail is proposed to be part of the 250-mile Florida Coast to Coast Trail, which will connect St. Petersburg on the west coast of the state with Titusville on the east coast (**Figure 1**). The segment being evaluated as part of this Project Development and Environment (PD&E) Study extends approximately 17 miles (in a general west-to-east orientation) from the Withlacoochee State Forest Trail in eastern Hernando County to Tarrytown, Florida, i.e., the intersection of C.R. 471 and S.R. 50 (five miles west of the Florida Van Fleet Trail in eastern Sumter County; see **Figure 2**). The trail would consist of a 12-foot-wide, paved, multi-use path, to be used by multiple modes of non-motorized transportation (including pedestrian & bicycle) that would provide recreational connectivity across the Florida peninsula. As envisioned, this section of the trail would be approximately 10.2 miles in length, significantly closing the gap that exists within the overall C2C Trail.

Alternatives. Multiple alignments were considered for the proposed project. Alternatives under consideration for each segment are described below. Their locations are depicted, and they were evaluated, in the subsequent sections for impacts to jurisdictional wetlands and protected species. The terms "left" and "right" used below are applied as one travels from the project begin point in the west to the project ending point in the east.

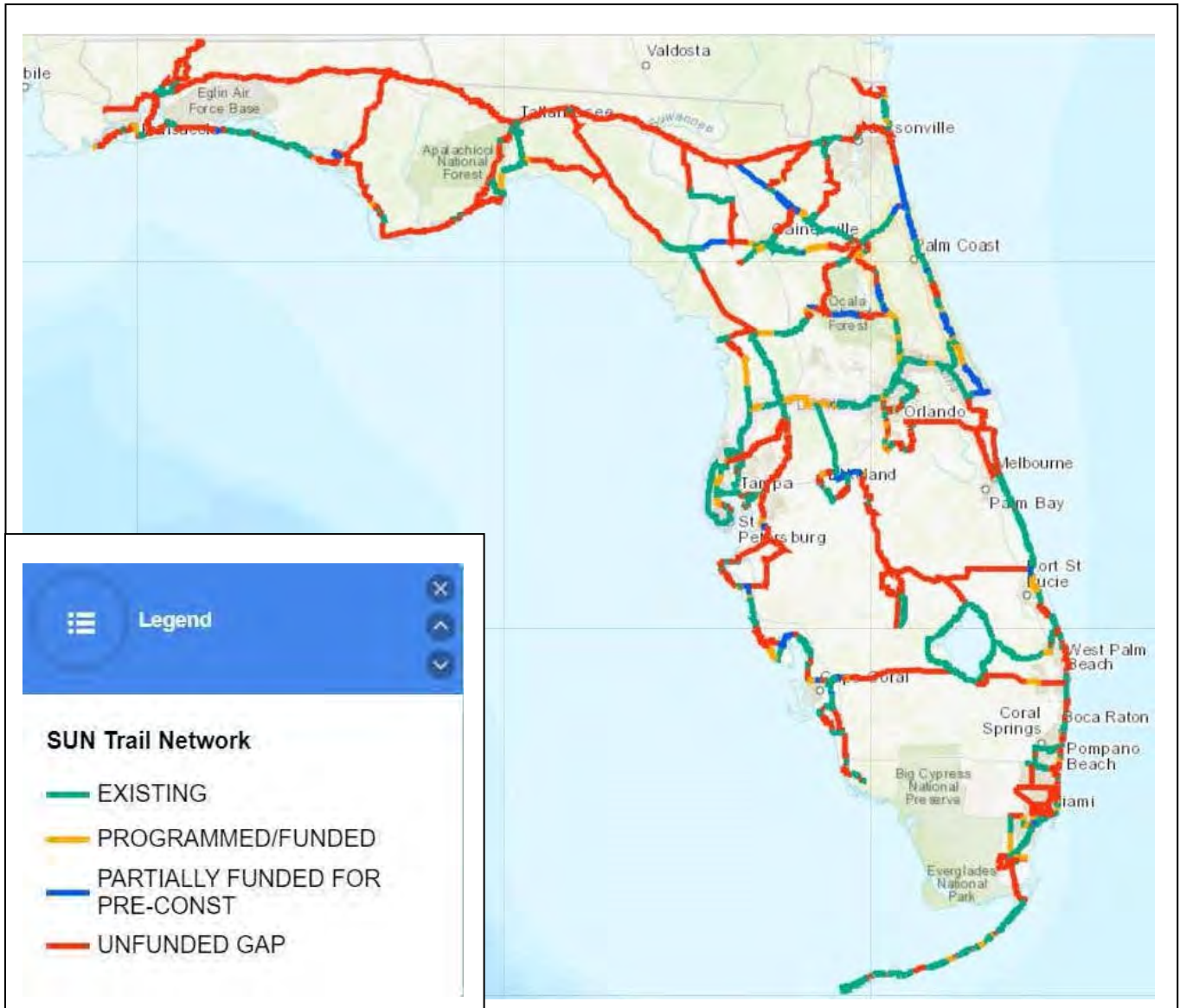


Figure 1 – Florida SUNTrail Network Plan and Status

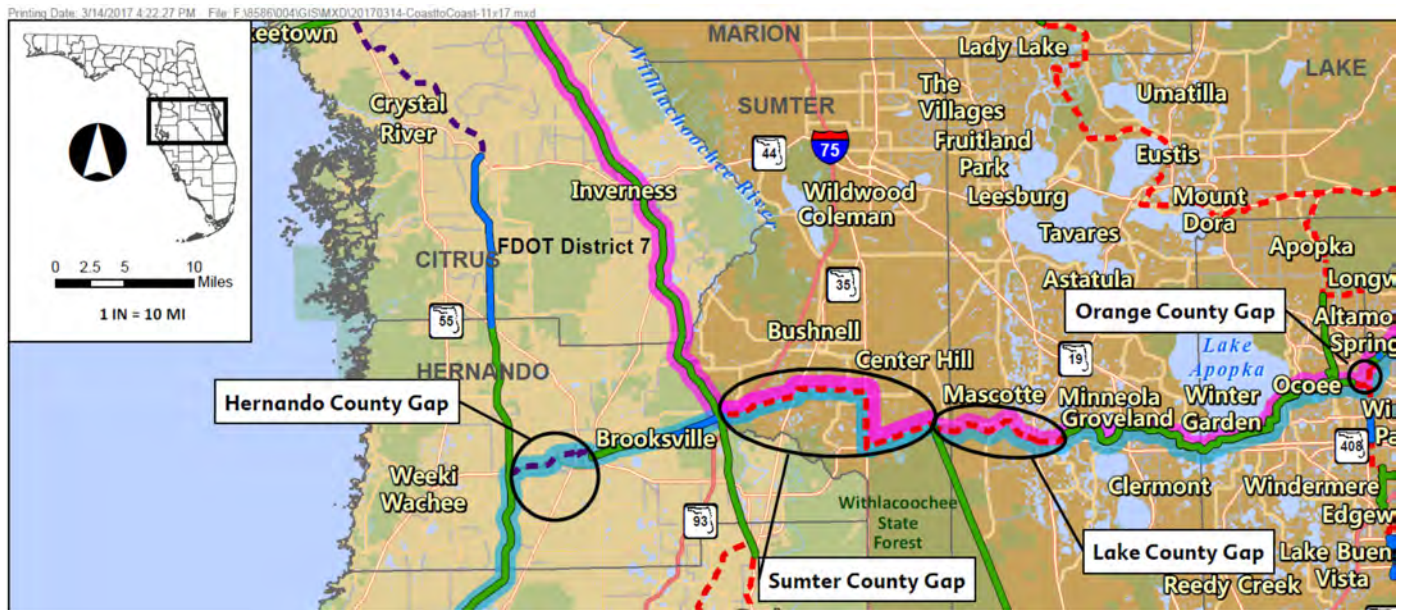


Figure 2 – Florida Coast to Coast Trail

Withlacoochee State Forest (WSF) Alignments. The WSF section trail alignments begin at the intersection of the Good Neighbor and Withlacoochee State Trails continuing north to the Duke Power easement and then east connecting to the Withlacoochee River Bridge crossing location (the former “Iron Bridge” site). (Two other bridge crossings were removed from consideration due to easement restrictions and funding requirements excluding ROW acquisition). Once on the east of the river, the trail follows along FR 13 (SW 113th Place) under I-75 and then north to C.R. 673.

CR 673 Alignments. The alignments considered along CR 673 between CR 683D and US 301 includes use of either the left or right side of the road.

US 301 Alignment. Only the left side of the road along US 301 between CR 673 and CR 478 was evaluated for this project.

CR 478 Alignments. The alignments considered along CR 478 includes use of either the left or the right side of the road between US 301 and SR 471.

SR 471 Alignments. The alignments considered along SR 471 includes use of either the left or the right side of the road between SR 50 and CR 478.

This NRE report was prepared as part of the PD&E study conducted by FDOT District 5 (D5) for the proposed project. The evaluation details the alignments above considered for the South Sumter Trail (the “trail”) corridor, the natural resources found within those alignments, the potential effects of the project on those resources, and regulatory responsibilities of the Department. Field reviews to evaluate natural resources within the study area were conducted in June and December 2017 and June 2019.

II. Study and Action Area

The study area is defined by a project’s termini. The trail would begin at the termination of the recently completed Good Neighbor Trail in Hernando County (at its junction with the Withlacoochee State Trail; see “Begin Project” in Figure 3), cross the Withlacoochee State Forest (“WSF”, the area show in green where the trails converge) and Withlacoochee River, proceed under Interstate 75 (I-75), travel with County Road (C.R.) 673 to its intersection with U.S. Highway 301, extend north until the intersection of U.S. 301 with C.R. 478, then turn east and travel approximately 5 miles to S.R. 471 in the City of Webster. The trail would then turn south and follow along S.R. 471 to S.R. 50, its terminus (see “Revised End Project” in Figure 3). Formerly, the project area included an alignment along S.R. 50 to the Van Fleet Trail (see “End Project” in Figure 3).

The action area is defined as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action” (50 CFR § 402.02). The proposed project’s action area includes the study area/corridor as well as areas within 25 feet of the corridor due to potential effects on gopher tortoises as well as secondary effects on adjacent wetlands.



Figure 3 – Study Corridor



III. Existing Conditions

a. Land Use

The project study area consisting of the ROW and adjacent lands were reviewed to evaluate current land uses. This included all land uses within 100 feet of the proposed trail alignments. The land use and cover classifications have been mapped according to the Florida Department of Transportation Florida Land Use, Cover, and Forms Classification System (FLUCFCS) manual, 1999. Figure 4 depicts the existing land uses within the study area, based on 2011 Geographic Information System (GIS) data from the Southwest Florida Water Management District (SWFWMD). Additional wetland and other surface water areas (ditches) identified in the field were added to the figure. The land-use types mapped within the study area are listed in Table 1 and described below the table.

Table 1. Land Use Types within the South Sumter Trail Project Study Area

FLUCFCS Code	Land Use
1100	Residential, Low Density
1200	Residential, Medium Density
1300	Residential, High Density
1400	Commercial and Services
1600	Extractive
1700	Institutional
1900	Open Land
2100	Cropland and Pastureland
2140	Row Crops
2400	Nurseries and Vineyards
3300	Mixed Upland Non-forested
4100	Upland Coniferous Forests
4120	Longleaf Pine – Xeric Oak
4340	Hardwood - Conifer Mixed
5100	Streams and Waterways
5200	Lakes
6100	Wetland Hardwood Forest
6150	Streams and Lake Swamps (Bottomland)
6210	Cypress
6170	Mixed Hardwood Wetland
6410	Freshwater Marsh
6430	Wet Prairie
8100	Transportation
8300	Utilities



Residential, Low Density (1100)

This FLUCFCS category describes residential dwellings at a density of less than two dwellings per acre.

Residential, Medium Density (1200)

This category describes residential dwellings at a density of between two (2) and five (5) per acre.

Residential, High Density (1300)

This category describes residential dwellings at a density of six or more dwellings per acre.

Commercial and Services (1400)

This category describes areas predominately associated with the distribution of goods and services.

Extractive (1600)

This category includes areas from surface and subsurface mining areas. Included are sand, gravel and clay pits, phosphate mines, limestone quarries plus oil and gas wells.

Institutional (1700)

This category includes educational, religious, health and military facilities are typical components of this category.

Open land (1900)

This category includes undeveloped land within urban areas and inactive land with street patterns but without structures.

Cropland and Pastureland (2100)

This category includes agricultural land which is managed for the production of row or field crops and improved, unimproved and woodland pastures.

Row Crops (2140)

This category includes typical row crops in Florida, such as corn, tomatoes, potatoes and beans.

Nurseries and Vineyards (2400)

This category is composed of nurseries, floricultural areas and seed-and-sod areas used perennially and generally not rotated with other uses.

Mixed Upland Non-Forested (3300)

This category describes areas that possess similar vegetative features as the FLUCFCS 310 and 320 categories, except that either of these features comprises more than one-third of the total land area.

Upland Coniferous Forests (4100)

This category describes any natural forest stand whose canopy is at least 66% dominated by coniferous species.

Longleaf Pine – Xeric Oak (4120)

This forest type is dominated by longleaf pine trees and can be distinguished from longleaf dominated Pine Flatwoods by the presence of a mid-story canopy of blue-jack oak, turkey oak, sand post oak and other dry-site tolerant oaks and hardwoods. This forest community is characteristic of the deep, infertile sand-soils of the sandhill provinces.



Hardwood-Conifer Mixed (4340)

These areas are similar in vegetative composition to FLUCFCS 420 except that there is no dominance of hardwoods or conifers.

Streams and Waterways (5100)

These features represent canals and ditches. These man-made, linear water conveyance features are typically vegetated by a variety of grasses and/or emergent wetland vegetation (in the ditch bottom) and tree and/or shrub species (on the banks). Mostly various grass species (*Panicum* and *Echinochloa sp.*) and lilies (*Nymphaea sp.*) were observed.

Lakes (5200)

This category includes extensive inland water bodies, excluding reservoirs.

Wetland Hardwood Forests (6100)

Wetland hardwood forests are 66 percent or more dominated by wetland species, either salt or freshwater.

Streams and Lake Swamps (Bottomlands) (6150)

This community, often referred to as bottomland or stream hardwood, is usually found on but not restricted to river, creek and lake flood plain or overflow areas.

Mixed Wetland Hardwood (6170)

This category is a wetland hardwood community comprised of a large variety of hardwood species tolerant of hydric conditions with a variety of species.

Cypress (6210)

This community is composed of pond cypress or bald cypress which is either pure or predominant.

Vegetated Non-Forested Wetlands (6400)

These areas include marshes and seasonably flooded basins and meadows. They are usually confined to level, low-lying areas. When the forest crown cover is less than the threshold for wetland forest or is non-woody, it will be included in this category. Sawgrass and cattail are the predominant species for freshwater while spartina and needlerush are for saltwater.

Freshwater Marsh (6410)

This wetland community is typically dominated by emergent wetland vegetation, such as maidencane (*Panicum hemitomon*), pickerelweed (*Pontederia cordata*), duck potato (*Sagittaria latifolia*), buttonbush (*Cephalanthus occidentalis*), cattails (*Typha sp.*) and other herbaceous wetland vegetation.

Wet Prairie (6430)

This wetland community is shallower than FLUCFCS 641 and typical vegetation includes Carolina willow, cabbage palm, wax myrtle, soft rush (*Juncus effusus*), sand cordgrass (*Spartina bakeri*), sawgrass (*Cladium jamaicense*), broomsedge (*Andropogon glomeratus*), saltbush (*Baccharis glomeruliflora*), plume grass (*Erianthus sp.*), tickseed (*Coreopsis sp.*), marsh fleabane (*Pluchea odorata*), meadowbeauty (*Rhexia sp.*), three-way sedge (*Dulichium arundinaceum*), Asiatic coinwort (*Centella asiatica*), white-top sedge (*Rhynchospora colorata*) and other shrubby and herbaceous wetland species.



Transportation (8100)

This category includes transportation facilities used for the movement of people and goods.

Utilities (8300)

Utilities usually include power generating facilities and water treatment plants including their related facilities such as transmission lines for electric generation plants and aeration fields for sewage treatment sites.

b. Soils

Soils within the study area were mapped according to 1990 United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soils data (Figure 5). Table 2 lists these soils types, and they are described below.

Table 2. Soil Types within the South Sumter Trail Project Study Area

<u>Map Unit</u>	<u>Soil Description</u>
4	Candler sand, 0 to 5% slopes
5	Candler sand, 5 to 8% slopes
8	Lake fine sand, 0 to 5% slopes
9	Paisley fine sand, bouldery subsurface
10	Sparr fine sand, 0 to 5% slopes
11	Millhopper sand, 0 to 5% slopes
15	Adamsville fine sand, bouldery subsurface
21	EauGallie fine sand, bouldery subsurface
23	Ona-Ona, wet, fine sand, 0 to 2% slopes
24	Floridana-Basinger association
25	Kanapaha sand, bouldery subsurface
27	Sumterville fine sand, bouldery subsurface
28	Seffner fine sand, 0 to 2% slopes
29	Nittaw muck, frequently flooded
30	Placid fine sand, frequently ponded
31	Myakka-Myakka, wet, sands, 0 to 2% slopes
32	Pompano fine sand
33	Sparr fine sand, bouldery subsurface
36	Floridana mucky fine sand, frequently ponded
40	Millhopper sand, bouldery subsurface
42	Adamsville fine sand, 0 to 2% slopes
46	Ft. Green fine sand, bouldery subsurface
47	Sparr fine sand, 0 to 5% slopes
53	Tavares fine sand, bouldery subsurface
54	Monteocha fine sand, depressional



Adamsville Fine Sand (42). This soil is nearly level and is somewhat poorly drained. It is on low, broad flats and low knolls. In most years, this soil has a high water-table within 20 to 40 inches of the surface for 2 to 6 months and at a depth of less than 60 inches for more than 9 months. It is at a depth of less than 60 inches for more than 9 months. It is a depth of 10 to 20 inches for about 2 weeks in some years.

Adamsville Fine Sand, Bouldery Subsurface (15). This soil is nearly level and is somewhat poorly drained. It is on low, broad flats and knolls. In most years, the soil has a high water-table within 20 to 40 inches of the surface for 2 to 6 months and at a depth of less than 60 inches for more than 9 months. The available water capacity is low throughout. Permeability is rapid.

Candler Sand 5 to 8 Percent Slopes (5). This soil is moderately sloping and is excessively drained. It is on ridges and knolls. The soil does not have a high water-table within 80 inches of the surface. The available water capacity is low to very low. Permeability is very rapid.

Candler Sand, 0 to 5 Percent Slopes (4). This soil is nearly level to gently sloping and is excessively drained. It is on ridges, knolls, and broad uplands. The soil does not have a high water-table within 80 inches of the surface. The available water capacity is very low throughout. Permeability is rapid.

Eaugallie Fine Sand, Bouldery Subsurface (21). This soil is nearly level and is poorly drained. It is on the broad flatwoods. Although most boulders have been removed from the cropland and improved pasture, the remaining subsurface boulders can damage equipment that penetrates the surface. In most years, this soil has a high water-table within 10 to 40 inches of the surface for more than 6 months and at a depth of less than 10 inches for 1 month to 4 months. The available water capacity is moderate. Permeability is rapid in the surface and subsurface layers.

Floridana Mucky Fine Sand, Depressional (36). This soil is nearly level and is very poorly drained. It is in wet, depressional areas. The soil is ponded for more than 6 months during most years. The available water capacity is moderate. Permeability is rapid in the surface later and is slow or very slow in the subsoil.

Floridana-Basinger Association, Occasionally Flooded (63). This association consists of poorly drained and very poorly drained soils in regular and repeating patterns along the Withlacoochee and Little Withlacoochee Rivers. Floridana soils is very poorly drained. During most years, Floridana soil has a high water-table at a depth of less than 10 inches for 1 month to 4 months, and it is frequently flooded. Basinger soil is poorly drained and is rapidly permeable.

Ft. Green Fine Sand, Bouldery Subsurface (46). This soil is nearly level to gently sloping and is poorly drained. It is on broad, low ridges, and small knolls. Although most boulders have been removed from the cropland and improved pasture, the remaining subsurface boulders can damage equipment that penetrates the surface. This soil has a high water-table within 10 inches of the surface for 1 month to 4 months during most years. The available water capacity is moderate. Permeability is rapid in the surface and subsurface layers and is slow to moderately slow in the subsoil.

Kanapaha Sand, Bouldery Subsurface (25). This soil is nearly level and is poorly drained. It is on low, broad flats and low knolls. Although most boulders have been removed from the cropland and improved pasture, the remaining subsurface boulders can damage equipment that penetrates the surface. The soil has a high water-table within 10 to 40 inches of the surface for 3 to 4 months and at a depth of less than 10 inches for 1 month to 3 months during most of the year. The available water capacity is low. Permeability is rapid in the surface and subsurface layers and is moderately slow or slow in the subsoil.



Lake Fine Sand, 0 to 5 Percent Slopes (8). This soil is nearly level to gently sloping and is excessively drained. It is on ridge and knolls and in broad upland areas. This soil does not have a high water-table within 80 inches of the surface. The available water capacity is low throughout. Permeability is rapid or very rapid.

Millhopper Sand, Bouldery Subsurface, 0 to 5 Percent Slopes (40). This soil is nearly level to gently sloping and is moderately well drained. It is in large areas on the uplands. Although most boulders have been removed from the cropland and improved pasture, the remaining subsurface boulders can damage equipment that penetrates the surface. In most years the soil has a high water-table within 40 to 60 inches of the surface for 1 month to 4 months and at a depth of 60 to 80 inches for 2 to 4 months. The available water capacity is low. Permeability is rapid in the surface and subsurface layer and is moderate in the subsoil.

Monteocha Fine Sand, Depressional (54). This soil is nearly level and is very poorly drained. It is in wet depressional areas. During most years, this soil has a high water-table within 10 inches of the surface for 4 months or more and is ponded for more than 6 months. The available water capacity is moderate. Permeability is rapid in the surface and subsurface layers. It is moderate or moderately rapid in the upper part of the subsoil and slow or moderately slow in the lower part.

Myakka Sand (31). This soil is nearly level and is poorly drained. It is on broad areas on the flatwoods. In most years the soil has a high water-table within 10 inches of the surface for 1 month to 4 months and recedes to a depth of more than 40 inches during very dry periods. The available water capacity is low. Permeability is rapid in the surface layer, subsurface layer, and substratum and is moderate or moderately rapid in the subsoil.

Nittaw Muck, Frequently Flooded (29). This soil is nearly level and is very poorly drained. It is in hardwood swamps on the lake and river flood plains. This soil is frequently flooded for very long periods. The available water capacity is high. Permeability is moderately rapid in the surface layer and is slow in the subsoil.

Ona Fine Sand (23). This soil is nearly level and is poorly drained. It is on the broad flatwoods. In most years, this soil has a high water-table between depths of 10 to 40 inches for 4 to 6 months and at a depth of less than 10 inches for 1 month to 2 months. The available water capacity is low throughout. Permeability is rapid in the surface layer, moderate in the subsoil, and rapid in the substratum.

Paisley Fine Sand, Bouldery Subsurface (9). This soil is nearly level and is poorly drained. It is on low broad flats and small knolls. Although most boulders have been removed from the cropland and improved pasture, the remaining subsurface boulders can damage equipment that penetrates the surface. During most years, this soil has a high water-table within 10 inches of the surface for 2 to 6 months. The available water capacity is moderate. Permeability is rapid in the surface and subsurface layers and is slow in the subsoil and substratum.

Pitts-Dumps Complex (51). This map unit consists of pits from which soil material and limestone or shell has been or is being removed and consists of dumps where these materials have been piled. It includes exposed soil material, shell, or limestone that is ready for mining, and piles of topsoil that have been saved for use in revegetating the area after mining operations have ceased. Most areas have been abandoned and are not suitable for crops or trees. However, these areas are highly suited to pasture, habitat for wildlife, and recreation areas if they are reshaped and revegetated to conform to the existing landscapes.



Placid Fine Sand, Depressional (30). This soil is nearly level and is very poorly drained. It is in depressional areas and in poorly defined drainageways that pond. This soil has water above the surface for 6 to 8 months. The available water capacity is moderate. Permeability is rapid throughout.

Pompano Fine Sand (32). This soil is nearly level and is poorly drained. It is on broad, low flats and in poorly defined drainageways. In most years, this soil has a high water-table between depths of 10 and 30 inches for more than 6 months and at a depth of less than 10 inches for 2 to 6 months. The available water capacity is very low. Permeability is very rapid.

Pompano Fine Sand, Depressional (35). This soil is nearly level and is very poorly drained. It is in depressional areas. This soil is ponded for 6 to 8 months. The available water capacity is low. Permeability is rapid.

Seffner Fine Sand (28). This soil is nearly level and is somewhat poorly drained. It is on low, broad flats and low knolls. In most years, this soil has a high water-table within 20 to 40 inches of the surface for 2 to 6 months and at a depth of less than 60 inches for more than 9 months. It is at a depth of 10 to 20 inches for about 2 weeks in some years. The available water capacity is low. Permeability is rapid throughout.

Sparr Fine Sand, 0 to 5 Percent Slopes (10). This soil is nearly level to gently sloping and is somewhat poorly drained. It is on broad, low ridges, and knolls. This soil has a high water-table within 20 to 40 inches of the surface for 1 month to 4 months. The available water capacity is low to a depth of 60 inches. The available water capacity is low in the surface and subsurface layers and moderate in the subsoil. Permeability is rapid in the surface and subsurface layers and is slow or moderately slow in the subsoil.

Sparr Fine Sand, 0 to 5 Percent Slopes (10). This soil is nearly level to gently sloping and is somewhat poorly drained. It is on broad, low ridges and knolls. This soil has a high water-table within 20 to 40 inches of the surface for 1 month to 4 months. The available water capacity is low to a depth of 60 inches. The available water capacity is low in the surface and subsurface layers and moderate in the subsoil. Permeability is rapid in the surface and subsurface layers and is slow or moderately slow in the subsoil.

Sparr Fine Sand, Bouldery Subsurface, 0 to 5 Percent Slopes (33). This soil is nearly level to gently sloping and is somewhat poorly drained. It is on broad, low ridges and knolls. Although most boulders have been removed from the cropland and improved pasture, the remaining subsurface boulders can damage equipment that penetrates the surface. This soil has a high water-table within 20 to 40 inches of the surface for 1 month to 4 months. The available water capacity is low in the surface and subsurface layers and medium in the subsoil. Permeability is rapid in the surface and subsurface layers and is slow or moderately slow in the subsoil.

Tavares Fine Sand, Bouldery Subsurface, 0 to 5 Percent Slopes (53). This soil is nearly level to gently sloping and is moderately well drained. It is on the broad uplands and knolls. Although most boulders have been removed from the cropland and improved pasture, the remaining subsurface boulders can damage equipment that penetrates the surface. During most years, this soil has a high water-table within 40 to 80 inches of the surface for more than 6 months but recedes to a depth of more than 80 inches during droughty periods. The available water capacity is low to very low. Permeability is very rapid or rapid.

c. Other Natural Features

Florida Aquatic Preserves. No portion of the project is located in an Aquatic Preserve.



Outstanding Florida Waters. The Withlacoochee River System, which is crossed in the western portion of the study area, is identified as an Outstanding Florida Water (OFW).

Wild and Scenic Rivers. In Florida, there are two designated rivers under the Wild and Scenic Rivers Act of 1968, as amended: the Loxahatchee River and the Wekiva River. Neither of the designated rivers or any portion of their watersheds are in Hernando or Sumter County. According to the National Parks Service (nps.gov), the “Nationwide Rivers Inventory (NRI) is a listing of more than 3,200 free-flowing river segments in the United States that are believed to possess one or more ‘outstandingly remarkable’ natural or cultural values judged to be at least regionally significant and by that virtue are river segments are potential candidates for inclusion in the National Wild and Scenic River System.” The Withlacoochee River, from its headwaters south of the Lake County line to the US 41 bridge above Lake Rousseau is an NRI-listed segment.

National Wildlife Refuge System. No portion of the project is in a National Wildlife Refuge. However, a portion of the project includes lands within the Withlacoochee State Forest.

B. PROTECTED SPECIES AND RESPECTIVE HABITATS

I. Applicable Regulations and Jurisdictional Agencies

Federally protected species and their habitats are regulated under the Endangered Species Act (ESA) of 1973 (16 U.S.C. §1531 et seq.), which provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead federal agencies for implementing ESA are the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) of the U.S. National Oceanic and Atmospheric Administration (NOAA). FWS maintains a worldwide list of endangered species including birds, insects, fish, reptiles, mammals, crustaceans, flowers, grasses, and trees. While the FWS has primary responsibility for Florida species that are *federally* endangered or threatened, like the sand skink or the Florida scrub-jay, the Florida Fish and Wildlife Conservation Commission (FWC) works in partnership with FWS to help conserve these species.

The State of Florida also protects imperiled species within state boundaries. Florida Administrative Code 68A-27 describes the state’s responsibilities. Florida’s *imperiled species* are fish and wildlife species that meet criteria to be listed as federally endangered, federally threatened, state-threatened or Species of Special Concern. The current listing status of all of Florida’s federal and state listed species is found in *Florida’s Endangered and Threatened Species List*. The FWC is the lead agency in Florida responsible for administering protection of state-listed species.

The analysis below is consistent with Part 2, Chapter 16, Protected Species and Habitat of the PD&E Manual.

II. Technical Approach and Prior Agency Coordination

The project corridor was evaluated for potential impacts to wildlife and habitat resources. To gauge the potential for the presence of protected species and/or their critical habitats within or adjacent to the project area, the following reference materials were reviewed:

- NRCS Soil Data
- NWI maps



- USGS 7.5-minute quadrangle maps
- aerial photographs
- FWC’s publication “Closing the Gaps in Florida’s Wildlife Habitat Conservation System” (1994)
- FWC’s *Florida’s Endangered Species and Threatened Species* (Revised 2018) document, pursuant to 68A-27.003 FAC, and *Species of Special Concern*, pursuant to 68A-27.005 FAC
- FWC’s *Florida’s Imperiled Species Management Plan* (January 2017)
- Florida Department of Agriculture and Consumer Services (FDACS) *List of Florida’s Endangered Plant Species* (5B-40.0055 FAC) (August 2017)
- U.S. Fish and Wildlife Service (FWS) *Endangered & Threatened Wildlife and Plants*, 50 CFR 17.11 and 17.12 (2017)
- FWS, FWC, and Florida Natural Areas Inventory (FNAI) listed-species occurrence GIS data

Based on the habitat types present within and adjacent to the project, a list of protected wildlife species that could potentially occur within the study area was created (Table 3). Federally listed species are also considered to be listed by the state. The potential for occurrence of each species was based on the literature review and was subsequently updated following field investigations. It is possible that species not on the list could appear in the project area, but it is unlikely. Figure 6 shows documented protected species occurrences in and near the project area based on the above literature and GIS data.

Table 3. Protected Species with Potential to Occur within the Study Area

Scientific Name	Common Name	Listing Status		Likelihood of Occurrence	Habitat Preference
		Federal	State		
Plants and Lichens					
<i>Agrimonia incisa</i>	incised groove-bur	N	T	Low	Sandy, dry-mesic, usually upland in the lower Coastal Plain; longleaf pine-deciduous scrub oak, sandy or sandy loam. Open pine woods or mixed pine-oak woods, bluffs, small clearings and old roads, sometimes at the edge of more mesic habitats.
<i>Calopogon multiflorus</i>	many-flowered grass-pink	N	T	Low	Dry to moist flatwoods with longleaf pine, wiregrass, saw palmetto.
<i>Carex chapmanii</i>	Chapman’s sedge	N	T	Low	Hydric hammock and bottomland forest; usually on wooded stream banks and in river floodplains.
<i>Centrosema arenicola</i>	Sand Butterfly Pea	N	E	Low	Sandhill, scrubby flatwoods, dry upland woods.
<i>Coelorachis tuberculosa</i>	Piedmont jointgrass	N	T	Low	Shallow water, herbaceous wetland, and temporary pools.
<i>Eriogonum longifolium</i> var. <i>gnaphalifolium</i>	Scrub Buckwheat	T	E	Low	Sandhill, oak-hickory scrub on yellow sands, high pineland between scrub and sandhill, turkey oak barrens.
<i>Forestiera godfreyi</i>	Godfrey’s swampprivet	N	E	Low	Upland hardwood forests with limestone at or near the surface, often on slopes above lakes and rivers.



NATURAL RESOURCE EVALUATION
 South Sumter Trail from Withlacoochee State Trail to Van Fleet Trail
 Sumter and Hernando Counties

<i>Justicia cooleyi</i>	Cooley's Water-willow	E	E	Low	Mesic hardwood hammocks over limestone.
<i>Lechea cernua</i>	Nodding Pinweed	N	T	Low	Deep sands on which the most common forest is a mixture of evergreen scrub oaks. May be found under mature scattered pine or oak.
<i>Matelea floridana</i>	Florida Spiny-pod	N	E	Low	Upland sites; open woodlands, sandhills and open fields.
<i>Monotropis reynoldsiae</i>	Pygmy Pipes	N	E	Low	Upland mixed hardwood forest, mesic and xeric hammock, sand pine and oak scrub.
<i>Nemastylis floridana</i>	Celestial Lily	N	E	Low	Wet flatwoods (often in cabbage palm flatwoods variant), prairies, marshes, cabbage palm hammocks edges.
<i>Pteroglossaspis ecristata</i>	Giant Orchid	N	T	Low	Sandhill, scrub, pine flatwoods, pine rocklands.
<i>Spigelia loganioides</i>	Pinkroot	N	E	Low	Floodplain forests, upland and hydric hardwood hammocks over limestone.
<i>Trichomanes punctatum ssp. floridanum</i>	Florida Filmy Fern	E	E	Low	Tree trunks in hammocks, edges of lime sinks, and limestone boulders, often with mosses and liverworts.
<i>Triphora craigheadii</i>	Craighead's Nodding-caps	N	E	Low	Forests, shrublands or thickets, woodlands.
Amphibians					
<i>Notophthalmus perstriatus</i>	Striped Newt	C	N	Low	Xeric upland communities, principally sandhill but also scrub; occasionally in pine flatwoods.
Reptiles					
<i>Alligator mississippiensis</i>	American Alligator	T(S/A)	FT(S/A)	High	Typically found in most open water bodies in Florida.
<i>Drymarchon couperi</i>	Eastern Indigo Snake	T	FT	Medium	Utilizes a variety of habitats including, wet flatwoods, mesic hammocks, tidal swamps, sandhills, scrub and upland forests
<i>Gopherus polyphemus</i>	Gopher Tortoise	C	ST	High	Xeric, flatwoods, disturbed/spoil areas and coastal habitats with loose, well drained, sandy soil and abundant herbaceous vegetation
<i>Lampropeltis extenuata</i>	Short-tailed Snake	N	ST	Low	Burrows in sandy soils, particularly pine and xeric oak sandhills. May also be found in scrub and xeric hammock habitats.
<i>Pituophis melanoleucus</i>	Pine Snake	N	ST	Medium	Utilizes areas with well-drained sandy soils with a moderate to open canopy.
Birds					
<i>Antigone canadensis pratensis</i>	Florida Sandhill Crane	N	ST	Medium	Various open grassy areas and marshes.
<i>Aphelocoma coerulescens</i>	Florida Scrub-Jay	T	FT	Low	Ancient dune ecosystems or scrubs, which occur on well drained to excessively well-drained sandy soils.
<i>Athene cunicularia floridana</i>	Florida Burrowing Owl	N	ST	Low	Open native prairies and cleared areas including pastures, agricultural fields, golf courses, airports, and vacant lots in residential areas.



NATURAL RESOURCE EVALUATION
 South Sumter Trail from Withlacoochee State Trail to Van Fleet Trail
 Sumter and Hernando Counties

<i>Egretta tricolor</i>	Tricolored Heron	N	ST	Medium	Freshwater and estuarine wetlands
<i>Falco sparverius paulus</i>	Southeastern American Kestrel	N	ST	Medium	Sandhill, open pine savannah, pastures, low-intensity agriculture, open woodlots and fields within residential areas.
<i>Haliaeetus leucocephalus</i>	Bald Eagle*	N	N	Medium	Forested uplands and wetlands in close proximity to open water.
<i>Mycteria americana</i>	Wood Stork	T	FT	High	Shallow freshwater and brackish wetlands, roadside ditches.
<i>Pandion haliaetus</i>	Osprey	N	SSC	Medium	Found on or near large lakes, rivers, and coastal areas where suitable nesting sites can be found.
<i>Picoides borealis</i>	Red-cockaded Woodpecker	E	FE	Low	Inhabits open, mature pine woodlands that have a diversity of grass, forb, and shrub species. Generally, occupies longleaf pine flatwoods in north and central Florida.
<i>Rostrhamus sociabilis</i>	Snail Kite	E	FE	Low	Large open freshwater marshes and lakes with shallow water, < 4 ft. deep, and a low density of emergent vegetation are preferred foraging habitat. Nests usually over water in a low tree or shrub.
Mammals					
<i>Trichechus manatus</i>	West Indian Manatee	T	FT	Low	Coastal waters, bays, rivers, and occasionally lakes. Requires warm-water refugia such as springs or cooling effluent during cold weather.
<i>Ursus americanus floridanus</i>	Florida Black Bear**	N	N	Medium	A wide variety of forested, sparsely forested upland/wetland communities.

Table Notes: Abbreviations: E = Endangered, T = Threatened, T(S/A) = Similarity of appearance, NL = Not Listed, C = Candidate for Listing, * = Protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, ** = Protected by Florida Black Bear Conservation Rule 68A-4.009, F.A.C. Species noted solely as Candidates for federal listing, were not included.

The South Sumter Trail study corridor contains several different types of natural and man-made wildlife habitats. These include forested and herbaceous uplands, forested and herbaceous wetlands, stormwater ponds and ditches. cursory surveys were conducted within the study corridor from 2017 to 2019 to evaluate the potential for occurrence of floral and faunal species protected by the FWC, FWS, USDA, and/or the FDACS. No species-specific surveys following required state and/or federal guidelines were conducted within the project corridor. Prior to the initiation of construction activities, species-specific surveys for protected species should be performed. A base map of the study area was developed from aerial photographs prior to the field reviews within the proposed study corridor. Areas that exhibited the highest probability of supporting protected species were assessed with the most scrutiny during the site assessment. If any species were observed, they were noted, and positions/locations were estimated and mapped.

To date, the only agency coordination with the FWC or FWS that has been carried out was for Red-Cockaded Woodpecker. FWS has concurred with FDOT that surveys for the species are not necessary (see Appendix A), and that impacts to the species will be unlikely.



III. Federally Listed Species and Designated Critical Habitat

The **eastern indigo snake** is listed as *threatened* by both FWS and FWC. This species is found in a broad range of habitats, from scrub and sandhill to wet prairies and mangrove swamps, often wintering in gopher tortoise burrows, but foraging in more hydric habitats than where burrows are typically located. No critical habitat rules have been published for the eastern indigo snake. However, habitats adjacent to all alternative corridors may be used as foraging habitat by the eastern indigo snake. No indigo snakes were observed during the field reviews, but there were numerous gopher tortoise burrows observed in many parts of the project area. During construction, the FWS's "Standard Protection Measures for the Eastern Indigo Snake" will be implemented during site preparation and project construction (Appendix B). Any snakes inhabiting located gopher tortoise burrows will be removed prior to construction. Finally, no motor vehicles will be allowed on the trail. As a result, and per the *Consultation Key for the Eastern Indigo Snake* (FWS, 2017), it is anticipated that the proposed project *may affect, but is not likely to adversely affect*, the eastern indigo snake.

The endangered **Red-Cockaded Woodpecker**, or "RCW" inhabits open, mature pine woodlands that have a diversity of grass, forb, and shrub species. Generally, it occupies longleaf pine flatwoods in north and central Florida, mixed longleaf pine and slash pine in south-central Florida, and slash pine in south Florida outside the range of longleaf pine. Individuals forage in several forested habitat types that include pines of various ages, but they prefer more mature pines. The proposed project is within the USFWS consultation area for RCW. Also, the Withlacoochee State Forest is actively managed for this species. This population, and the associated cluster areas, are tracked and documented by the FFS regularly. All of the clusters are located west of the Withlacoochee River. The proposed trail will come through the forest from the east and cross the river, where it will then use existing cleared paths to tie into the Good Neighbor Trail. Consultation with the Florida Forest Service (FFS) revealed that the habitat near, and to the east of the river, is of poor quality and currently not suitable for RCWs and that the FFS currently does not have plans to manage this area of the forest for new clusters (see attached FFS correspondence in Appendix A). Due to the information regarding RCWs in the forest, lack of suitable habitat outside the forest, low impact nature of the project, and the continued coordination with the FFS, FDOT proposed that surveys for this species are not necessary. FWC concurred with that determination (see Appendix A). Due to continued close coordination with FFS, the nature of the project, and the habitat characteristics above, it is anticipated that the proposed project will have *no effect* on RCW.

The **Florida Scrub-Jay** is listed as *threatened* under the ESA, and is known from Sumter, but not Hernando County. The species inhabits fire-dominated, low-growing, oak scrub habitat found on well-drained sandy soils. It may persist in areas with sparser oaks or scrub areas that are overgrown, but at much lower densities and with reduced survivorship (Hipes et al 2001). Prime habitats are generally not found along the study corridors, but patches of scrub areas are adjacent to some proposed ROWs where work could occur. The Withlacoochee-Panasoffkee-Big Scrub "Important Bird Area," or "IBA" is approximately eight miles north of the study area and provides important habitat for Scrub-Jay; it is possible that individuals may forage in the project area, but none were observed during field efforts to date and prime habitat is not located within the project footprint. Therefore, it is anticipated that the proposed project *may affect, but is not likely to adversely affect* the Florida Scrub-Jay.

The **Snail Kite** is listed as *endangered* under the ESA. It prefers large open freshwater marshes and lakes with shallow water, less than four feet deep, and a low density of emergent vegetation are preferred foraging habitat. It is dependent on apple snails (*Pomacea paludosa*) caught at the water surface. Individuals usually nest over water in a low tree or shrub (commonly willow, wax myrtle, pond apple, or buttonbush, but also in non-woody vegetation like cattail or sawgrass). Although Sumter County is within the consultation area, because there are no suitable habitats within the project footprint, it is anticipated that the proposed project will have *no effect* on the species.



The **Wood Stork** is classified as Endangered by both FWS and FWC. Habitats utilized most frequently by this species include cypress and mixed hardwood swamps, sloughs, and mangroves and shallow surface waters such as roadside swales and ditches. No critical habitat rules have been published for the Wood Stork. No Wood Storks or signs were observed during the field reviews. GIS database information (Figure 6) also indicates there are no wood stork colonies within one (1) mile of the project corridor. FWS wood stork data indicates that the core foraging area (CFA) radius in Central Florida is 15 miles. The study corridors fall within two existing CFAs (the entire study area falls within one, and a second covers only the western portion; see green-dotted line on Figure 6 index sheet or orange-dotted lines on subsequent finer-scale sheets). Thus, any project within this area may require mitigation for impacts to wood stork habitat. However, it is a regularly accepted practice to provide in-kind habitat replacement within the project area to offset impacts. Most suitable Wood Stork foraging habitat (ditches and ponds) within the project corridor will also be present in the post-development scenario if they existed pre-construction. If any habitat is adversely affected and not restored, compensation will be provided within the appropriate CFA or within the service area of a FWS-approved mitigation bank. Thus, based on the consultation key in FWS (2010), it is anticipated that this project *may affect*, but is *not likely to adversely affect* the wood stork.

The **West Indian manatee** is listed as *threatened* under the ESA. Individuals are highly mobile and may be encountered in a variety of environments including estuarine habitats, canals, rivers, saltwater bays, and occasionally coastal oceanic habitat. Although the Withlacoochee River is within the native range of the manatee, individuals are generally prevented from accessing reaches above Lake Rousseau due to the lock on the Cross-Florida Barge Canal and the Lake Rousseau dam at Inglis, Florida (reference email from FFS in Appendix C). The species has not been observed recently in the reach of the river over which the proposed trail will pass. Therefore, it is anticipated that the proposed project will have *no effect* on the West Indian manatee.

While other protected plant species *could* be present within the study area, those listed in Table 3 are considered the most likely to occur based on habitat types present. Only two species, the endangered Florida filmy fern and the threatened scrub buckwheat are federally listed. There appears to be little if any suitable habitat for these species in the study corridor, and neither species was observed during the field reviews. It is anticipated therefore that the proposed project will have *no effect* on these species.

IV. State-Listed Species

Gopher tortoises are designated as a threatened species by FWC, and as a candidate for *threatened* status by FWS. The gopher tortoise prefers habitat with loose, well-drained, sandy soils for burrowing and an abundance of low-growing herbaceous vegetation for food. Over 50 gopher tortoise burrows were documented during field reviews, mainly along western end of the project. If gopher tortoise burrows are found during the species-specific surveys conducted prior to construction (up to 25 feet away from any area to be impacted by construction), a relocation permit from the FWC will be obtained. Tortoises must be relocated to an FWC-approved onsite or offsite location, and relocation fees must be paid to the recipient site. Because of the detailed permitting and relocation process, the District anticipates *no adverse effect* on gopher tortoise due to the proposed project.

The **Burrowing Owl** is listed as a threatened species by FWC but is not listed by FWS. This species prefers habitat that has loose, sandy, well drained soils with low growing herbaceous vegetation. No Burrowing Owl individuals or signs were observed during the field reviews. However, there are patches of suitable habitat, particularly in the west portion of the study area. Such areas will be surveyed for both tortoises as well as burrowing owls prior to construction. Therefore, FDOT anticipates *no adverse effect* on Burrowing Owl due to the proposed project.



Tricolored Heron is listed as *threatened* by FWC but are not listed by FWS. As a wading bird, the species may be found in natural and man-made water bodies throughout Florida. It would be expected for wading-bird species to regularly use inundated wetlands and surface waters within the study area for foraging purposes. GIS database sources reveal that there are no wading bird rookeries located within the study corridor that would be affected by the project. Any ditches adjacent to roads in the project corridor that are impacted will be replaced by ditches in a slightly different position, and few if any inundated wetlands will be impacted by the project. If wetlands are impacted, their functional value will be replaced in the same basin in which impacts occur. Therefore, the District anticipates *no adverse effect* on Tricolored Heron due to the proposed project.

The **Southeastern American Kestrel** is listed as a threatened sub-species by FWC but is not listed by FWS. This protected population is non-migratory. However, the *migratory* American Kestrel that is present in Florida between August and April is *not* protected. It is extremely difficult to distinguish the protected non-migratory kestrel from the migratory species and thus surveys should be performed in the April through August timeframe when the migratory species is no longer present. The kestrel prefers to nest in snags or on utility poles and requires open, low herbaceous habitat for hunting. During the field reviews, no kestrels or signs were observed, and there is no known documentation of this species' occurrence within the study area. The described preferred habitat is present to a limited degree within the proposed project limits. The species was not observed during field activities and there is a limited amount of available habitat within the study area. Therefore, the District anticipates *no adverse effect* on Southeastern American Kestrel due to the proposed project.

The **Florida Sandhill Crane** is listed as *threatened* by FWC but is not listed by FWS. Sandhill Cranes prefer wet prairie and open marsh habitat, low-lying pastureland, and shallow flooded open areas for foraging and nesting. They typically nest in open marshes that contain pickerelweed, maidencane, and/or duck potato. During field reviews, no sandhill cranes or signs were observed. Habitat for this species occurs in the south end of the project corridor, but there is substantially more outside the project footprint. If any of the wetland types identified above are impacted due to the project, their functional value will be replaced in the same basin in which impacts occur. Therefore, the District anticipates *no adverse effect* on Florida Sandhill Crane due to the proposed project.

The *Regulated Plant Index* for the State of Florida is found in Chapter 5B-40.0055, F.A.C. Florida-protected plant species listed in Table 2 could occur in the project area based on geography, but the likelihood of occurrence is low for all state-listed plant species. It is anticipated that the project will have *no effect* on these species based on how limited (or absent) typical habitat affiliations are within the study corridors, and the known historic and current ranges of these species.

V. Other Protected Species or Habitats

While the **Bald Eagle** is no longer federally or state- listed as *threatened* or *endangered*, it is still afforded protection by the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and state and federal management plans. The FWC regulates activities near known Bald Eagle nest sites and requires a minimum 660' buffer of project activities from the nest. No Bald Eagles or nests were observed during the field reviews. Figure 6 shows the location of known bald eagle nest sites within the vicinity of the project corridor. As can be inferred from this figure, no eagle nests occur within 0.5 mile of the project corridor. The District anticipates no effect of this project on the Bald Eagle.

The **Florida black bear** receives protection under the Florida Black Bear Conservation Rule, 68A- 4.009, F.A.C. Black bears are very opportunistic and can inhabit a wide variety of habitats including forested uplands and wetlands,



open prairies and developed areas adjacent to vegetative habitat. Figure 6 documents black bears within the vicinity of the project. No intentional “take” will occur as a result of the project. The District anticipates no effect of this project on the Florida black bear.

C. WETLAND EVALUATION

I. Applicable Regulations and Jurisdictional Agencies

The U.S. Army Corps of Engineers (USACE) regulates impacts to “Waters of the U.S.,” which include wetlands. Wetlands and surface waters that are isolated and not connected to “Waters of the U.S.” are not jurisdictional to the USACE. Evaluation of USACE jurisdictional wetlands and surface waters is done concurrently with the permitting process. Permits issued by USACE will require compliance with Clean Water Act Section 404(b)(1) guidelines, including verification that all wetland impacts have first been avoided to the greatest extent possible, that unavoidable impacts have been minimized to the greatest extent possible, and lastly that unavoidable impacts have been mitigated in the form of wetlands creation, restoration, and/or enhancement. In addition, USACE coordination with the FWS and the NMFS may be necessary for potential effects to federal listed protected species and critical habitat.

The Southwest Florida Water Management District (SWFWMD) has regulatory authority for impacts to jurisdictional wetlands and/or creation of a new or modification of an existing surface-water management system. SWFWMD will require compliance with Clean Water Act Section 401 guidelines and may require an Environmental Resource Permit (ERP) or may provide a letter confirming a project’s compliance with conditions allowing for a permit exemption.

In accordance with EO 11990 and Part 2, Chapter 9 - Wetlands and Other Surface Waters of the FDOT PD&E Manual, the FDOT has undertaken all actions to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency’s responsibilities.

II. Technical Approach

Potential wetlands and surface waters within the alignment alternatives were initially identified through review of available site-specific data. Literature utilized to identify wetlands included the following:

- FWS National Wetland Inventory (NWI) maps
- United States Geological Survey (USGS) topographic quadrangle maps; 7.5-minute series
- United States Department of Agriculture, Soil Conservation Service, Sumter and Hernando County soil surveys, 1984 and 1975, respectively

Using the information obtained from the above data sources, cursory field reviews for the evaluation were conducted in June and December 2017 and July 2019 to verify approximate wetland and surface water locations and to generally characterize these habitats within each alignment alternative. Vegetative composition was also noted for each area. Wetlands and surface waters identified in the field were compared to NWI data within the project corridor to evaluate approximate acreages within the various alternative alignments. No wetlands or surface waters were flagged or



surveyed during the field review, although occasionally GPS locations were taken to assist with identifying the locations of habitat features and boundaries.

Prior to permitting all wetland habitats will be delineated according to guidelines found in USACE *Wetland Delineation Manual*, 1987 and the *Regional Supplement to the Manual: Atlantic and Gulf Coastal Plain Region*, 2010; the *Florida Wetlands Delineation Manual*, 1995; and 62-340, F.A.C., *Delineation of the Landward Extent of Wetlands and Surface Waters*.

III. Wetlands Within Project Area

It was generally noted that wetlands within the study corridor roadway alignments have been adversely affected by past and current agricultural practices, as well as local drainage/conveyance structures, roads, and surrounding development. These wetlands may be classified as low to moderate quality, while those located on the western end of the site on the Carl Anderson property and in the WSF may be considered medium to high quality.

IV. Estimated Wetland and Surface Water Impacts

a. Quantification of Impacts

Proposed project alternatives were evaluated for impacts to wetlands and surface waters in accordance with Executive Order (EO) 11990 and Part 2, Chapter 9 of the PD&E Manual. In accordance with the EO and PD&E Manual, the District has undertaken all actions to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency’s responsibilities.

All wetlands and surface waters within the various alignment footprints are considered to be completely impacted though grading may not take all habitat within those zones (Figure 4) and the majority of these areas will not be covered with impervious surfaces. Table 4 lists the potential impacts associated with each alignment alternative.

Table 4. Estimated Wetland and Surface Water Direct Impacts by Corridor Segment and Alignment

Segment and Alignment	Impact Acres
Withlacoochee State Forest	1.04
CR673 – left	0.00
CR673 – right	0.00
US301 – left	0.00
CR478 – left	0.21
CR478 – right	0.21
SR471 – left	0.93
SR471 – right	0.23



b. Effects on Flood Control, Erosion Control, Water Pollution Abatement, and Wildlife Habitat Value

None of the proposed alternatives will have an adverse effect on flood control, erosion control, water pollution abatement, or wildlife habitat value.

c. Effects on Wetland System Quality and Stability

None of the proposed alternatives will affect the stability or quality of affected wetland systems or streams (i.e., the Withlacoochee River).

d. Short-term vs. Long-term Effects

None of the alternatives are anticipated to have new, short- or long-term, adverse effects on wetlands or surface waters (i.e., the Withlacoochee River).

V. Evaluation of Wetland and Surface Water Impacts

Estimated Permanent and Temporary Impacts to Wetland and Surface Waters

Estimated, total, **permanent** impacts to wetlands per corridor/alignments are listed above. Wetland and surface water locations within the proposed alignment footprints are depicted in Figure 4. Table 5 below lists the approximate acreage of specific wetlands and surface water types/habitats within the alignment footprints. Several types of wetlands and surface waters may be impacted by the proposed alignments, including streams and waterways, bottomlands, freshwater marshes, and wet prairies. Impacts to roadside ditches and swales and their relocation are not accounted for below. Also, there may be some additional **temporary** impacts due to construction, but these are anticipated to be very limited. There are sufficient uplands for use as staging areas along all alternative corridors. Temporary impacts to water quality during project construction will be minimized by implementing the 2017 FDOT *Standard Specifications for Road and Bridge Construction*.

Secondary Impacts

Secondary impacts resulting from installation of the proposed trail are anticipated to be minimal; most areas where wetland impacts are anticipated have already incurred impacts to at least one side of each new impact footprint per alignment. Potential secondary impacts are quantified in Table 6. These were calculated by dividing the area (square feet) of impacts by the typical width of the project's clearing limits (50 feet) to determine the linear distance of the impact's boundary. Secondary impacts were assumed to extend 25 feet from the direct impact footprint. This radius is typically used for wetland impacts associated with residential projects; the radius of impact for a recreational trail is likely to be much less. Hence, the values listed below are much more conservative (large) than the size of the actual effect. These values will be refined through the permitting process during the design phase. Regulatory agencies may require mitigation for secondary impacts.



Table 5. Wetland and Surface Water Approximate, Direct, Permanent Impacts within Corridor Alignments by Segment

Project Area	FLUCFCS Code	FLUCFCS Description	Acres
Withlacoochee State Forest	510	Streams and Waterways	0.2717
	615	Stream and Lake Swamps (Bottomlands)	0.3126
	641	Freshwater Marshes	0.4603
CR 673 Corridor (CR 683D to US 301)			
CR 673 (left alignment)	n/a	n/a	n/a
CR 673 (right alignment)	n/a	n/a	n/a
US 301 Corridor (CR 673 to CR 478)			
US 301 (left alignment)	n/a	n/a	n/a
CR 478 Corridor (US 301 to SR 471)			
CR 478 (left alignment)	643	Wet Prairies	0.2089
CR 478 (right alignment)	641	Freshwater Marshes	0.1217
CR 478 (right alignment)	643	Wet Prairies	0.0946
SR 471 Corridor (SR 50 to CR 478)			
SR 471 (left alignment)	615	Stream and Lake Swamps (Bottomlands)	0.9298
SR 471 (right alignment)	615	Streams and Lake Swamps (Bottomlands)	0.2292

Table 6. Estimated Secondary Wetland Impacts by Corridor Segment and Alignment

Segment and Alignment	Impact Acres
Withlacoochee State Forest	1.04
CR673 – left	n/a
CR673 – right	n/a
US301 – left	n/a
CR478 – left	0.11
CR478 – right	0.11
SR471 – left	0.47
SR471 – right	0.12

Most new linear transportation or trail projects result in some habitat fragmentation. However, because the vast majority of the proposed project alignment utilizes existing road corridors and trails, such effects have already occurred and cannot be attributed to the proposed project. The additional, added width of the trail is not anticipated to appreciably contribute to wetland fragmentation. The new work may allow for some additional



opportunities to improve drainage in connectivity in any areas where existing fragmentation could be reversed (i.e., some areas in the WSP where existing berms will be used for trails).

VI. Avoidance and Minimization of Wetland Impacts

Proposed project alternatives were evaluated for impacts to wetlands and surface waters in accordance with Executive Order (EO) 11990 and Part 2, Chapter 9 of the PD&E Manual. In accordance with the EO and PD&E Manual, the District has undertaken all actions to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency’s responsibilities. As an integral part of the design effort for this project, practicable alternatives to avoid or minimize impacts to wetlands and protected species and their habitats were assessed. It is generally understood that there are inherent limitations with any project including, but not limited to, design and safety criteria, available ROW, fund availability, and limiting adjacent development.

The primary way in which a project’s environmental impacts can be reduced or eliminated is by lessening the “footprint” of the overall impact footprint and, within the constraints of design, locating the project to lessen the impacts to sensitive environmental resources. Other methods for avoiding and minimizing impacts to natural resources include consideration of no-build alternative and consideration of design alternatives, such as elevated trails, boardwalks, and physical variations of the alignment (or parts of alignments), such as those being considered for this trail. Specifically, the below were considered for the proposed project:

No Build Alternative

While this alternative would not create any impacts to wetlands, surface waters or protected species and their habitat, it would not address project need of furthering the connectivity of trail systems across Florida. Thus, with the need to connect existing trails to the west and east, this is not a viable alternative.

Avoidance and Minimization

Apart from use of WSF trails and a few areas required to link those areas to existing ROWs, the existing ROWs are adequate to accommodate the trail to current standards and safety criteria. By routing the proposed corridors along existing transportation corridors (state and county road ROWs and forest trails), the District minimized what could have been a larger footprint. Furthermore, the District considered several alignments through WSF and avoided impacting forested (upland and wetland) areas to the maximum extent practicable.

Design and Alignment Alternatives

For the proposed project, selecting a combination of alignments that includes the right side of SR 471 rather than the left side would decrease wetland impacts by approximately 0.7 acres. The two alternative alignments available along CR 478 are not significantly different in terms of wetland impacts. There were no wetland impacts for either alignment along CR 673 or for the only alignment under consideration along US 301.

Wetland and surface water impacts will be avoided to the maximum extent practicable during the design phase, including via the selection of the precise route of the trail. Where feasible, further minimization efforts will be evaluated during the project design phase and may include such measures as steeper side slopes, retaining walls, handrails, and limiting land clearing activities only to those areas necessary for construction.



Finally, impacts to water quality during project construction will be minimized by implementing the 2010 FDOT Standard Specifications for Road and Bridge Construction.

VII. Wetland Functional Assessment

To determine the loss of function of jurisdictional wetlands and surface waters, a Uniform Mitigation Assessment Methodology (UMAM) evaluation will be carried out during the permitting process. The UMAM, per Chapter 62-345, F.A.C., is a state and federal approved method to assess wetlands in the State of Florida. UMAM was developed by FDEP and the water management districts to determine the amount of mitigation required to offset adverse impacts to wetlands. The methodology was designed to assess functions provided by wetlands, the amount those functions are reduced by a proposed impact, and the amount of mitigation necessary to offset the proposed functional losses. This method is also used to determine the degree of improvement in ecological value that will be created by proposed mitigation. The UMAM assessment includes a Qualitative Characterization (Part 1) as well as a Quantitative Assessment and Scoring (Part 2).

On-site wetland habitats that may be impacted will be reviewed and data will be recorded on Parts 1 and 2 scoring sheets. The Qualitative Assessment will include data pertaining to the following:

- Significant nearby features,
- Water classifications,
- Assessment area size,
- Hydrology and relationship to contiguous off-site wetlands,
- Uniqueness of the assessment area,
- Functions of the assessment area, and
- Wildlife utilization.

The Quantitative Assessment will provide a score of the assessment area in both the current conditions and “with impact” condition. That assessment will score the following parameters:

- Location and landscape support,
- Water environment, and
- Vegetative community

Because most of the areas proposed for impacts due to the trail are in areas where there is existing paved-road infrastructure, UMAM scores for *location and landscape support* and *water environment* for the existing condition may be in the low to medium range. This could decrease the amount of mitigation required for the project compared to other linear trail projects not associated with infrastructure.

VIII. Mitigation Alternatives

In 2008, the USACE and the EPA issued regulations governing compensatory mitigation for activities authorized by the Department of the Army (Federal Register, 2008). These regulations, as promulgated in 33 Code of Federal Regulations (CFR) Part 332, establish a hierarchy for determining the type and location of compensatory mitigation.



The rule established a preference for the use of mitigation bank credits if a mitigation bank has the appropriate number and resource type of credits available. If the permitted impacts are not in the service area of an approved mitigation bank, or if the appropriate number and resource type of credits are otherwise unavailable, then the rule establishes a preference for in lieu fee program credits. If an approved mitigation bank or in-lieu fee program cannot be used to provide the required compensatory mitigation, the rule establishes a preference for permittee-responsible mitigation conducted under a watershed approach. Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 22 U.S.C. §1344. Compensatory mitigation for this project will be completed using mitigation banks and any other mitigation options that satisfy state and federal requirements.

A portion of the South Sumter Trail project is exempt from permitting according to Florida Statute 62-330.051(10) because the multi-use trail will have a width of “14 feet or less for multi-use recreational paths.” However, wetland areas (not including other surface waters) will likely require a federal permit and mitigation. The amount of mitigation required will be determined after wetland areas to be impacted are surveyed and UMAM analyses are carried out. Some functional lift can be gained from reconnecting wetland areas that were fragmented due to raised berms (i.e., in WSF). Any proposed mitigation will be coordinated between FDOT and regulatory agencies.

IX. Cumulative Wetland Impacts

The combined, incremental effects of human activity are referred to as *cumulative impacts*. Because the proposed project involves potentially filling some wetland habitats, these impacts, in combination with other impacts to the same wetlands (attributed to other projects) are considered to have cumulative impacts. This project’s influence on cumulative impacts in the South Sumter trail corridor are limited to a 12-foot-wide strip of additional pavement, resulting in approximately 1.48 to 2.18 acres of permanent, direct wetland impacts, depending on the alignments selected. These impacts will be mitigated in order that the cumulative impact does not adversely affect the coverage of wetlands in the project’s basin.

D. ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance Essential Fish Habitat (EFH) for those species regulated under a federal fisheries management plan (FMP). EFH is defined in the MSFCMA as “...those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” In 1997, the National Marine Fisheries Service (NMFS), the agency responsible for implementing the Magnuson-Stevens Act, established rules to clarify EFH, using the following definitions:

- *Waters* – aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate;
- *Substrate* – sediment, hard bottom, structures underlying the waters, and associated biological communities;
- *Necessary* – the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem; and
- *Spawning, breeding, feeding, or growth to maturity* – stages representing a species’ full life cycle.



The proposed project was evaluated for impacts to EFH in accordance with FDOT PD&E Manual Part 2, Chapter 17, Essential Fish Habitat (June 2017). Because the project area is not located in a drainage affected by tides or comprises habitats used by council-managed species, it will have no impact on EFH.

E. ANTICIPATED PERMITS

I. Jurisdictional Wetlands

The regulatory agencies with jurisdiction over potentially affected wetlands and surface waters will require permits for the construction of the project. It is anticipated that any combination of alignments will require a Nationwide Permit (NWP) 23 (for “trail projects”) from USACE for compliance with Section 404 of the Clean Water Act. FDOT will consult with USACE prior to submittal of the application to seek concurrence of permit type. USACE requires compliance with the state water quality program; therefore, issuance of the USACE permit is subsequent (normally 30 to 60 days) to issuance of any state (e.g. SWFWMD) issued permit. Compliance with USACE Section 404(b)(1) guidelines includes verification that all impacts have been avoided to the greatest extent practicable, that unavoidable impacts have been minimized, and that a compensatory mitigation plan has been provided for unavoidable wetland impacts.

SWFWMD has regulatory authority for impacts to state-jurisdictional wetlands and surface waters and responsibility for compliance with Section 401 of the Clean Water Act. However, impervious surfaces associated with a multi-use trail are exempt from SWFWMD permitting requirements, per 62-330.051(10), F.A.C. Portions of the trail that are cleared and gravel and/or boardwalks are utilized may require other permits, which may be coordinated with SWFWMD during the design phase.

II. Sovereign Submerged Lands

This project will cross the Withlacoochee River and will therefore require a Florida Board of Trustees of the Internal Improvement Trust Fund (TIITF) easement under regulatory authority of the FDEP Bureau of Sovereign Submerged Lands (SSL). If the project affects an SSL, a lease will be required from FDEP. This is typically not a separate permitting process and is done concurrently during review of the ERP, in which the SWFWMD will normally conduct coordination. A letter of determination from the FDEP should be obtained for any lands that may be impacted and have the potential to be sovereign state lands. If the project is exempt from an ERP, the application process may progress independently of permitting.

III. Discharge & Dewatering

Pursuant to 40 CFR parts 122 and 124, any project that results in the clearing of one or more acres of land will require a National Pollutant Discharge Elimination System (NPDES) permit from the U.S. Environmental Protection Agency (USEPA) via FDEP. This permit is usually acquired by the contractor prior to construction activities. In association with this permit, a Stormwater Pollution Prevention Plan (SWPPP), (implemented during the construction of the project) will also be required. The primary functions of the NPDES requirements are to ensure that sediment and erosion are controlled during construction of the project. These permits require adherence to Best Management Practices (BMPs) to ensure compliance. If dewatering is necessary for this project, a dewatering



permit will be required from the SWFWMD. Like an NPDES permit from the FDEP, a dewatering permit is usually obtained by the contractor prior to construction.

IV. Protected and Regulated Species

FWS regulates impacts to **federally protected species**. Because this project will require a federal dredge and fill permit from USACE, USACE may initiate Section 7 consultation with the FWS to address any potential impacts to federally protected species. There are specific guidelines that have been set forth by FWS for federally protected species (e.g., eastern indigo snake) that must be adhered to with project development.

Permitting coordination efforts for any **state-listed species** that will require a permit should be done in conjunction with the state and federal wetlands permitting processes. The FWC regulates impacts to state-protected species. As with FWS, FWC has developed specific guidelines for the management of state protected animal species (e.g. survey requirements and recommendations). Some species (e.g., gopher tortoise) listed by the FWC require a specific permit to disturb. To complete this project in any combination of alignments, a gopher tortoise survey will be required. Also, a relocation permit will be necessary.

There are no specific permitting requirements for impacts to **protected plant species** listed by the Florida Department of Agriculture and Consumer Services (FDACS) or FWS. Furthermore, this project should not require permitting with FDACS for impacts to protected plant species because there are no restrictions on FDOT-owned land for impacts to state-listed plants. However, FDOT will coordinate with FFS regarding any protected plant species in WSF. Conservation efforts that could be engaged include, but are not limited to, seed/tissue harvesting, translocation of plants, etc.

F. CONCLUSION

I. Summary

This NRE report has been prepared as part of the PD&E study conducted by FDOT for the proposed South Sumter Trail from Withlacoochee State Trail to Van Fleet Trail project. The trail would begin at the termination of the recently completed Good Neighbor Trail in Hernando County (at its junction with the Withlacoochee State Trail; see “Begin Project” in Figure 3), cross the Withlacoochee State Forest (“WSF”, the area show in green where the trails converge) and Withlacoochee River, proceed under Interstate 75 (I-75), travel with County Road (C.R.) 673 to its intersection with U.S. Highway 301, extend north until the intersection of U.S. 301 with C.R. 478, then turn east and travel approximately 5 miles to S.R. 471 in the City of Webster. The trail would then turn south and follow along S.R. 471 to S.R. 50, its terminus (see “Revised End Project” in Figure 3). The purpose of the project is to create a trail segment, between two other trail systems, comprising a 12-foot-wide, paved, multi-use path, to be used by multiple modes of non-motorized transportation (including pedestrian & bicycle) that would provide recreational connectivity across the Florida peninsula.

Preliminary field reviews for the natural resource assessment were conducted from 2017 to 2019. The South Sumter Trail study corridor contains several different types of natural and man-made wildlife habitats. These include forested and herbaceous uplands, forested and herbaceous wetlands, stormwater ponds and ditches. Many protected species could be found in the area, but the most prolific of these is the gopher tortoise, which use



primarily habitats in the WSF.

Alternative comprised combinations of alignments, all of which included the left side (traveling from the project beginning in the west to the project terminus in the east) of US Hwy 301 and the WSF segment. The other options included the left or right sides of CR673, the left or right sides of CR478, and the left or right sides of SR471. The estimated impacts to jurisdictional wetlands and surface waters per alignment are listed in Table 7 below. Given combinations of the above alignments to complete the objectives of the project, approximately 1.48 to 2.18 acres of permanent, direct wetland impacts are anticipated.

It is anticipated that any combination of alignments will require a Nationwide Permit (NWP) 23 from USACE, but much of the project may be exempt from Section 401 permitting due to 62-330.051(10), F.A.C. USCG permitting is not required, but it is likely that mitigation will be required by USACE. Bank credits are currently available. A pre-construction gopher tortoise survey is recommended, as is relocation of individuals following permitting by FWC.

Table 7. Wetland and Surface-Water Direct, Permanent Impacts per Corridor Alignment

Segment and Alignment	Direct Impact Acreage
Withlacoochee State Forest	1.04
CR673 – left	n/a
CR673 – right	n/a
US301 – left	n/a
CR478 – left	0.21
CR478 – right	0.21
SR471 – left	0.93
SR471 – right	0.23

* temporary impacts due to construction are not quantified

II. Design Considerations and Implementation Measures

No design considerations or implementation measures were developed for this project.

III. Commitments

The Standard Protection Measures for the Eastern Indigo Snake (FWS, 2013) will be implemented during construction.



IV. Regulatory Sequence

When the preferred project alternative is selected, a pre-application meeting with USACE and SWFWMD should occur. Also, gopher tortoise authorized agents should conduct a preliminary gopher tortoise survey of the ROW and other project footprint areas, extending to 25 feet away from where land-disturbing activities are proposed. When engineering plans are available, Section 404 and 401 applications (or exemption requests) can be submitted to USACE and SWFWMD. If gopher tortoises or burrows were observed during the final, 100%-coverage survey, removal should occur within 90 days of the survey, but as close to the initiation of project construction as possible.



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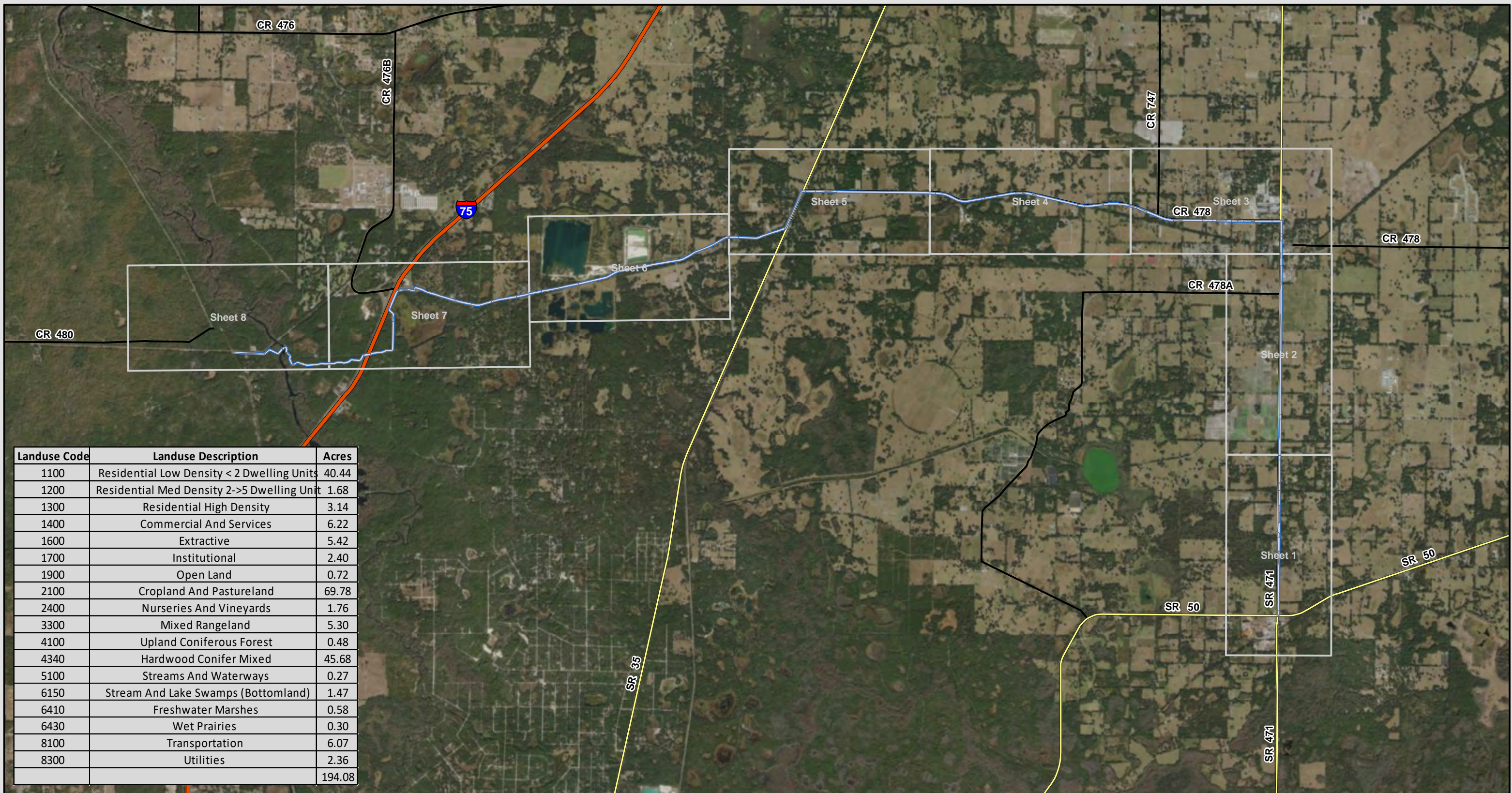
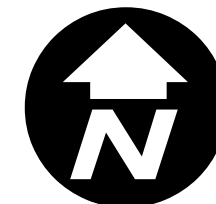
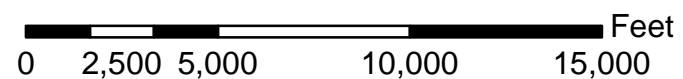


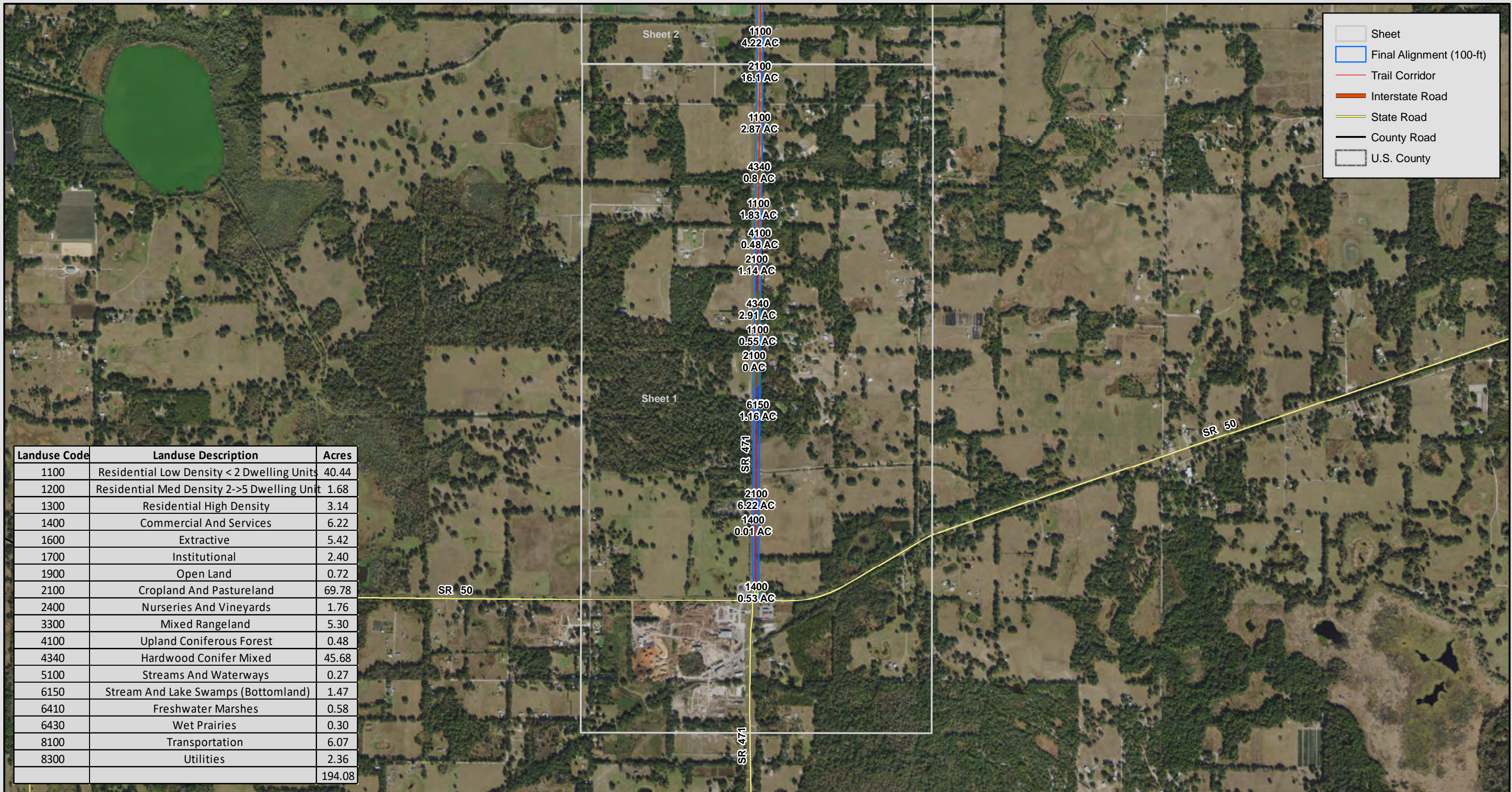
Figure 4.0 - SWFWMD 2014 Land Cover

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

1 in equals 5,000 feet



Sources: ESRI, NRCS
 Date: September 2019



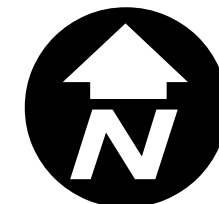
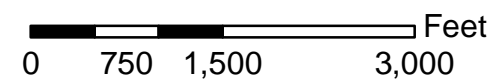
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1100	Residential Low Density < 2 Dwelling Units	40.44
1200	Residential Med Density 2->5 Dwelling Unit	1.68
1300	Residential High Density	3.14
1400	Commercial And Services	6.22
1600	Extractive	5.42
1700	Institutional	2.40
1900	Open Land	0.72
2100	Cropland And Pastureland	69.78
2400	Nurseries And Vineyards	1.76
3300	Mixed Rangeland	5.30
4100	Upland Coniferous Forest	0.48
4340	Hardwood Conifer Mixed	45.68
5100	Streams And Waterways	0.27
6150	Stream And Lake Swamps (Bottomland)	1.47
6410	Freshwater Marshes	0.58
6430	Wet Prairies	0.30
8100	Transportation	6.07
8300	Utilities	2.36
		194.08

Figure 4.1 - 2014 Land Cover (Sheet 1)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI, SWFLMD
 Date: September 2019

1 in equals 1,500 feet



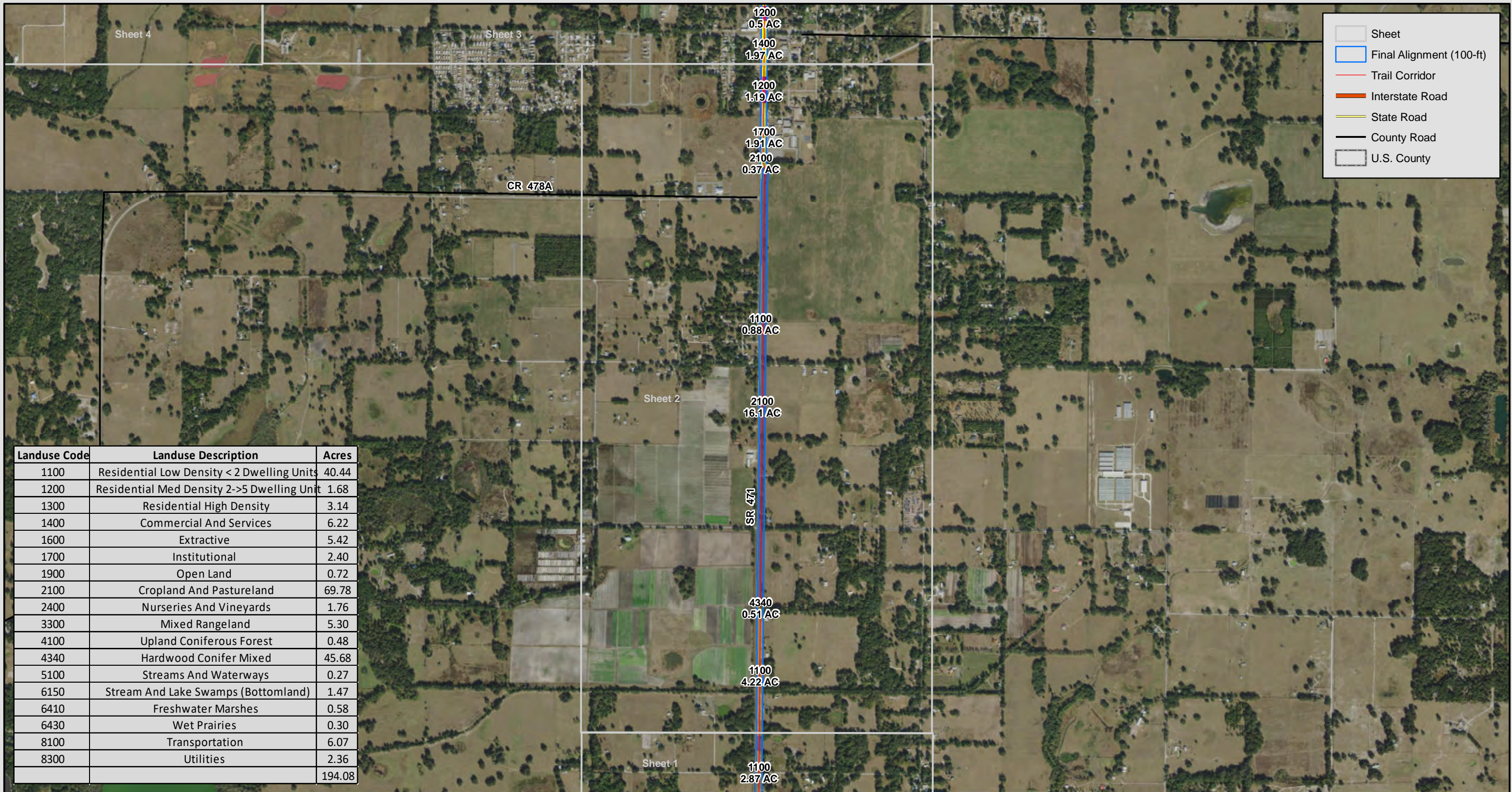
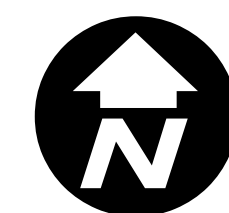
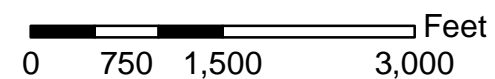


Figure 4.2 - 2014 Land Cover (Sheet 2)








South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI, SWFLMD
 Date: September 2019

1 in equals 1,500 feet



Landuse Code	Landuse Description	Acres
1100	Residential Low Density < 2 Dwelling Units	40.44
1200	Residential Med Density 2->5 Dwelling Unit	1.68
1300	Residential High Density	3.14
1400	Commercial And Services	6.22
1600	Extractive	5.42
1700	Institutional	2.40
1900	Open Land	0.72
2100	Cropland And Pastureland	69.78
2400	Nurseries And Vineyards	1.76
3300	Mixed Rangeland	5.30
4100	Upland Coniferous Forest	0.48
4340	Hardwood Conifer Mixed	45.68
5100	Streams And Waterways	0.27
6150	Stream And Lake Swamps (Bottomland)	1.47
6410	Freshwater Marshes	0.58
6430	Wet Prairies	0.30
8100	Transportation	6.07
8300	Utilities	2.36
		194.08

-  Sheet
-  Final Alignment (100-ft)
-  Trail Corridor
-  Interstate Road
-  State Road
-  County Road
-  U.S. County

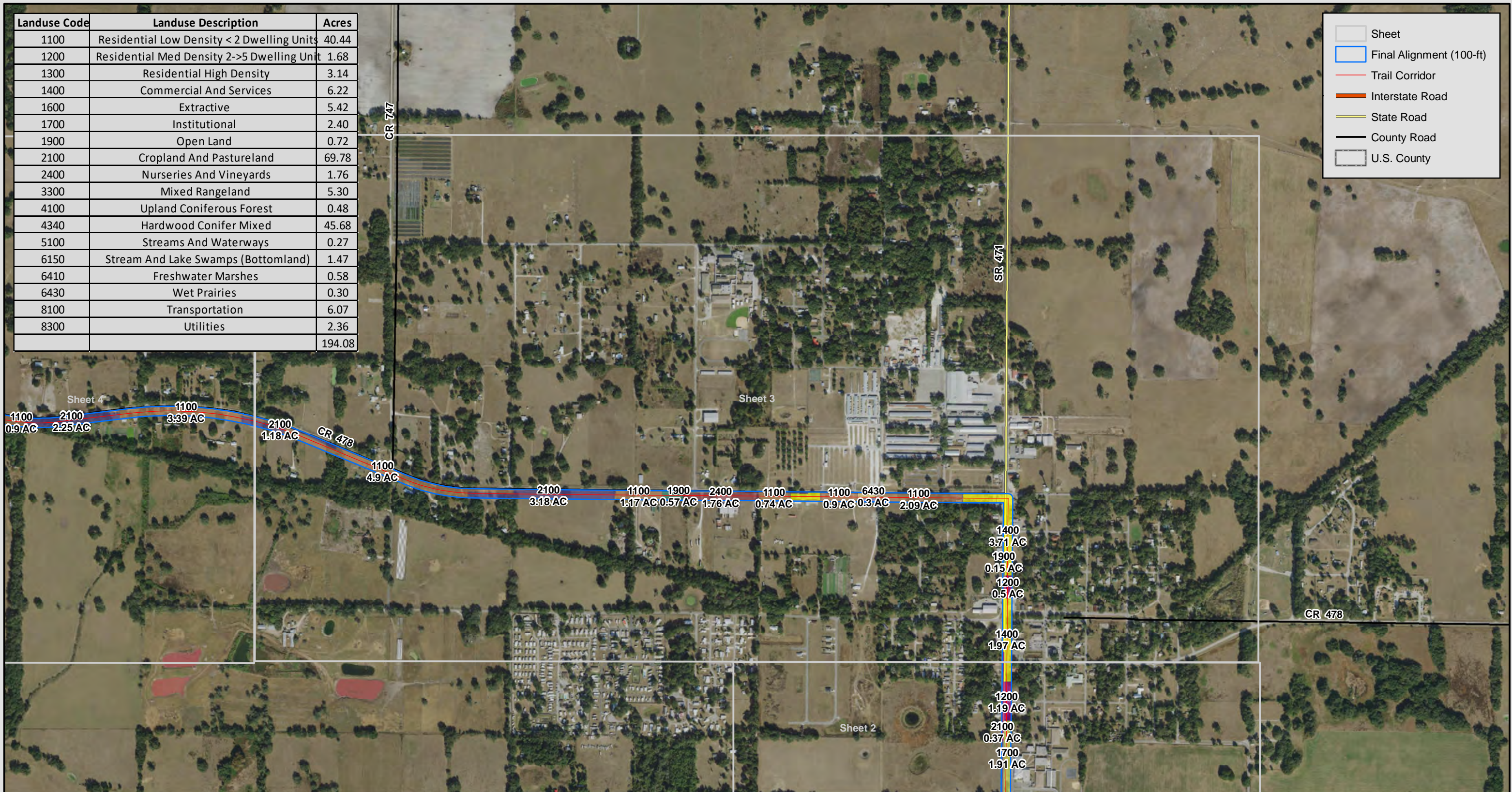
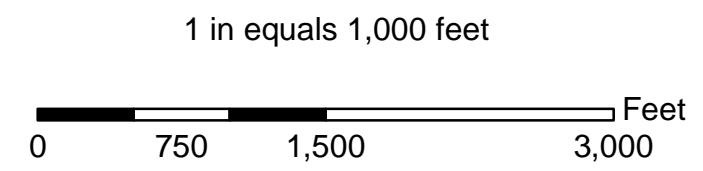


Figure 4.3 - 2014 Land Cover (Sheet 3)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida



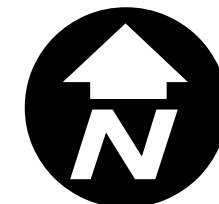
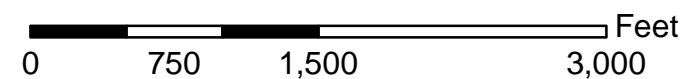
Sources: ESRI, SWFLMD
 Date: September 2019



Figure 4.4 - 2014 Land Cover (Sheet 4)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

1 in equals 1,000 feet



Landuse Code	Landuse Description	Acres
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1300	Residential High Density	3.14
1400	Commercial And Services	6.22
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4340	Hardwood Conifer Mixed	45.68
5100	Streams And Waterways	0.27
6150	Stream And Lake Swamps (Bottomland)	1.47
6410	Freshwater Marshes	0.58
6430	Wet Prairies	0.30
8100	Transportation	6.07
8300	Utilities	2.36
		194.08

Legend:

- Sheet
- Final Alignment (100-ft)
- Trail Corridor
- Interstate Road
- State Road
- County Road
- U.S. County

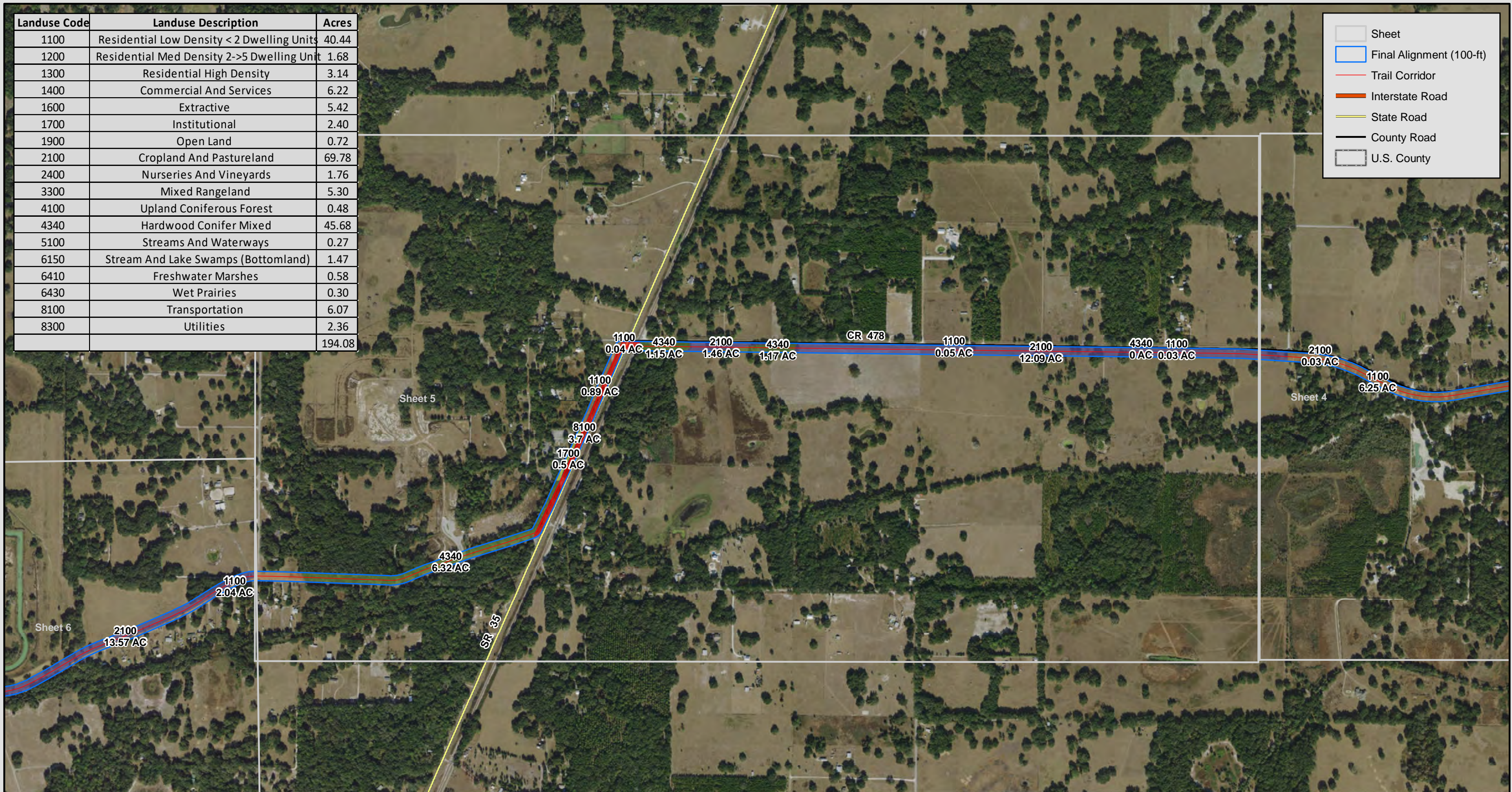
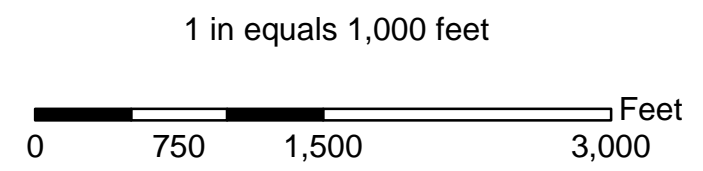


Figure 4.5 - 2014 Land Cover (Sheet 5)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida



Sources: ESRI, SWFLMD
 Date: September 2019

Landuse Code	Landuse Description	Acres
1100	Residential Low Density < 2 Dwelling Units	40.44
1200	Residential Med Density 2->5 Dwelling Unit	1.68
1300	Residential High Density	3.14
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6410	Freshwater Marshes	0.58
6430	Wet Prairies	0.30
8100	Transportation	6.07
8300	Utilities	2.36
		194.08

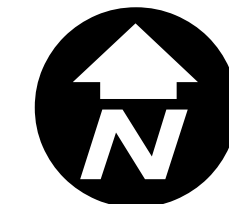
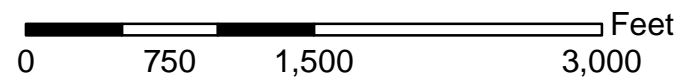


Figure 4.6 - 2014 Land Cover (Sheet 6)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI, SWFLMD
 Date: September 2019

1 in equals 1,000 feet



Landuse Code	Landuse Description	Acres
1100	Residential Low Density < 2 Dwelling Units	40.44
1200	Residential Med Density 2->5 Dwelling Unit	1.68
1300	Residential High Density	3.14
1400	Commercial And Services	6.22
1600	Extractive	5.42
1700	Institutional	2.40
1900	Open Land	0.72
2100	Cropland And Pastureland	69.78
2400	Nurseries And Vineyards	1.76
3300	Mixed Rangeland	5.30
4100	Upland Coniferous Forest	0.48
4340	Hardwood Conifer Mixed	45.68
5100	Streams And Waterways	0.27
6150	Stream And Lake Swamps (Bottomland)	1.47
6410	Freshwater Marshes	0.58
6430	Wet Prairies	0.30
8100	Transportation	6.07
8300	Utilities	2.36
		194.08

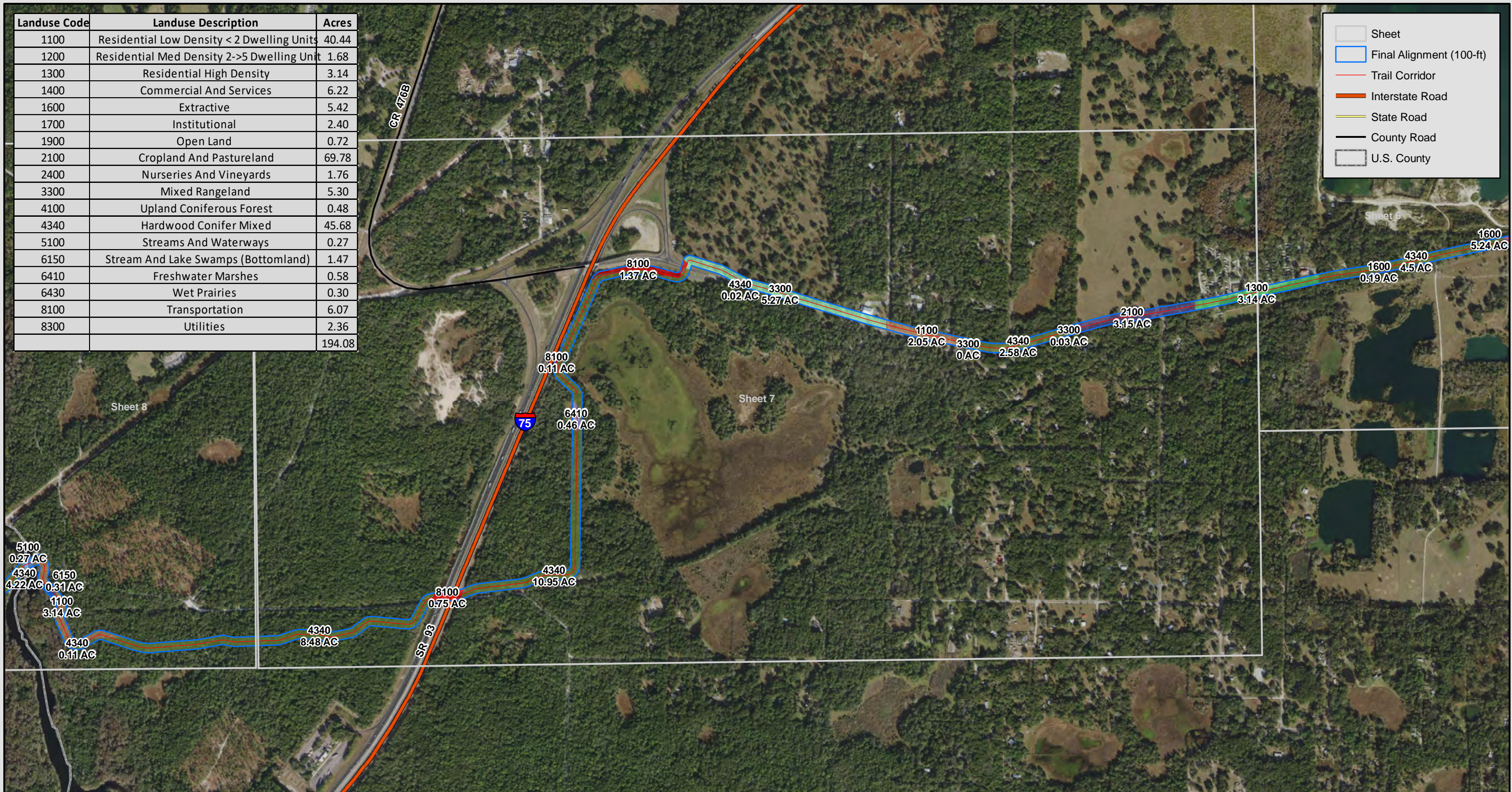
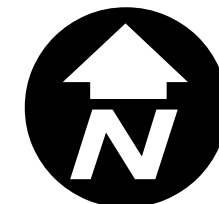
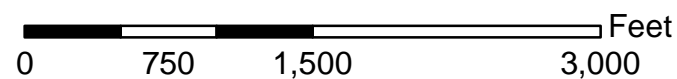


Figure 4.7 - 2014 Land Cover (Sheet 7)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI, SWFLMD
 Date: September 2019

1 in equals 1,000 feet



Landuse Code	Landuse Description	Acres
1100	Residential Low Density < 2 Dwelling Units	40.44
1200	Residential Med Density 2->5 Dwelling Unit	1.68
1300	Residential High Density	3.14
1400	Commercial And Services	6.22
1600	Extractive	5.42
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1900	Open Land	0.72
2100	Cropland And Pastureland	69.78
2400	Nurseries And Vineyards	1.76
3300	Mixed Rangeland	5.30
4100	Upland Coniferous Forest	0.48
4340	Hardwood Conifer Mixed	45.68
5100	Streams And Waterways	0.27
6150	Stream And Lake Swamps (Bottomland)	1.47
6410	Freshwater Marshes	0.58
6430	Wet Prairies	0.30
8100	Transportation	6.07
8300	Utilities	2.36
		194.08

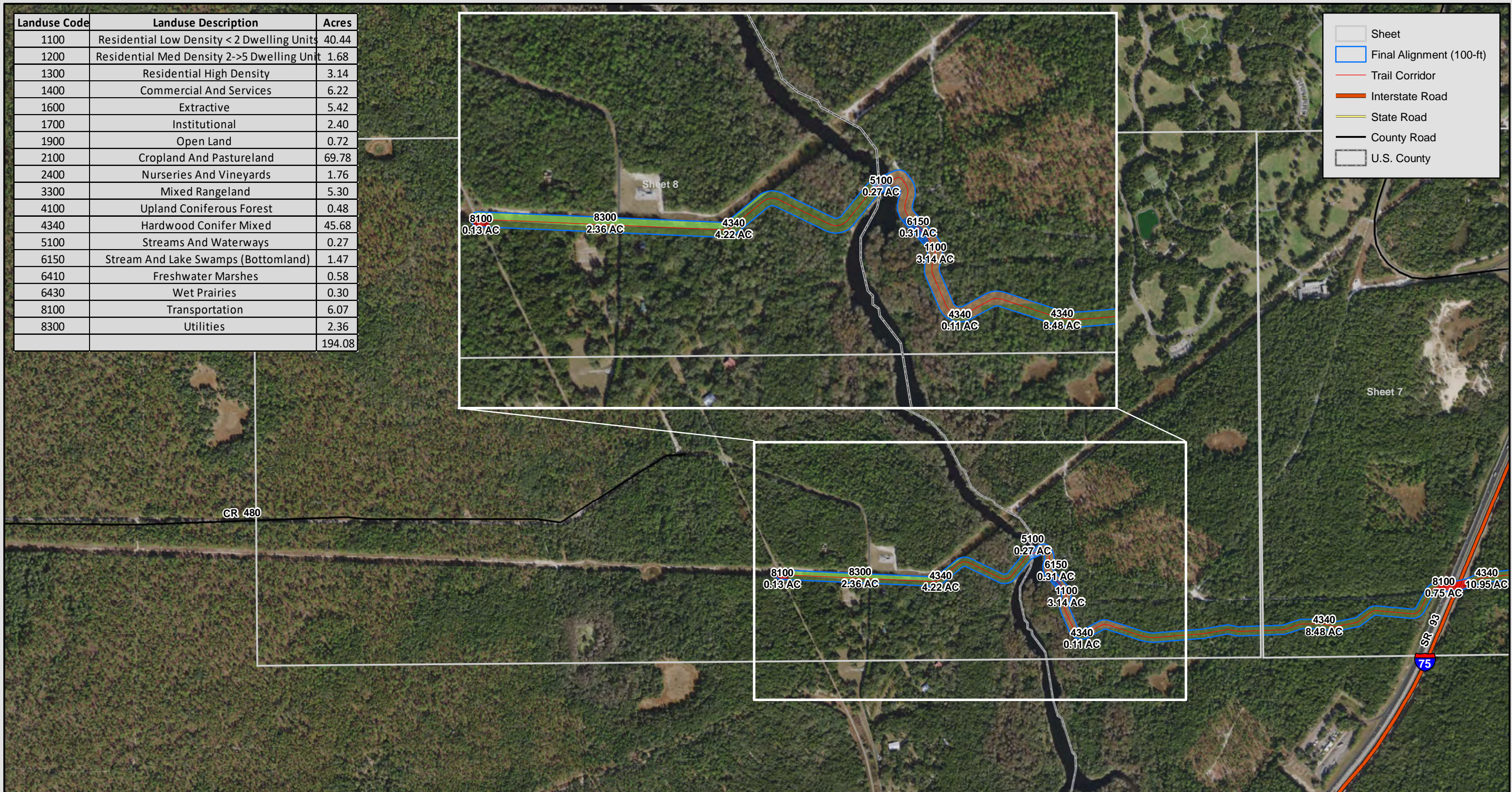
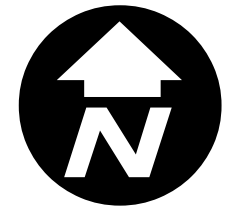
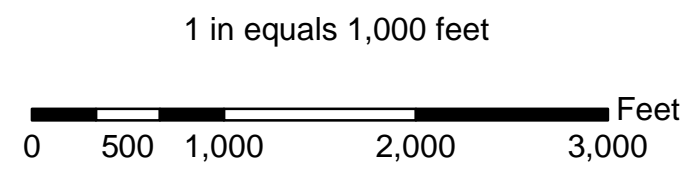
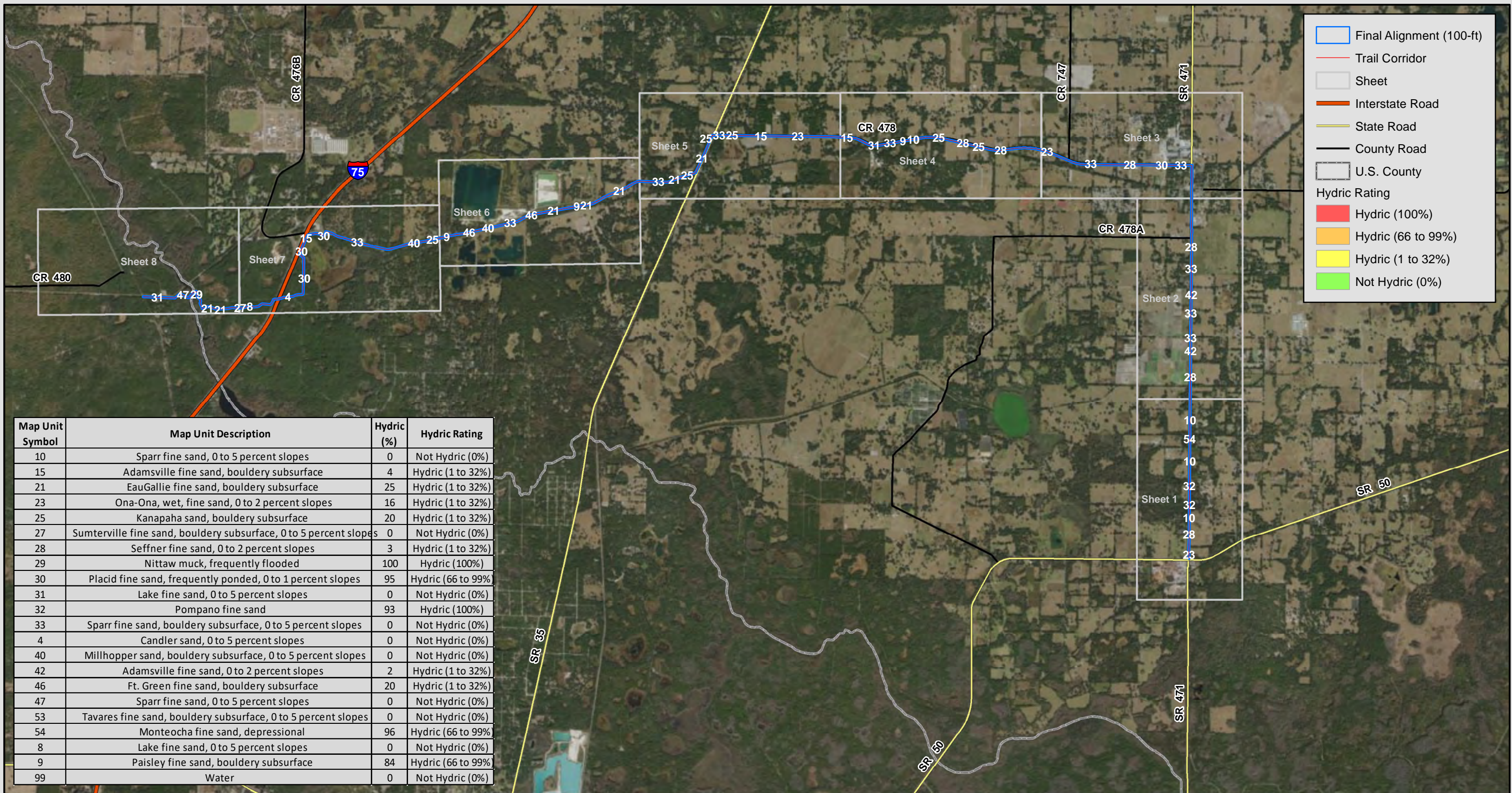


Figure 4.8 - 2014 Land Cover (Sheet 8)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida



Sources: ESRI, SWFLMD
 Date: September 2019



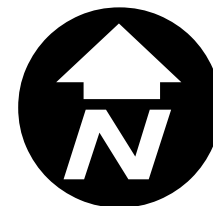
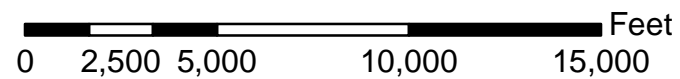
Map Unit Symbol	Map Unit Description	Hydric (%)	Hydric Rating
10	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
15	Adamsville fine sand, bouldery subsurface	4	Hydric (1 to 32%)
21	EauGallie fine sand, bouldery subsurface	25	Hydric (1 to 32%)
23	Ona-Ona, wet, fine sand, 0 to 2 percent slopes	16	Hydric (1 to 32%)
25	Kanapaha sand, bouldery subsurface	20	Hydric (1 to 32%)
27	Sumterville fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
28	Seffner fine sand, 0 to 2 percent slopes	3	Hydric (1 to 32%)
29	Nittaw muck, frequently flooded	100	Hydric (100%)
30	Placid fine sand, frequently ponded, 0 to 1 percent slopes	95	Hydric (66 to 99%)
31	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
32	Pompano fine sand	93	Hydric (100%)
33	Sparr fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
4	Candler sand, 0 to 5 percent slopes	0	Not Hydric (0%)
40	Millhopper sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
42	Adamsville fine sand, 0 to 2 percent slopes	2	Hydric (1 to 32%)
46	Ft. Green fine sand, bouldery subsurface	20	Hydric (1 to 32%)
47	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
53	Tavares fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
54	Monteocha fine sand, depressional	96	Hydric (66 to 99%)
8	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
9	Paisley fine sand, bouldery subsurface	84	Hydric (66 to 99%)
99	Water	0	Not Hydric (0%)

Figure 5 - Hydric Soil Rating Index

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI, NRCS
 Date: January 2020

1 in equals 5,000 feet



Map Unit Symbol	Map Unit Description	Hydric (%)	Hydric Rating
10	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
15	Adamsville fine sand, bouldery subsurface	4	Hydric (1 to 32%)
21	EauGallie fine sand, bouldery subsurface	25	Hydric (1 to 32%)
23	Ona-Ona, wet, fine sand, 0 to 2 percent slopes	16	Hydric (1 to 32%)
25	Kanapaha sand, bouldery subsurface	20	Hydric (1 to 32%)
27	Sumterville fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
28	Seffner fine sand, 0 to 2 percent slopes	3	Hydric (1 to 32%)
29	Nittaw muck, frequently flooded	100	Hydric (100%)
30	Placid fine sand, frequently ponded, 0 to 1 percent slopes	95	Hydric (66 to 99%)
31	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
32	Pompano fine sand	93	Hydric (100%)
33	Sparr fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
4	Candler sand, 0 to 5 percent slopes	0	Not Hydric (0%)
40	Millhopper sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
42	Adamsville fine sand, 0 to 2 percent slopes	2	Hydric (1 to 32%)
46	Ft. Green fine sand, bouldery subsurface	20	Hydric (1 to 32%)
47	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
53	Tavares fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
54	Monteocha fine sand, depressional	96	Hydric (66 to 99%)
8	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
9	Paisley fine sand, bouldery subsurface	84	Hydric (66 to 99%)
99	Water	0	Not Hydric (0%)

Sheet
 Final Alignment (100-ft)
 Trail Corridor
 Interstate Road
 State Road
 County Road
 U.S. County
Hydric Rating
 Hydric (100%)
 Hydric (66 to 99%)
 Hydric (1 to 32%)
 Not Hydric (0%)

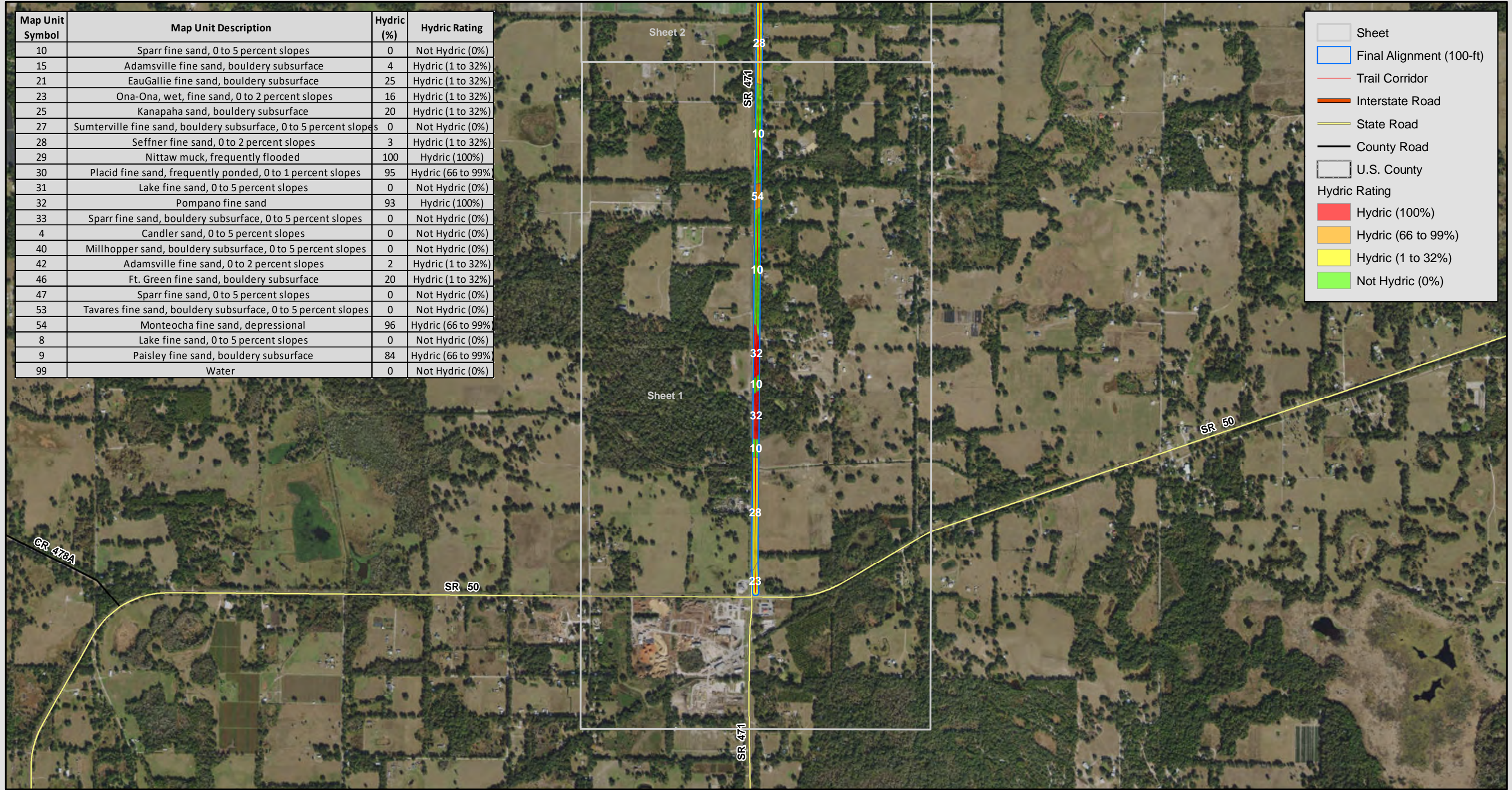
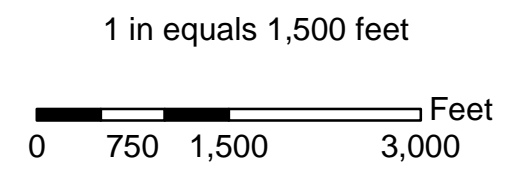


Figure 5.1 - Hydric Soil Rating (Sheet 1)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI, NRCS
 Date: January 2020



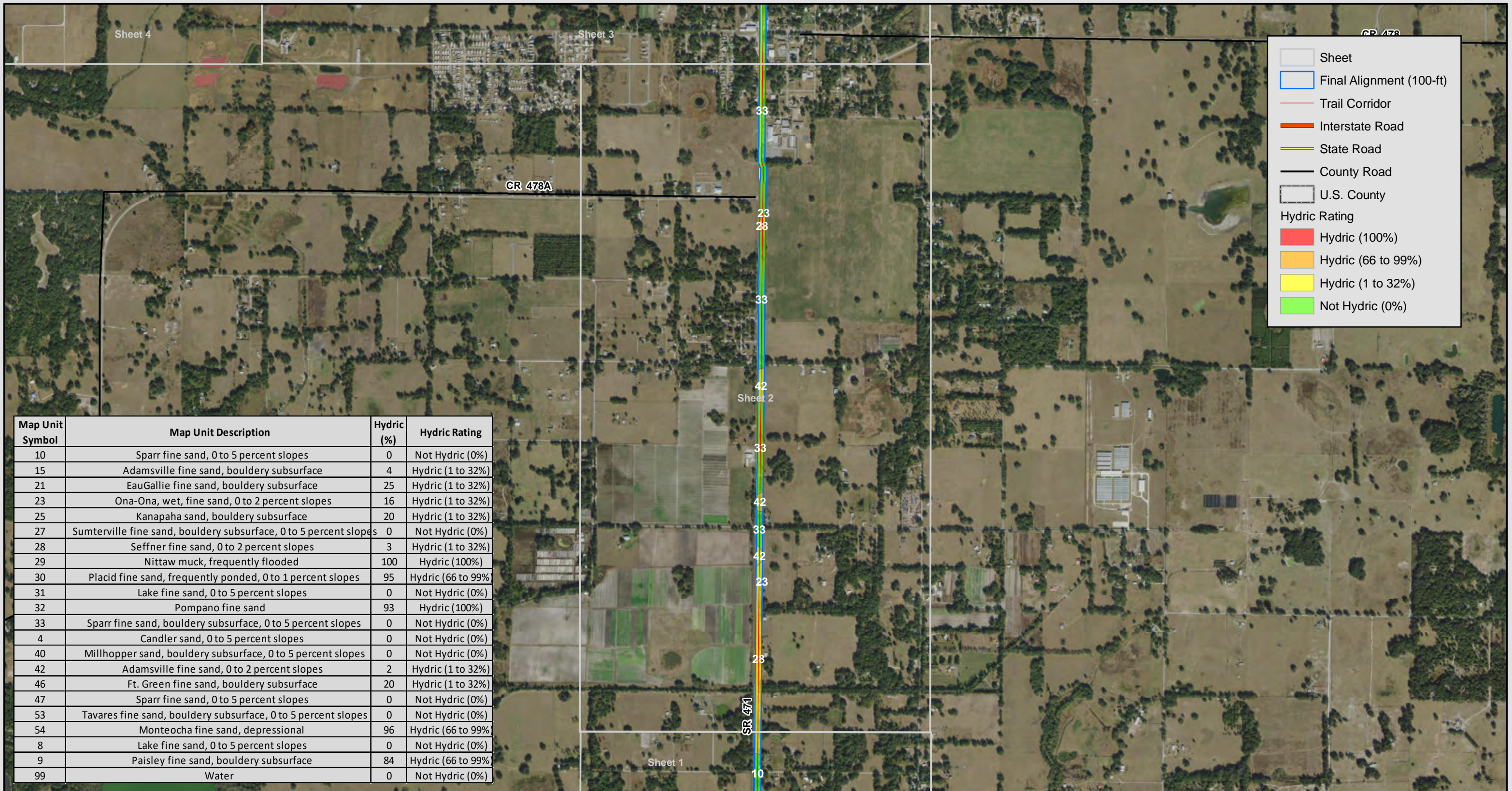
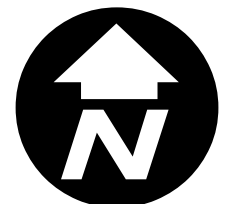
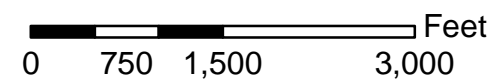


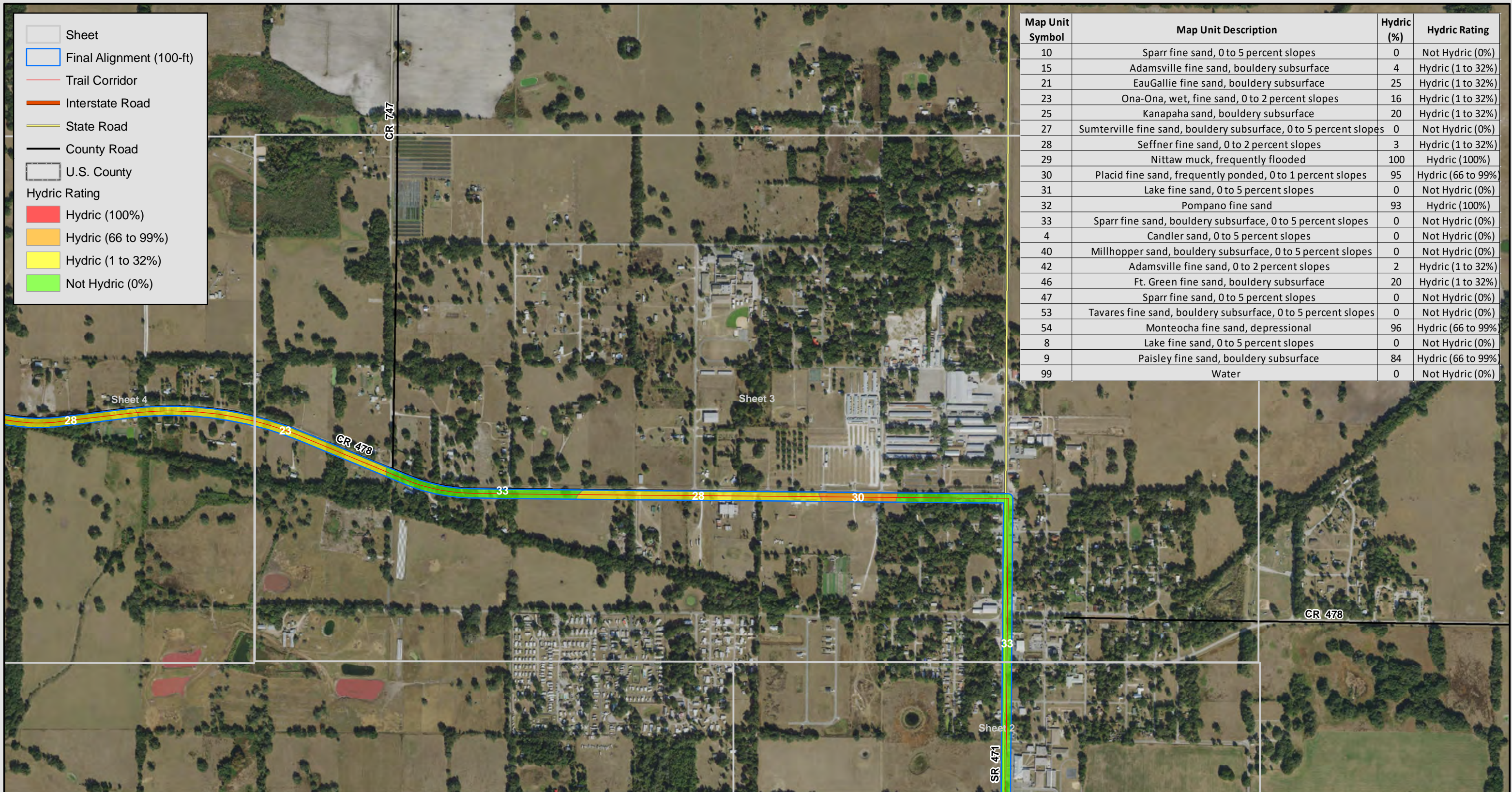
Figure 5.2 - Hydric Soil Rating (Sheet 2)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI, NRCS
 Date: January 2020

1 in equals 1,500 feet



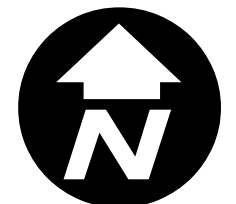
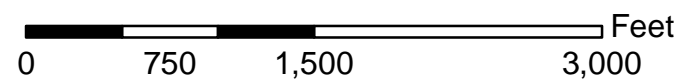


Map Unit Symbol	Map Unit Description	Hydric (%)	Hydric Rating
10	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
15	Adamsville fine sand, bouldery subsurface	4	Hydric (1 to 32%)
21	EauGallie fine sand, bouldery subsurface	25	Hydric (1 to 32%)
23	Ona-Ona, wet, fine sand, 0 to 2 percent slopes	16	Hydric (1 to 32%)
25	Kanapaha sand, bouldery subsurface	20	Hydric (1 to 32%)
27	Sumterville fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
28	Seffner fine sand, 0 to 2 percent slopes	3	Hydric (1 to 32%)
29	Nittaw muck, frequently flooded	100	Hydric (100%)
30	Placid fine sand, frequently ponded, 0 to 1 percent slopes	95	Hydric (66 to 99%)
31	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
32	Pompano fine sand	93	Hydric (100%)
33	Sparr fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
4	Candler sand, 0 to 5 percent slopes	0	Not Hydric (0%)
40	Millhopper sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
42	Adamsville fine sand, 0 to 2 percent slopes	2	Hydric (1 to 32%)
46	Ft. Green fine sand, bouldery subsurface	20	Hydric (1 to 32%)
47	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
53	Tavares fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
54	Monteocha fine sand, depressional	96	Hydric (66 to 99%)
8	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
9	Paisley fine sand, bouldery subsurface	84	Hydric (66 to 99%)
99	Water	0	Not Hydric (0%)

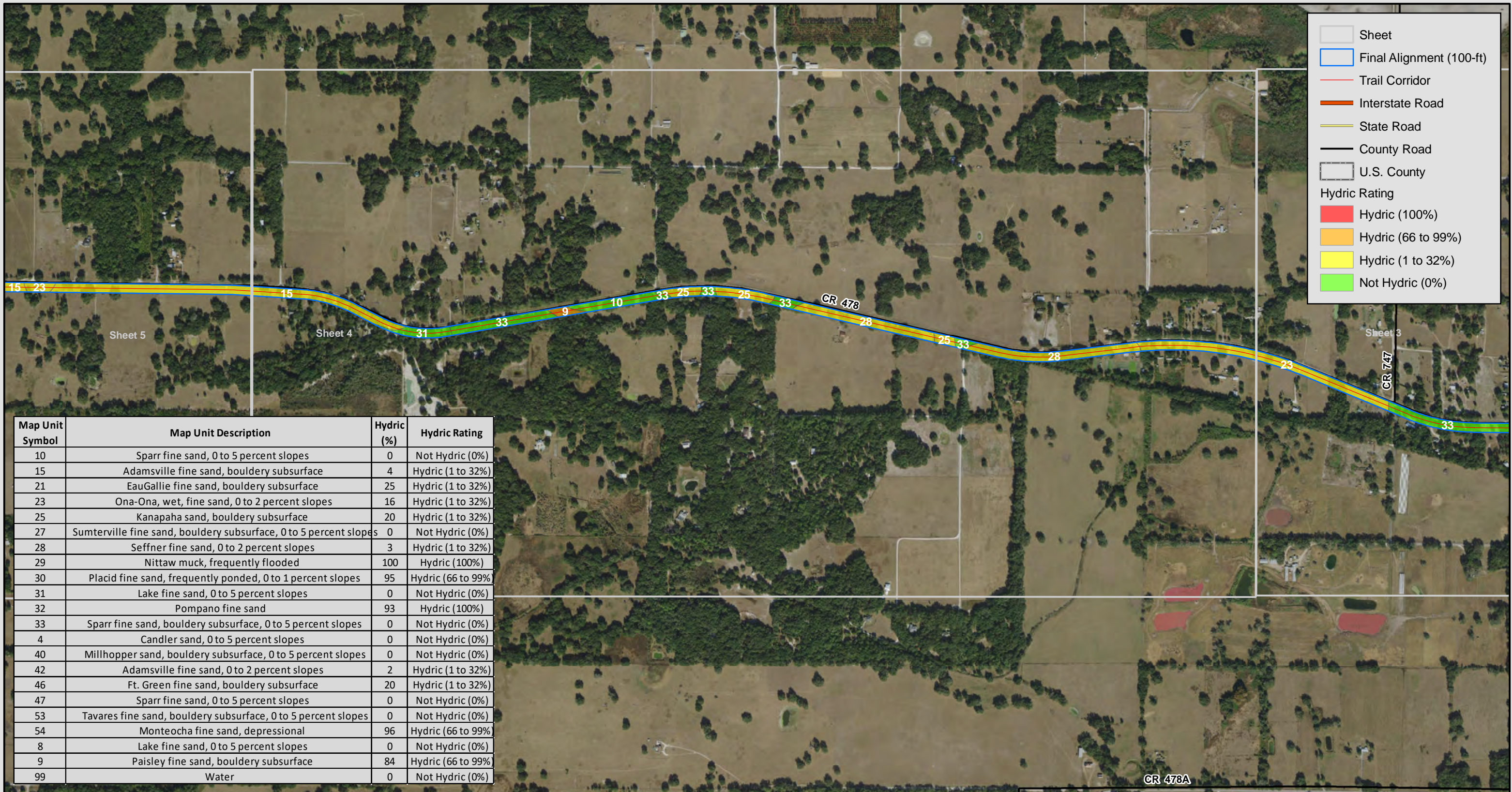
Figure 5.3 - Hydric Soil Rating (Sheet 3)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

1 in equals 1,000 feet



Sources: ESRI, NRCS
 Date: January 2020



Sheet
 Final Alignment (100-ft)
 Trail Corridor
 Interstate Road
 State Road
 County Road
 U.S. County
Hydric Rating
 Hydric (100%)
 Hydric (66 to 99%)
 Hydric (1 to 32%)
 Not Hydric (0%)

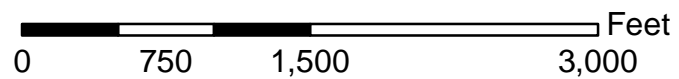
Map Unit Symbol	Map Unit Description	Hydric (%)	Hydric Rating
10	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
15	Adamsville fine sand, bouldery subsurface	4	Hydric (1 to 32%)
21	EauGallie fine sand, bouldery subsurface	25	Hydric (1 to 32%)
23	Ona-Ona, wet, fine sand, 0 to 2 percent slopes	16	Hydric (1 to 32%)
25	Kanapaha sand, bouldery subsurface	20	Hydric (1 to 32%)
27	Sumterville fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
28	Seffner fine sand, 0 to 2 percent slopes	3	Hydric (1 to 32%)
29	Nittaw muck, frequently flooded	100	Hydric (100%)
30	Placid fine sand, frequently ponded, 0 to 1 percent slopes	95	Hydric (66 to 99%)
31	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
32	Pompano fine sand	93	Hydric (100%)
33	Sparr fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
4	Candler sand, 0 to 5 percent slopes	0	Not Hydric (0%)
40	Millhopper sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
42	Adamsville fine sand, 0 to 2 percent slopes	2	Hydric (1 to 32%)
46	Ft. Green fine sand, bouldery subsurface	20	Hydric (1 to 32%)
47	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
53	Tavares fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
54	Monteocha fine sand, depressional	96	Hydric (66 to 99%)
8	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
9	Paisley fine sand, bouldery subsurface	84	Hydric (66 to 99%)
99	Water	0	Not Hydric (0%)

Figure 5.4: Hyric Soil Rating (Sheet 4)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI, NRCS
 Date: January 2020

1 in equals 1,000 feet



Map Unit Symbol	Map Unit Description	Hydric (%)	Hydric Rating
10	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
15	Adamsville fine sand, bouldery subsurface	4	Hydric (1 to 32%)
21	EauGallie fine sand, bouldery subsurface	25	Hydric (1 to 32%)
23	Ona-Ona, wet, fine sand, 0 to 2 percent slopes	16	Hydric (1 to 32%)
25	Kanapaha sand, bouldery subsurface	20	Hydric (1 to 32%)
27	Sumterville fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
28	Seffner fine sand, 0 to 2 percent slopes	3	Hydric (1 to 32%)
29	Nittaw muck, frequently flooded	100	Hydric (100%)
30	Placid fine sand, frequently ponded, 0 to 1 percent slopes	95	Hydric (66 to 99%)
31	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
32	Pompano fine sand	93	Hydric (100%)
33	Sparr fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
4	Candler sand, 0 to 5 percent slopes	0	Not Hydric (0%)
40	Millhopper sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
42	Adamsville fine sand, 0 to 2 percent slopes	2	Hydric (1 to 32%)
46	Ft. Green fine sand, bouldery subsurface	20	Hydric (1 to 32%)
47	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
53	Tavares fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
54	Monteocha fine sand, depressional	96	Hydric (66 to 99%)
8	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
9	Paisley fine sand, bouldery subsurface	84	Hydric (66 to 99%)
99	Water	0	Not Hydric (0%)

Sheet
 Final Alignment (100-ft)
 Trail Corridor
 Interstate Road
 State Road
 County Road
 U.S. County
Hydric Rating
 Hydric (100%)
 Hydric (66 to 99%)
 Hydric (1 to 32%)
 Not Hydric (0%)

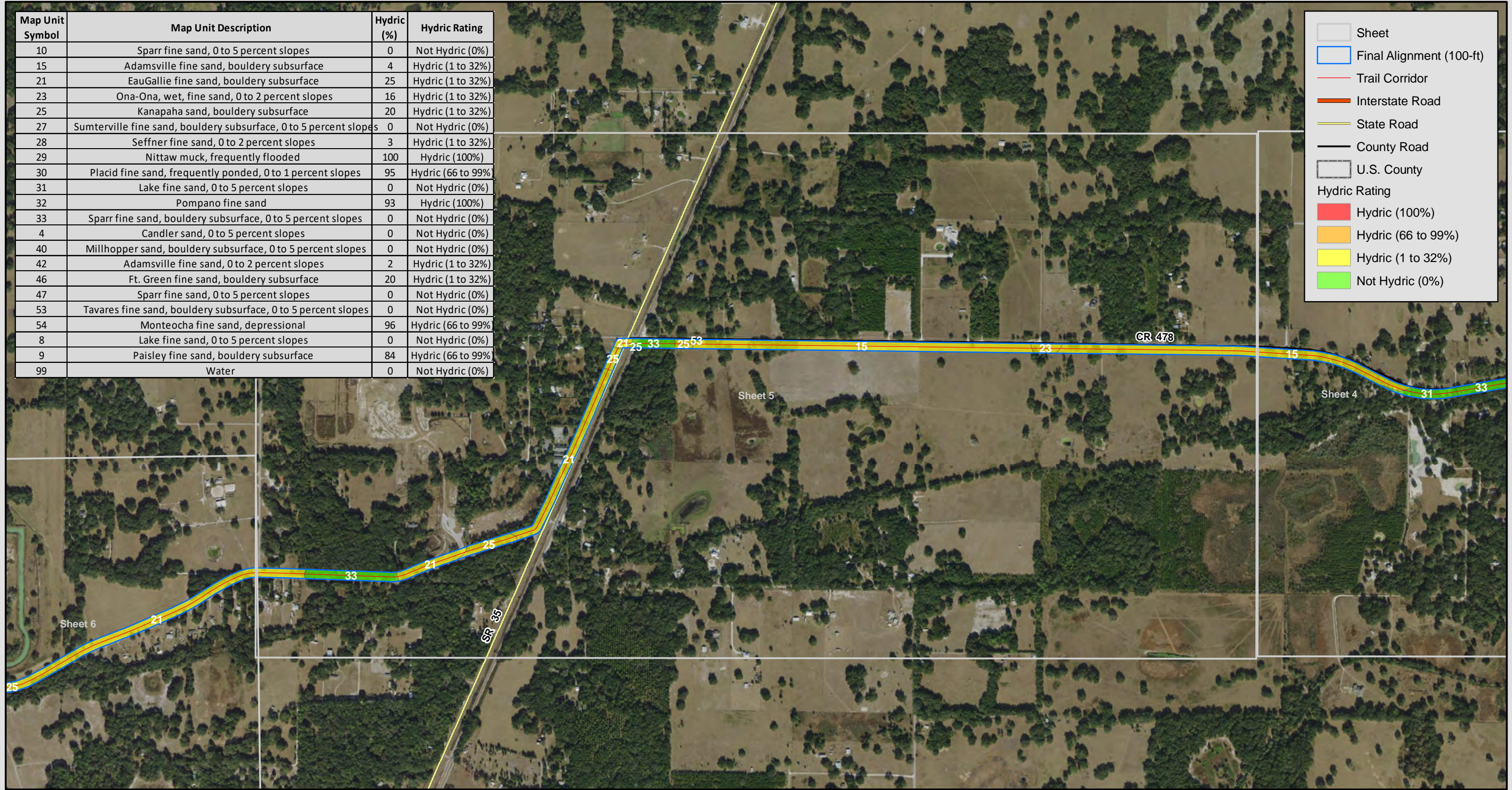
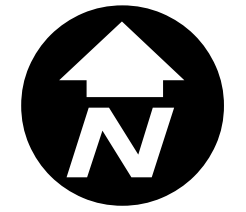
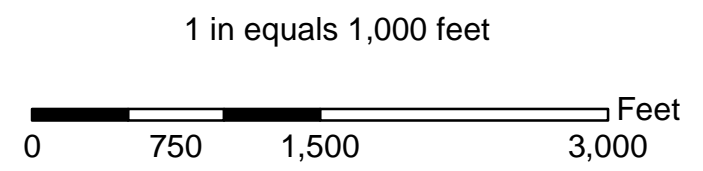


Figure 5.5: Hydric Soil Rating (Sheet 5)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI, NRCS
 Date: January 2020



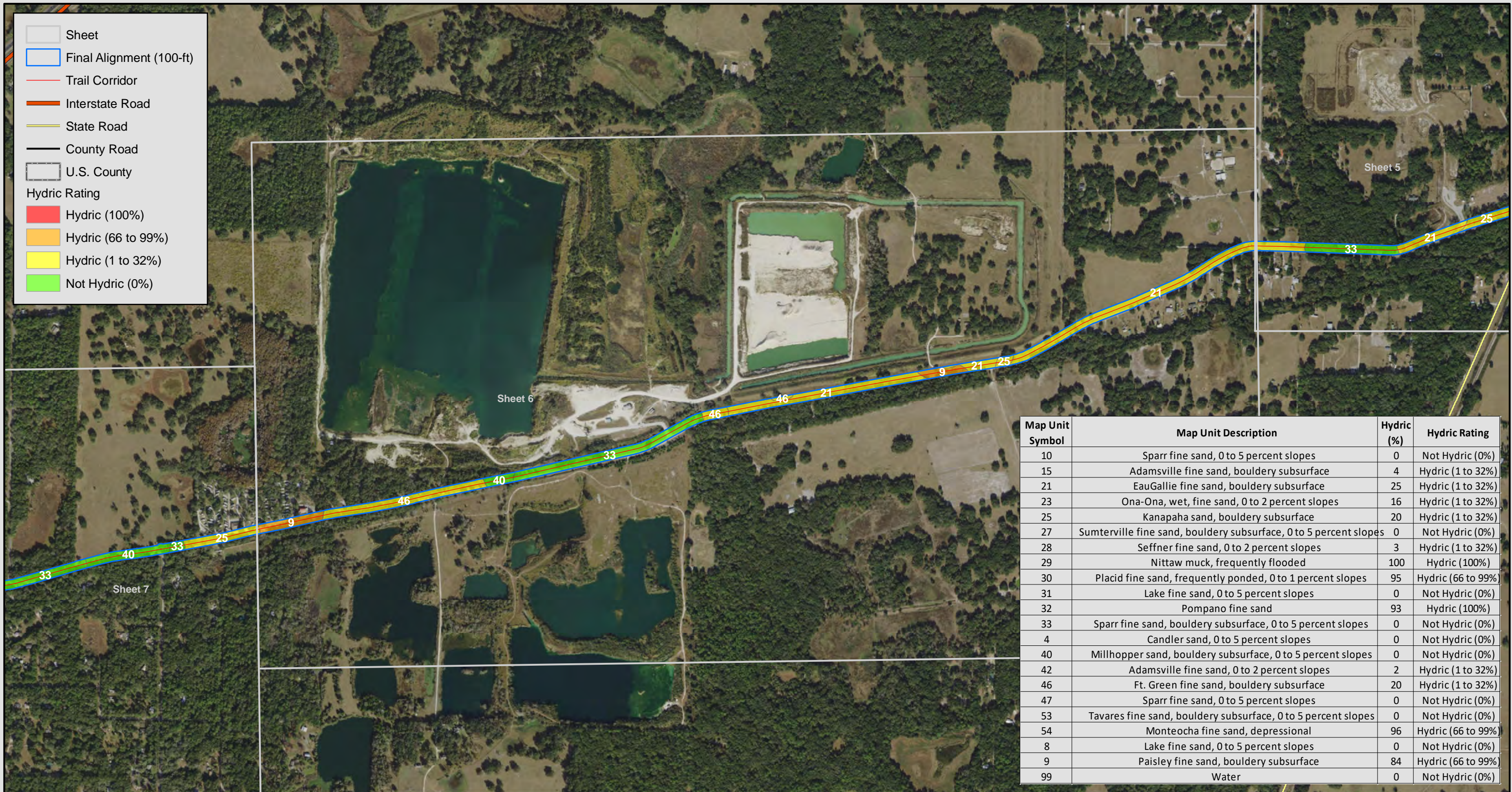
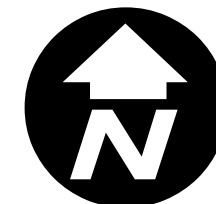
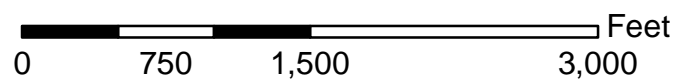


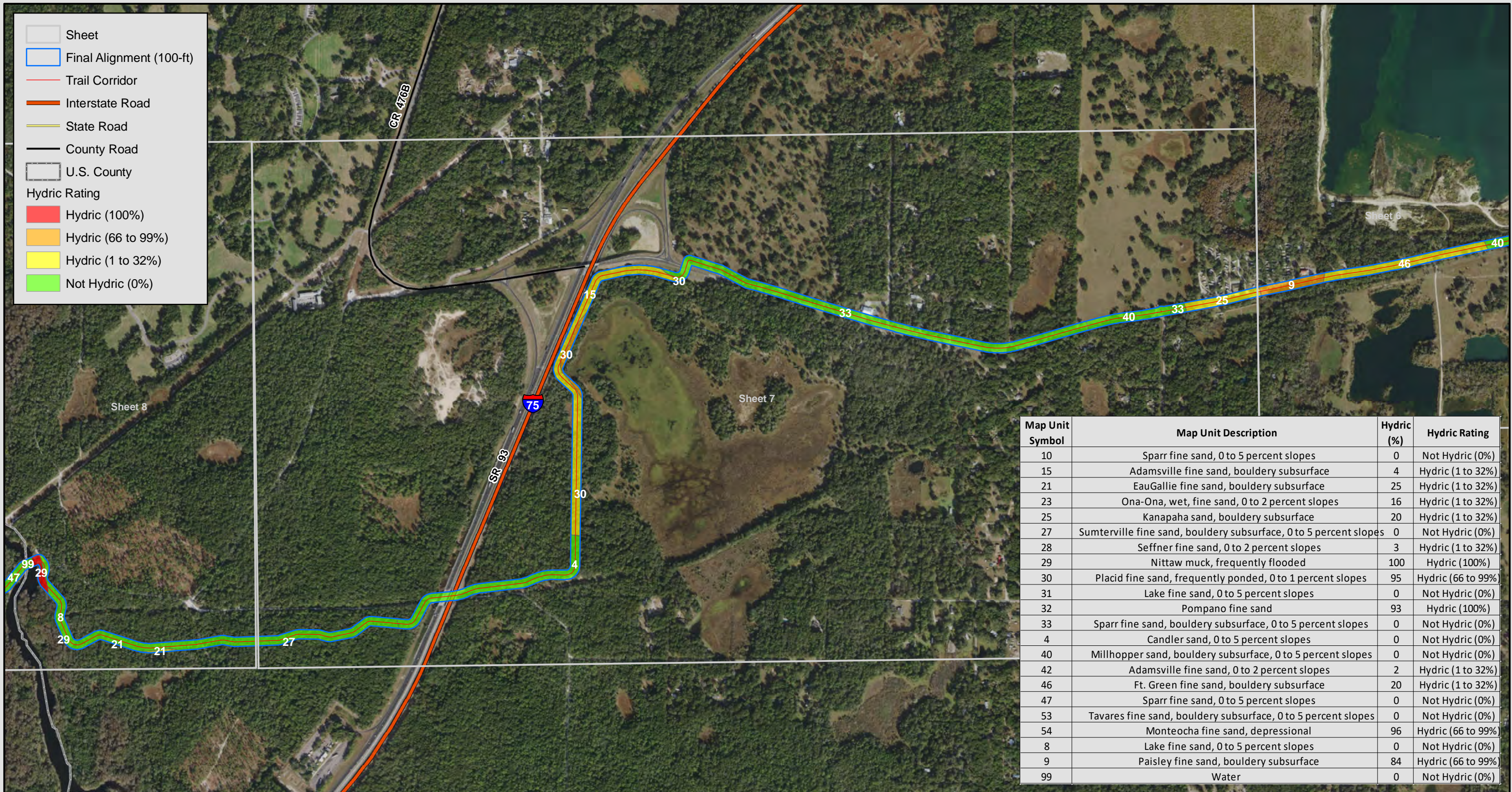
Figure 5.6: Hyric Soil Rating (Sheet 6)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

1 in equals 1,000 feet



Sources: ESRI, NRCS
 Date: January 2020

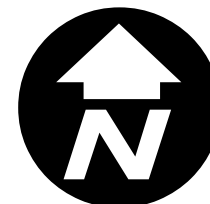
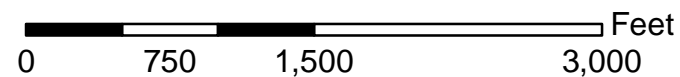


Map Unit Symbol	Map Unit Description	Hydric (%)	Hydric Rating
10	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
15	Adamsville fine sand, bouldery subsurface	4	Hydric (1 to 32%)
21	EauGallie fine sand, bouldery subsurface	25	Hydric (1 to 32%)
23	Ona-Ona, wet, fine sand, 0 to 2 percent slopes	16	Hydric (1 to 32%)
25	Kanapaha sand, bouldery subsurface	20	Hydric (1 to 32%)
27	Sumterville fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
28	Seffner fine sand, 0 to 2 percent slopes	3	Hydric (1 to 32%)
29	Nittaw muck, frequently flooded	100	Hydric (100%)
30	Placid fine sand, frequently ponded, 0 to 1 percent slopes	95	Hydric (66 to 99%)
31	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
32	Pompano fine sand	93	Hydric (100%)
33	Sparr fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
4	Candler sand, 0 to 5 percent slopes	0	Not Hydric (0%)
40	Millhopper sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
42	Adamsville fine sand, 0 to 2 percent slopes	2	Hydric (1 to 32%)
46	Ft. Green fine sand, bouldery subsurface	20	Hydric (1 to 32%)
47	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
53	Tavares fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
54	Monteocha fine sand, depressional	96	Hydric (66 to 99%)
8	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
9	Paisley fine sand, bouldery subsurface	84	Hydric (66 to 99%)
99	Water	0	Not Hydric (0%)

Figure 5.7: Hydric Soil Rating (Sheet 7)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

1 in equals 1,000 feet



Sources: ESRI, NRCS
 Date: January 2020

Map Unit Symbol	Map Unit Description	Hydric (%)	Hydric Rating
10	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
15	Adamsville fine sand, bouldery subsurface	4	Hydric (1 to 32%)
21	EauGallie fine sand, bouldery subsurface	25	Hydric (1 to 32%)
23	Ona-Ona, wet, fine sand, 0 to 2 percent slopes	16	Hydric (1 to 32%)
25	Kanapaha sand, bouldery subsurface	20	Hydric (1 to 32%)
27	Sumterville fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
28	Seffner fine sand, 0 to 2 percent slopes	3	Hydric (1 to 32%)
29	Nittaw muck, frequently flooded	100	Hydric (100%)
30	Placid fine sand, frequently ponded, 0 to 1 percent slopes	95	Hydric (66 to 99%)
31	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
32	Pompano fine sand	93	Hydric (100%)
33	Sparr fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
4	Candler sand, 0 to 5 percent slopes	0	Not Hydric (0%)
40	Millhopper sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
42	Adamsville fine sand, 0 to 2 percent slopes	2	Hydric (1 to 32%)
46	Ft. Green fine sand, bouldery subsurface	20	Hydric (1 to 32%)
47	Sparr fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
53	Tavares fine sand, bouldery subsurface, 0 to 5 percent slopes	0	Not Hydric (0%)
54	Monteocha fine sand, depressional	96	Hydric (66 to 99%)
8	Lake fine sand, 0 to 5 percent slopes	0	Not Hydric (0%)
9	Paisley fine sand, bouldery subsurface	84	Hydric (66 to 99%)
99	Water	0	Not Hydric (0%)

Sheet
 Final Alignment (100-ft)
 Trail Corridor
 Interstate Road
 State Road
 County Road
 U.S. County
Hydric Rating
 Hydric (100%)
 Hydric (66 to 99%)
 Hydric (1 to 32%)
 Not Hydric (0%)

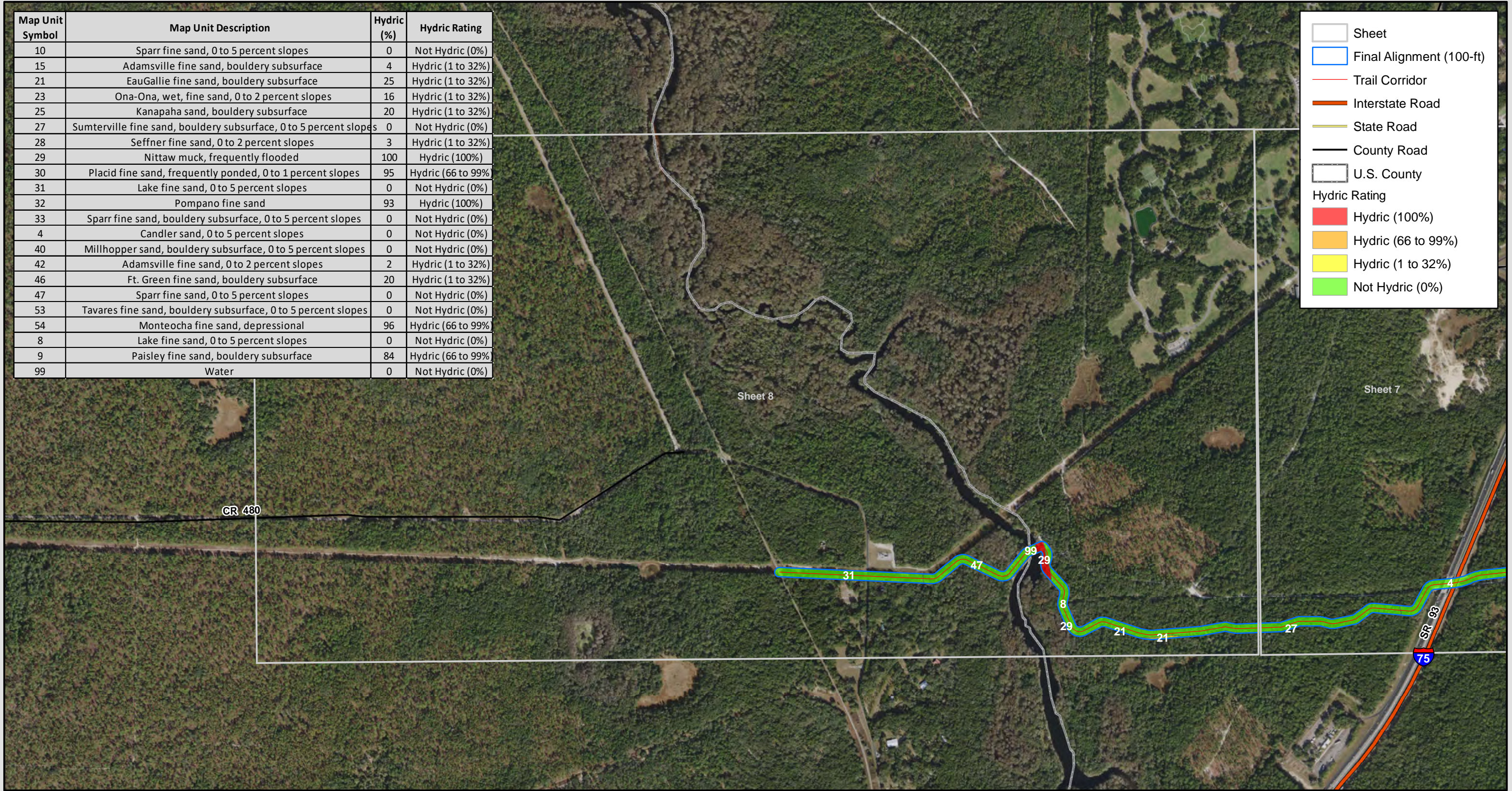
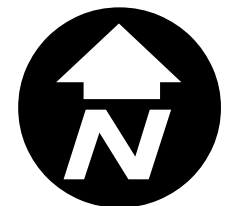
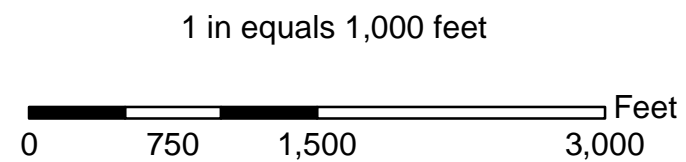
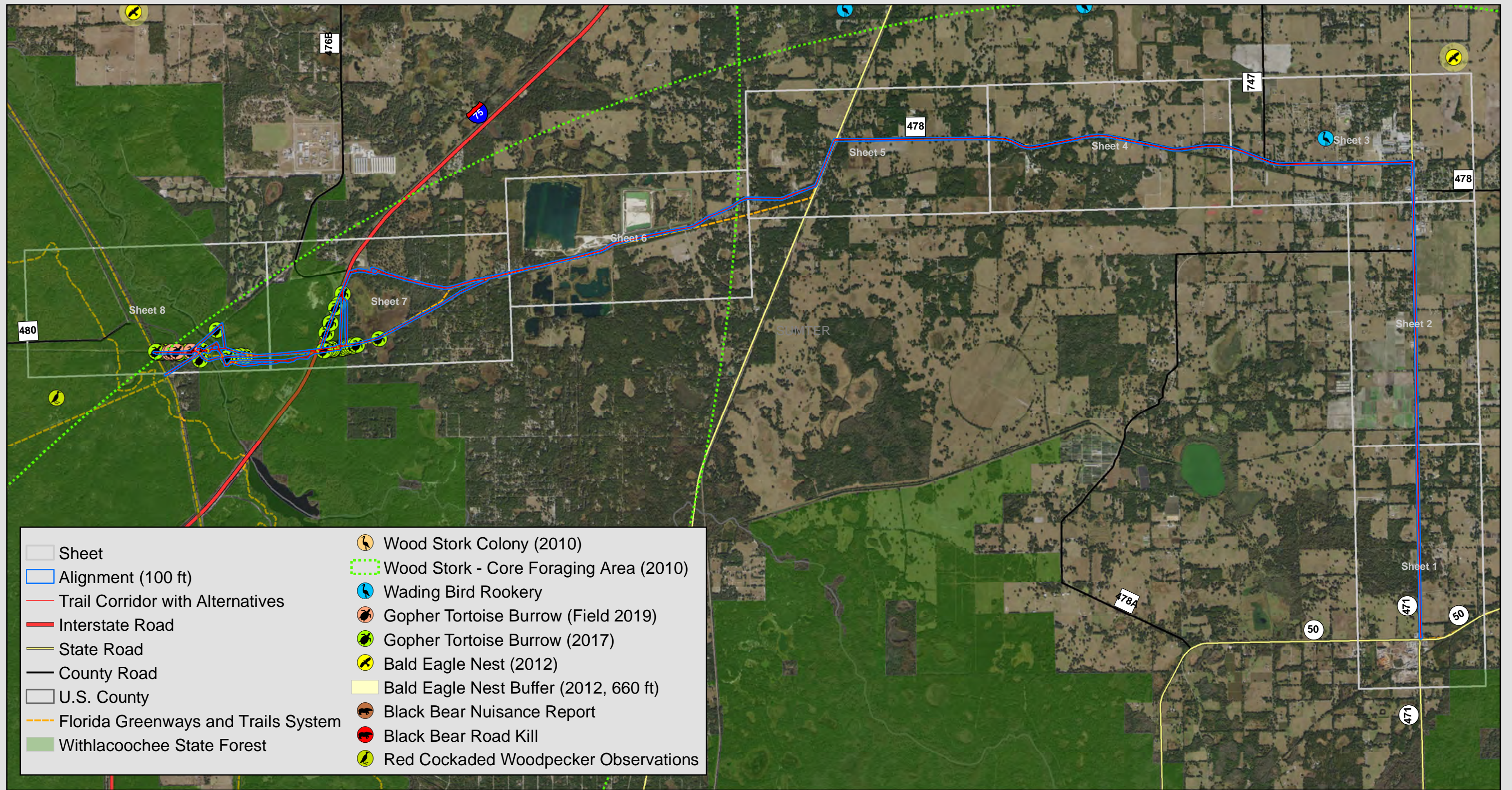


Figure 5.8: Hydric Soil Rating (Sheet 8)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI, NRCS
 Date: January 2020



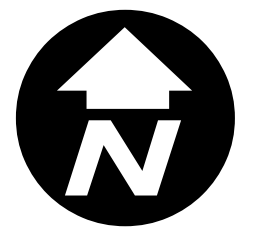
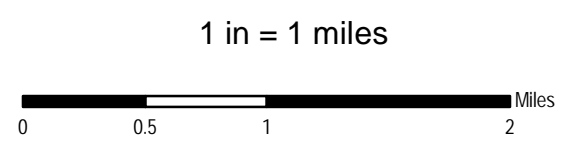


- Sheet
- Alignment (100 ft)
- Trail Corridor with Alternatives
- Interstate Road
- State Road
- County Road
- U.S. County
- Florida Greenways and Trails System
- Withlacoochee State Forest
- Wood Stork Colony (2010)
- Wood Stork - Core Foraging Area (2010)
- Wading Bird Rookery
- Gopher Tortoise Burrow (Field 2019)
- Gopher Tortoise Burrow (2017)
- Bald Eagle Nest (2012)
- Bald Eagle Nest Buffer (2012, 660 ft)
- Black Bear Nuisance Report
- Black Bear Road Kill
- Red Cockaded Woodpecker Observations

Figure 6 - Protected Species Index

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI, NRCS
 Date: August 2019



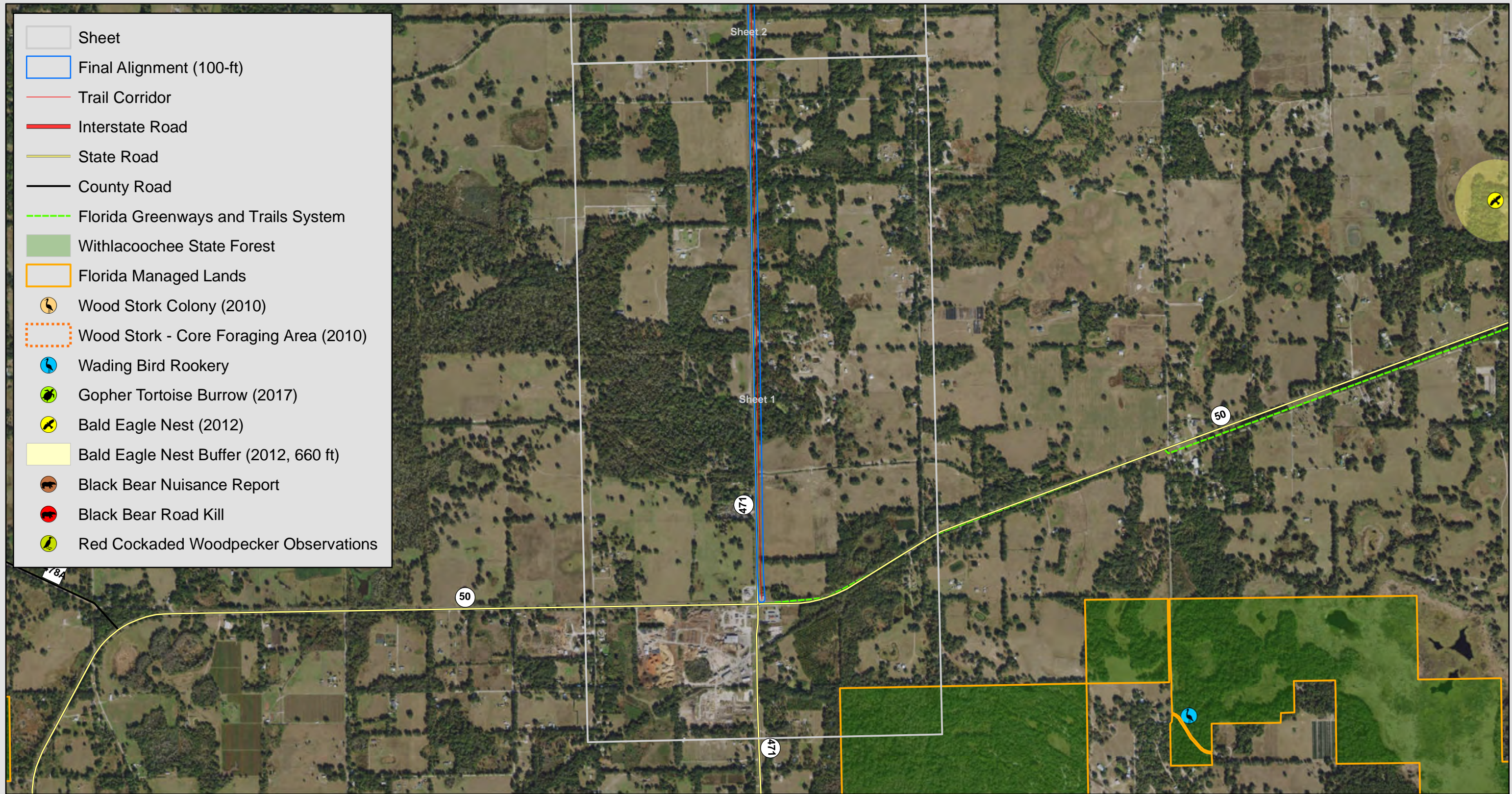
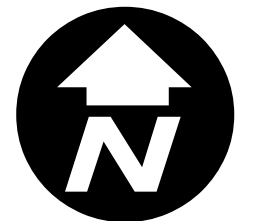
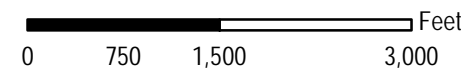


Figure 6.1 - Protected Species (Sheet 1)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

1 in = 1,500 feet



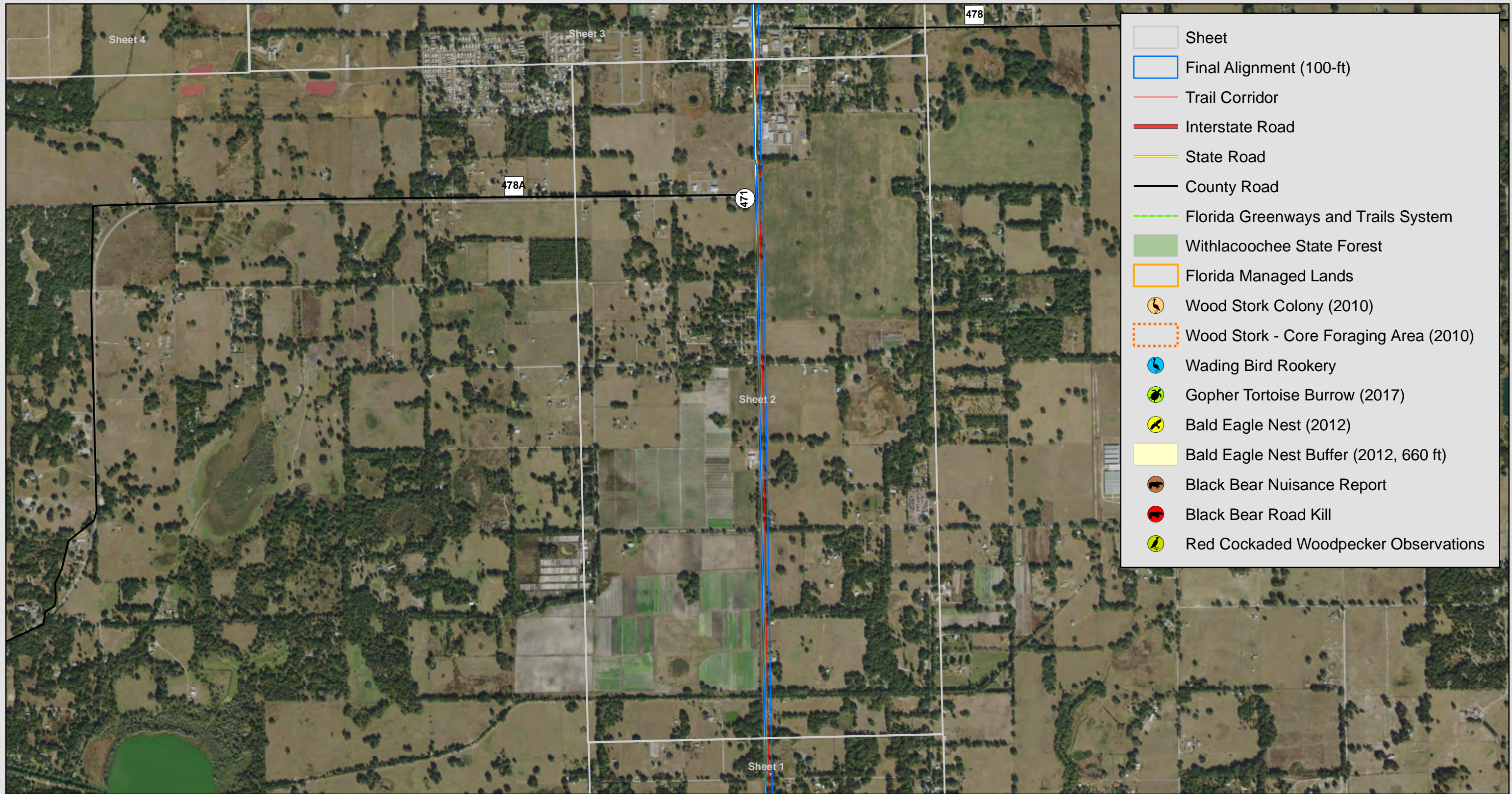
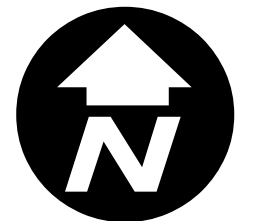
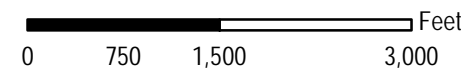


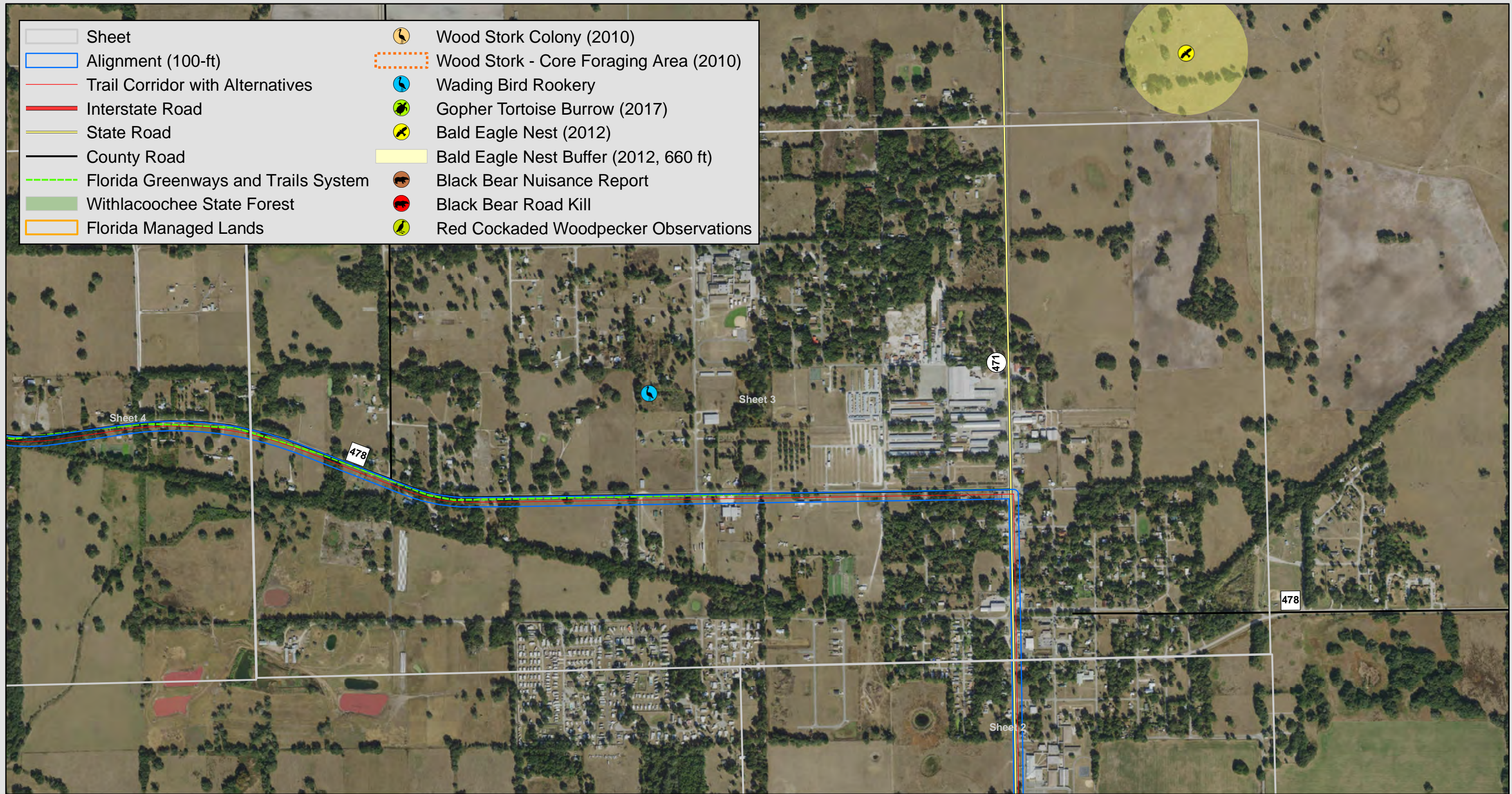
Figure 6.2 - Protected Species (Sheet 2)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

1 in = 1,500 feet



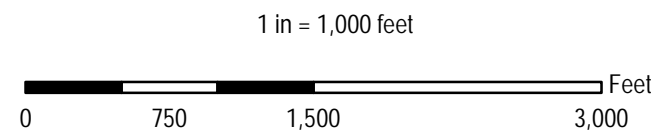
Sources: ESRI
 Date: September 2019



- | | |
|-------------------------------------|--|
| Sheet | Wood Stork Colony (2010) |
| Alignment (100-ft) | Wood Stork - Core Foraging Area (2010) |
| Trail Corridor with Alternatives | Wading Bird Rookery |
| Interstate Road | Gopher Tortoise Burrow (2017) |
| State Road | Bald Eagle Nest (2012) |
| County Road | Bald Eagle Nest Buffer (2012, 660 ft) |
| Florida Greenways and Trails System | Black Bear Nuisance Report |
| Withlacoochee State Forest | Black Bear Road Kill |
| Florida Managed Lands | Red Cockaded Woodpecker Observations |

Figure 6.3 - Protected Species (Sheet 3)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

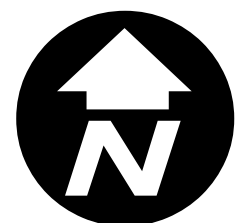
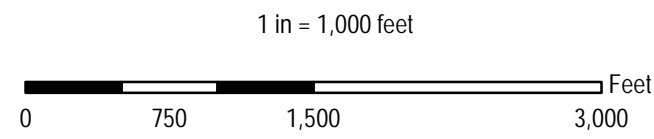


Sources: ESRI
 Date: September 2019



Figure 6.4 - Protected Species (Sheet 4)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida



Sources: ESRI
 Date: September 2019

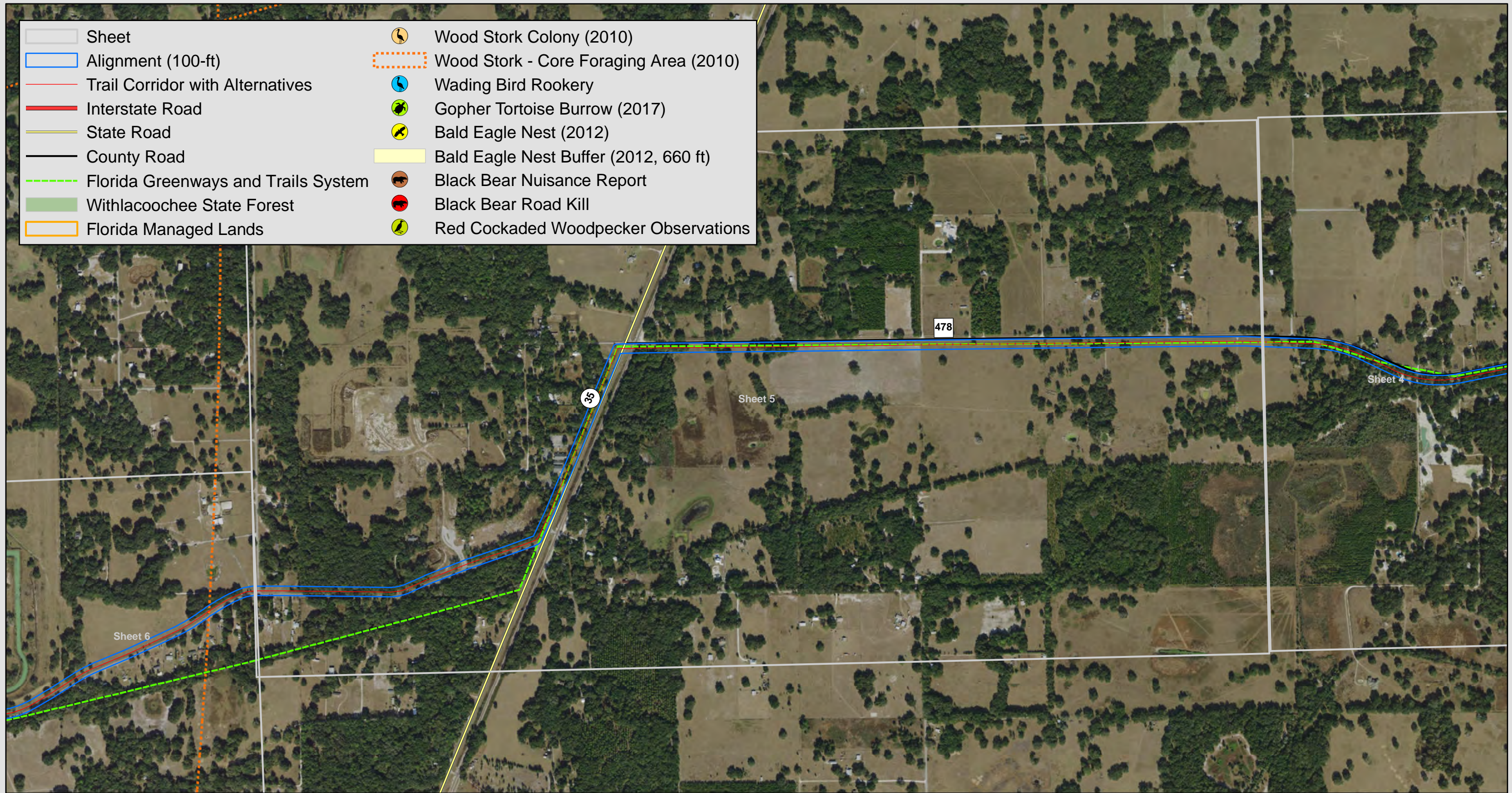
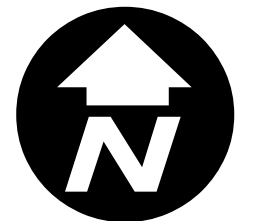
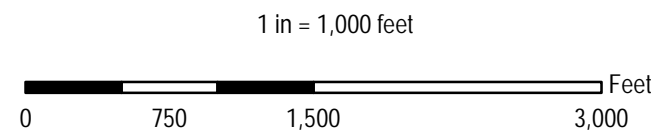
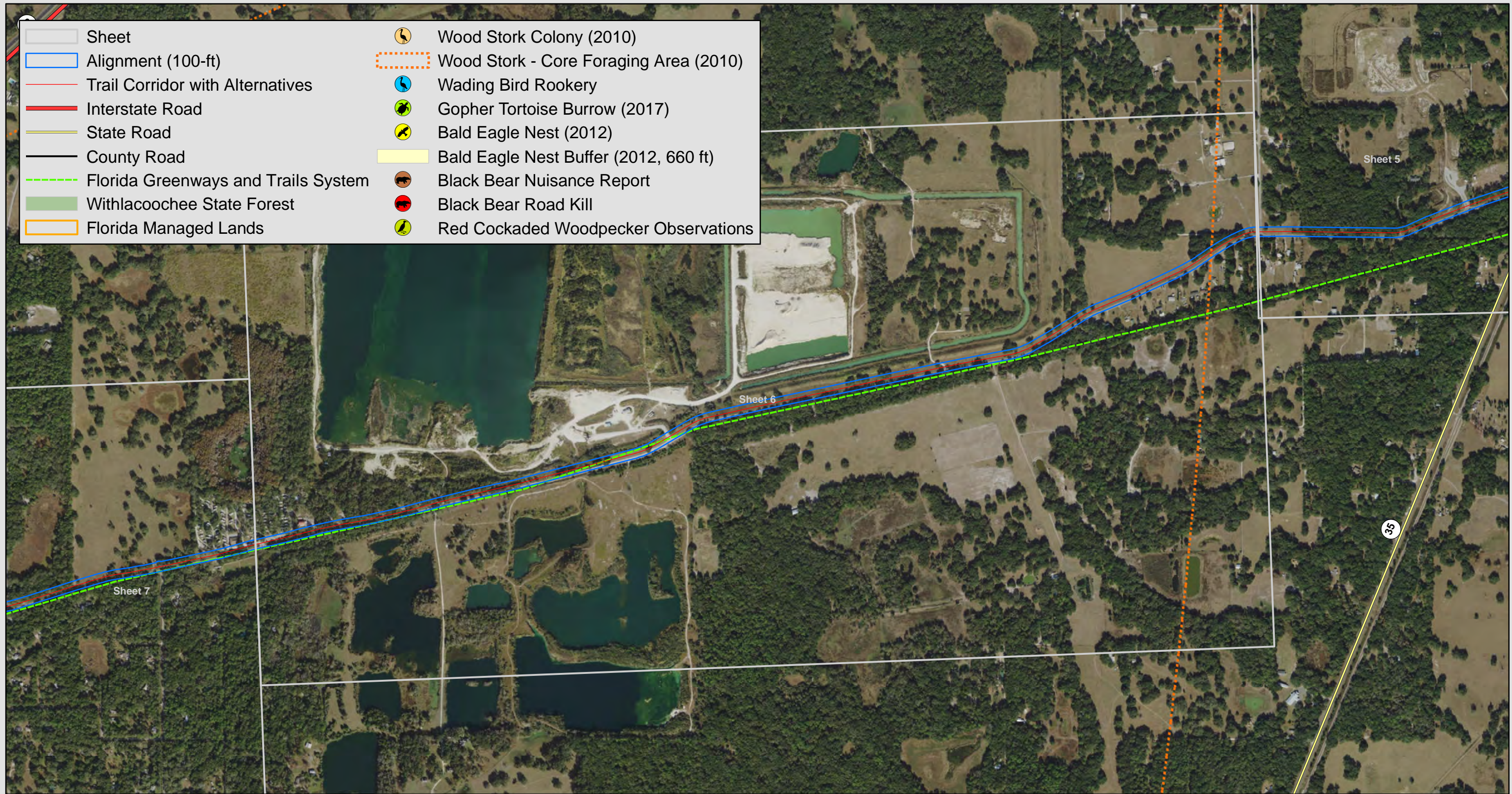


Figure 6.5 - Protected Species (Sheet 5)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI
 Date: September 2019

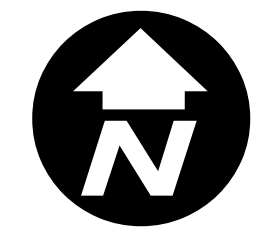
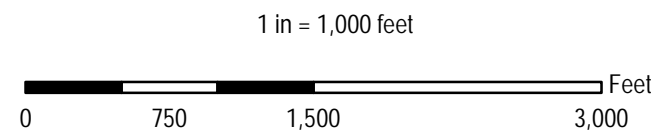




- | | |
|-------------------------------------|--|
| Sheet | Wood Stork Colony (2010) |
| Alignment (100-ft) | Wood Stork - Core Foraging Area (2010) |
| Trail Corridor with Alternatives | Wading Bird Rookery |
| Interstate Road | Gopher Tortoise Burrow (2017) |
| State Road | Bald Eagle Nest (2012) |
| County Road | Bald Eagle Nest Buffer (2012, 660 ft) |
| Florida Greenways and Trails System | Black Bear Nuisance Report |
| Withlacoochee State Forest | Black Bear Road Kill |
| Florida Managed Lands | Red Cockaded Woodpecker Observations |

Figure 6.6 - Protected Species (Sheet 6)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida



Sources: ESRI
 Date: September 2019

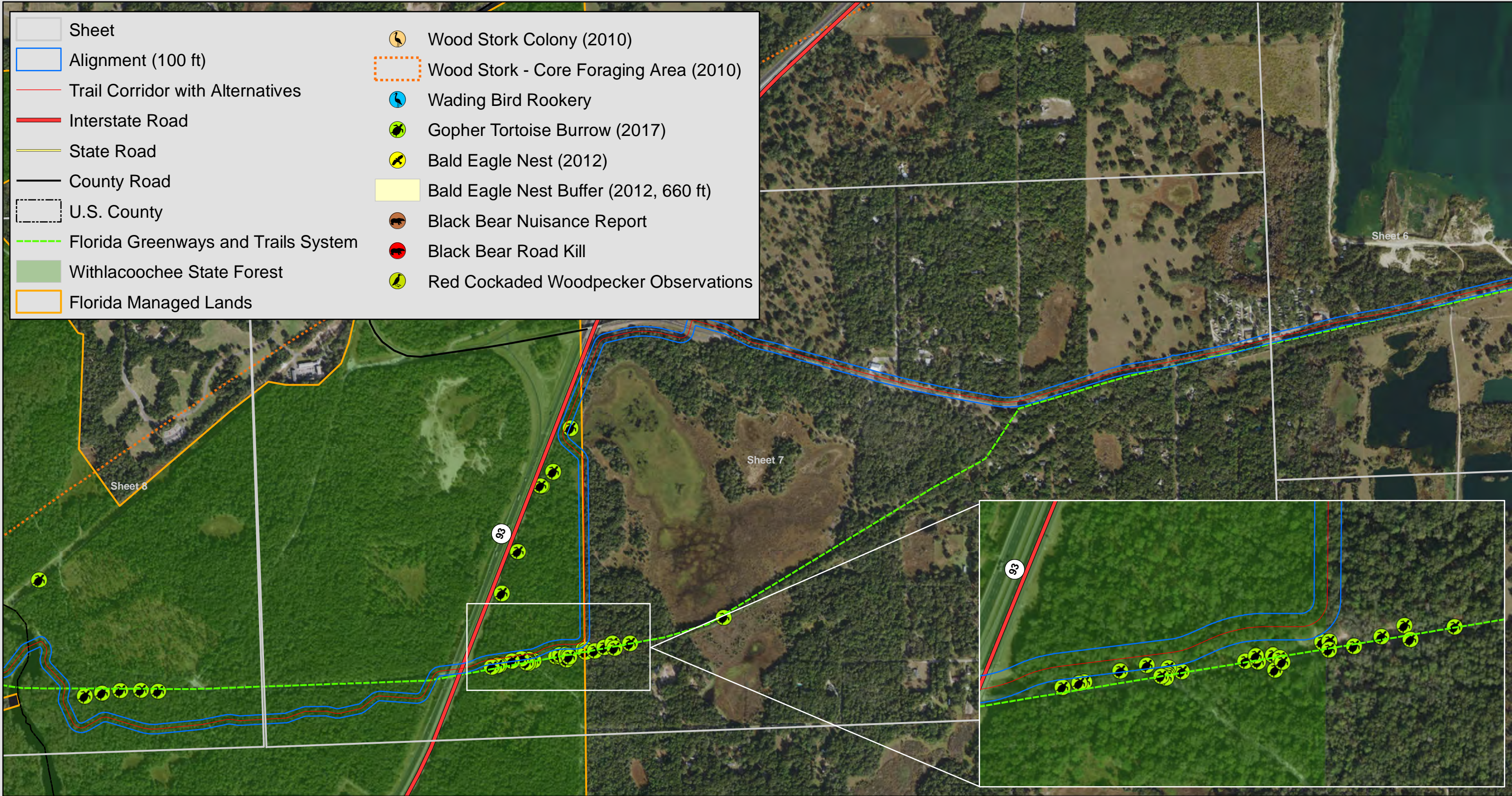
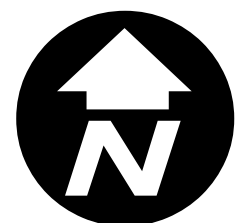
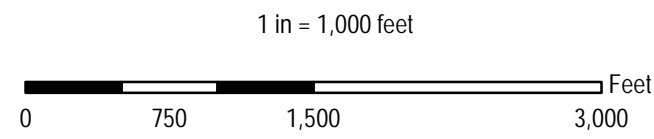


Figure 6.7 - Protected Species (Sheet 7)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida



Sources: ESRI
 Date: September 2019

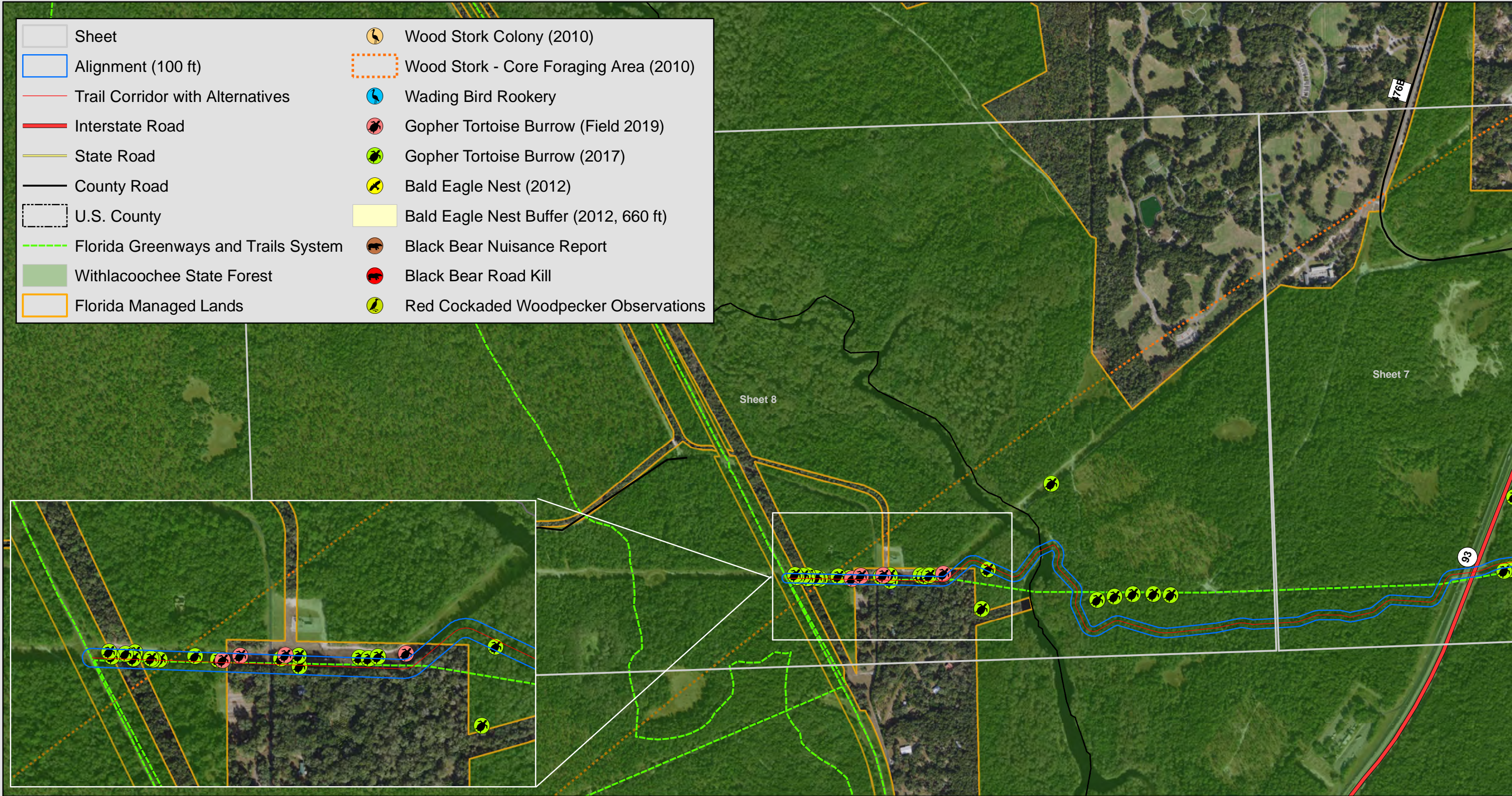
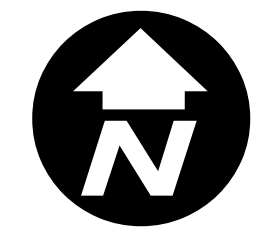
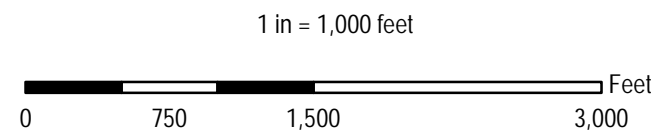


Figure 6.8 - Protected Species (Sheet 8)

South Sumter Trail Project
 From Withlacoochee State Trail to Van Fleet Trail
 FPID # 435471-1
 FDOT District Five
 Hernando and Sumter Counties, Florida

Sources: ESRI
 Date: September 2019





APPENDIX A

RED-COCKADED WOODPECKER COORDINATION



Florida Department of Transportation

**RICK SCOTT
GOVERNOR**

719 S. Woodland Boulevard
DeLand, F

**MIKE DEW
SECRETARY**

August 23, 2017

Dr. Heath Rauschenberger, Deputy Field Supervisor
U.S. Fish and Wildlife Service
North Florida Ecological Services Office
7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7517



FWS Log No 2017- JA - 0596

The Service concurs with your effect determination(s) for resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). This finding fulfills the requirements of the Act.

Heath Ra
Acting Jay B. Herrington 8/11/17
Field Supervisor Date

Attention: Ms. Zakia Williams, Fish and Wildlife .

RE: Request for Red-cockaded Woodpecker (*Picoides borealis*) Survey Exemption
South Sumter Trail Project Development and Environment Study (Sumter and Hernando Counties)
Financial Management No. 435471-1-22-01

The FDOT District 5 is conducting a Project Development and Environment (PD&E) Study for the South Sumter segment of the Coast to Coast Trail System. The South Sumter Trail will connect the Van Fleet Trail, in Sumter County, to the Good Neighbor Trail, in Hernando County. The Good Neighbor Trail's eastern terminus is within the Withlacoochee State Forest Croom Tract. The trail is proposed as a 12-foot wide, paved, multi-use path.

The proposed project is within the USFWS consultation area for red-cockaded woodpeckers (RCW). The Withlacoochee State Forest is actively managed for this species. Beginning in 1998 with 7 individuals, the Florida Forestry Service (FFS) has managed the Forest to increase the available habitat and has grown the population to around 100 individuals, making up several breeding groups as of 2017 (see attached FFS RCW Cluster Map). This population, and the associated cluster areas, are tracked and documented by the FFS regularly. All of the clusters are located west of the Withlacoochee River. The proposed trail will come through the forest from the east and cross the river, where it will then use existing cleared paths to tie into the Good Neighbor Trail. Consultation with the FFS revealed that the habitat near, and to the east of the river, is of poor quality and currently not suitable for RCWs and that the FFS currently does not have plans to manage this area of the forest for new clusters (see attached FFS correspondence).

We will continue coordination with the FFS as this project moves forward to ensure that we will not impact this species or its suitable habitat. Additionally, there is no known habitat for this species along the proposed project outside of the forest area. When not adjacent to the roadway, it is proposed that the trail will follow the old rail bed alignment through lands that have been impacted for rural residential and agricultural uses (see attached Proposed Project Alignment Map and Aerial Map). Due to the information regarding RCWs in the forest, lack of suitable habitat outside the forest, low impact nature of the project, and the continued coordination with the FFS, we propose that surveys for this species are not necessary.

We ask that USFWS provide concurrence that the FDOT does not need to survey for this species. We appreciate the coordination effort and look forward to consultation on this project. If you have any questions, feel free to contact either Heather Chasez at (386) 943-5393, heather.chasez@dot.state.fl.us or me at (386) 943-5411, william.walsh@dot.state.fl.us at your convenience. Thank you for your assistance with this project.

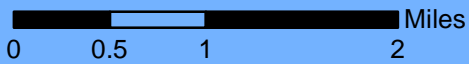
Sincerely,



William G. Walsh
Environmental Manager
FDOT, District Five

Attachments:

FFS RCW Cluster Map
FFS Correspondence
Proposed Project Alignment Map
Aerial Map



South Sumter Trail FM No. 435471-1

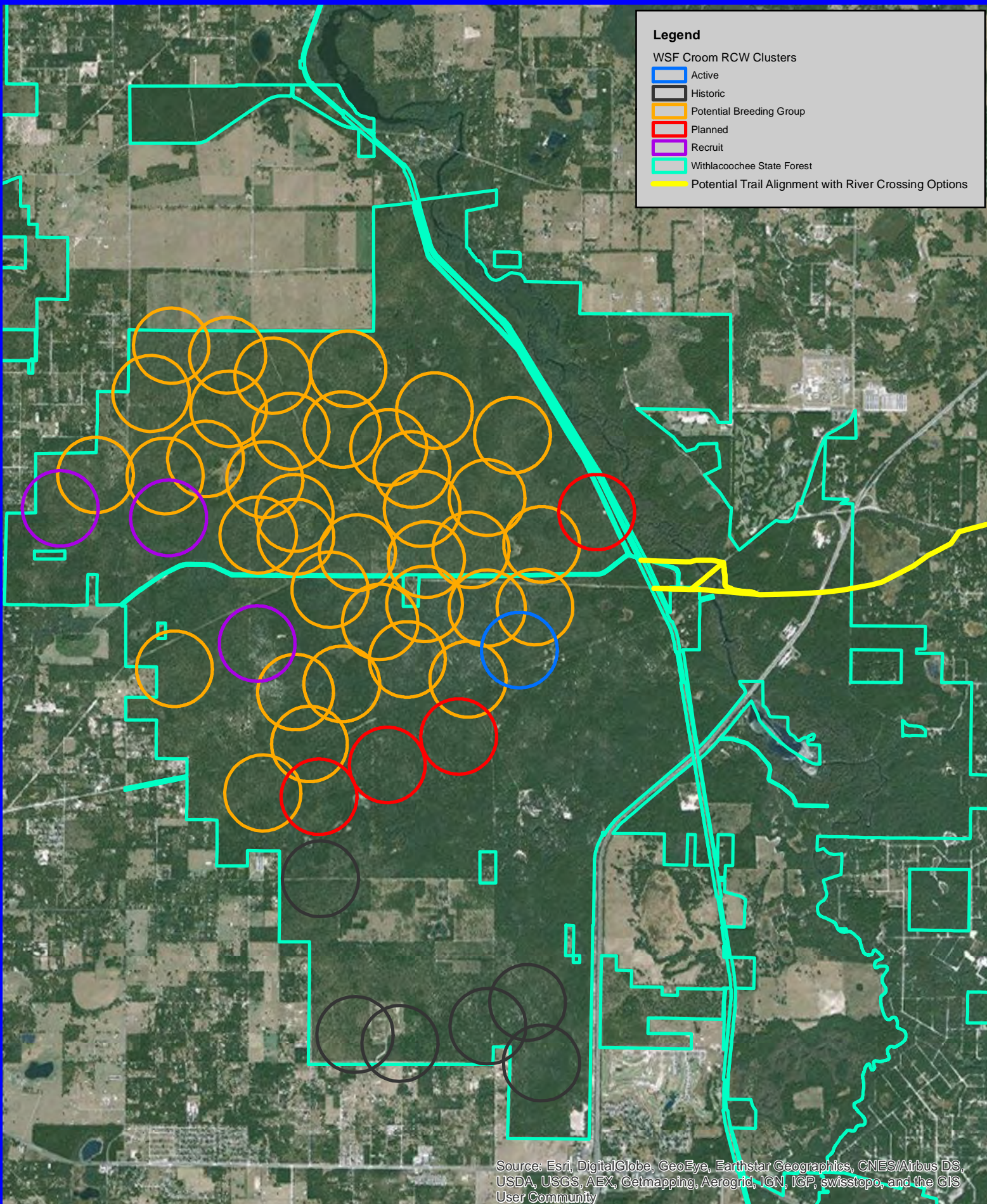
FFS RCW Cluster Map



Legend

WSF Croom RCW Clusters

- Active
- Historic
- Potential Breeding Group
- Planned
- Recruit
- Withlacoochee State Forest
- Potential Trail Alignment with River Crossing Options



Chasez, Heather

From: Morris, Vincent <Vincent.Morris@freshfromflorida.com>
Sent: Thursday, March 02, 2017 2:13 PM
To: Chasez, Heather
Subject: RE: Red-cockaded woodpeckers in the Croom Tract

This is accurate except there are approximately 100 RCWs now. I am not sure of the actual count.

Vince

From: Chasez, Heather [mailto:Heather.Chasez@dot.state.fl.us]
Sent: Thursday, March 02, 2017 1:20 PM
To: Morris, Vincent <Vincent.Morris@freshfromflorida.com>
Subject: Red-cockaded woodpeckers in the Croom Tract

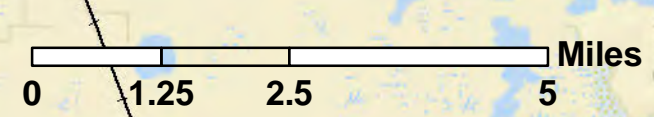
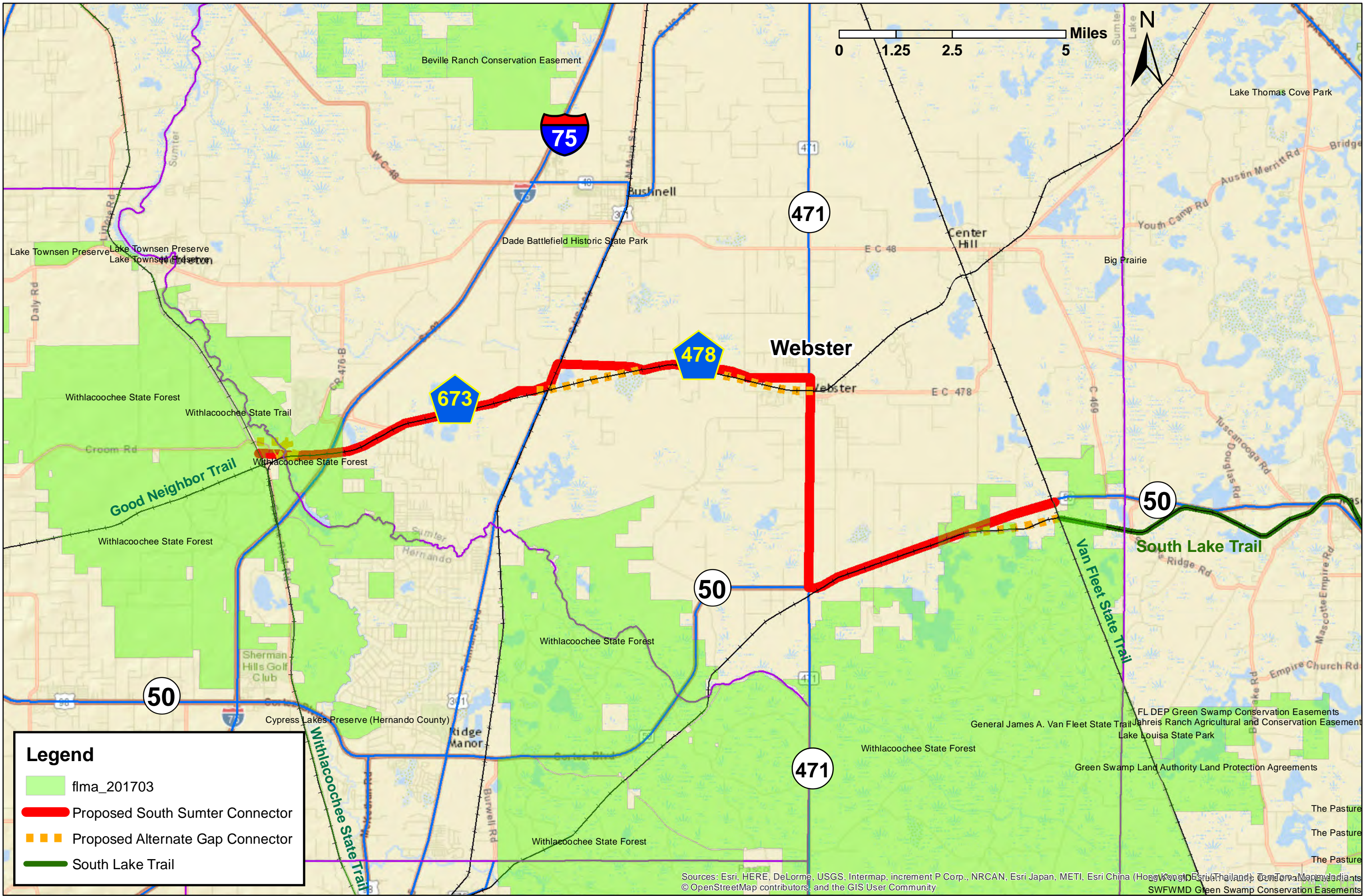
Hello Vince,

Thank you for taking the time to meet with us a few weeks ago. I just wanted to send a short summary of our discussion regarding RCWs. My understanding is that the Florida Forest Service has actively been managing the Croom Tract for RCWs and through this active management the population has been grown from 7 individuals in 1998 to currently 100 in 2016. This population, and the associated cluster areas, are tracked and documented by the Service regularly. You also provided a graphic showing the locations of the current and planned clusters and none of these are located in or adjacent to the area of the potential trail alignments. You also indicated that the habitat near the potential trail alignment is of poor quality and not currently suitable for RCWs. Therefore, this project should have no interaction with this species in the Croom Tract.

Please let me know if you concur with this summary.

Thanks again for your time,

Heather Chasez
Environmental Specialist IV
Project Compliance Coordinator
FDOT District Five
719 S. Woodland Blvd.
DeLand, FL 32720
Phone: (386) 943-5393



Legend

- flma_201703
- Proposed South Sumter Connector
- Proposed Alternate Gap Connector
- South Lake Trail

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, Mapbox, and the GIS User Community



South Sumter Trail FM No. 435471-1

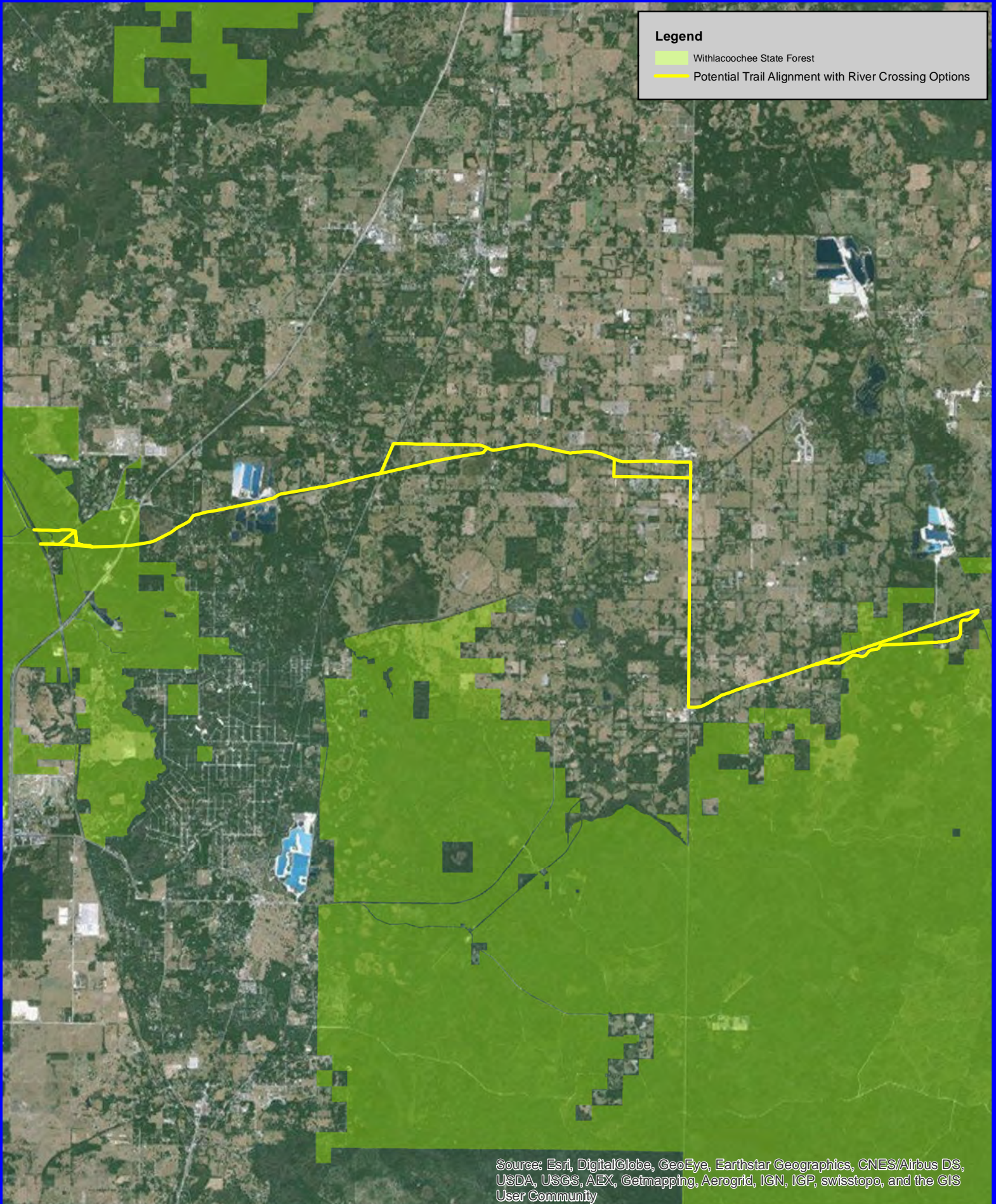
Aerial Map

0 0.5 1 2 Miles



Legend

-  Withlacoochee State Forest
-  Potential Trail Alignment with River Crossing Options



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



APPENDIX B

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE
U.S. Fish and Wildlife Service
August 12, 2013

The eastern indigo snake protection/education plan (Plan) below has been developed by the U.S. Fish and Wildlife Service (USFWS) in Florida for use by applicants and their construction personnel. At least **30 days prior** to any clearing/land alteration activities, the applicant shall notify the appropriate USFWS Field Office via e-mail that the Plan will be implemented as described below (North Florida Field Office: jaxregs@fws.gov; South Florida Field Office: verobeach@fws.gov; Panama City Field Office: panamacity@fws.gov). As long as the signatory of the e-mail certifies compliance with the below Plan (including use of the attached poster and brochure), no further written confirmation or “approval” from the USFWS is needed and the applicant may move forward with the project.

If the applicant decides to use an eastern indigo snake protection/education plan other than the approved Plan below, written confirmation or “approval” from the USFWS that the plan is adequate must be obtained. At least 30 days prior to any clearing/land alteration activities, the applicant shall submit their unique plan for review and approval. The USFWS will respond via e-mail, typically within 30 days of receiving the plan, either concurring that the plan is adequate or requesting additional information. A concurrence e-mail from the appropriate USFWS Field Office will fulfill approval requirements.

The Plan materials should consist of: 1) a combination of posters and pamphlets (see **Poster Information** section below); and 2) verbal educational instructions to construction personnel by supervisory or management personnel before any clearing/land alteration activities are initiated (see **Pre-Construction Activities** and **During Construction Activities** sections below).

POSTER INFORMATION

Posters with the following information shall be placed at strategic locations on the construction site and along any proposed access roads (a final poster for Plan compliance, to be printed on 11” x 17” or larger paper and laminated, is attached):

DESCRIPTION: The eastern indigo snake is one of the largest non-venomous snakes in North America, with individuals often reaching up to 8 feet in length. They derive their name from the glossy, blue-black color of their scales above and uniformly slate blue below. Frequently, they have orange to coral reddish coloration in the throat area, yet some specimens have been reported to only have cream coloration on the throat. These snakes are not typically aggressive and will attempt to crawl away when disturbed. Though indigo snakes rarely bite, they should NOT be handled.

SIMILAR SNAKES: The black racer is the only other solid black snake resembling the eastern indigo snake. However, black racers have a white or cream chin, thinner bodies, and WILL BITE if handled.

LIFE HISTORY: The eastern indigo snake occurs in a wide variety of terrestrial habitat types throughout Florida. Although they have a preference for uplands, they also utilize some wetlands

and agricultural areas. Eastern indigo snakes will often seek shelter inside gopher tortoise burrows and other below- and above-ground refugia, such as other animal burrows, stumps, roots, and debris piles. Females may lay from 4 - 12 white eggs as early as April through June, with young hatching in late July through October.

PROTECTION UNDER FEDERAL AND STATE LAW: The eastern indigo snake is classified as a Threatened species by both the USFWS and the Florida Fish and Wildlife Conservation Commission. “Taking” of eastern indigo snakes is prohibited by the Endangered Species Act without a permit. “Take” is defined by the USFWS as an attempt to kill, harm, harass, pursue, hunt, shoot, wound, trap, capture, collect, or engage in any such conduct. Penalties include a maximum fine of \$25,000 for civil violations and up to \$50,000 and/or imprisonment for criminal offenses, if convicted.

Only individuals currently authorized through an issued Incidental Take Statement in association with a USFWS Biological Opinion, or by a Section 10(a)(1)(A) permit issued by the USFWS, to handle an eastern indigo snake are allowed to do so.

IF YOU SEE A LIVE EASTERN INDIGO SNAKE ON THE SITE:

- Cease clearing activities and allow the live eastern indigo snake sufficient time to move away from the site without interference;
- Personnel must NOT attempt to touch or handle snake due to protected status.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Immediately notify supervisor or the applicant’s designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- If the snake is located in a vicinity where continuation of the clearing or construction activities will cause harm to the snake, the activities must halt until such time that a representative of the USFWS returns the call (within one day) with further guidance as to when activities may resume.

IF YOU SEE A DEAD EASTERN INDIGO SNAKE ON THE SITE:

- Cease clearing activities and immediately notify supervisor or the applicant’s designated agent, **and** the appropriate USFWS office, with the location information and condition of the snake.
- Take photographs of the snake, if possible, for identification and documentation purposes.
- Thoroughly soak the dead snake in water and then freeze the specimen. The appropriate wildlife agency will retrieve the dead snake.

Telephone numbers of USFWS Florida Field Offices to be contacted if a live or dead eastern indigo snake is encountered:

North Florida Field Office – (904) 731-3336
Panama City Field Office – (850) 769-0552
South Florida Field Office – (772) 562-3909

PRE-CONSTRUCTION ACTIVITIES

1. The applicant or designated agent will post educational posters in the construction office and throughout the construction site, including any access roads. The posters must be clearly visible to all construction staff. A sample poster is attached.
2. Prior to the onset of construction activities, the applicant/designated agent will conduct a meeting with all construction staff (annually for multi-year projects) to discuss identification of the snake, its protected status, what to do if a snake is observed within the project area, and applicable penalties that may be imposed if state and/or federal regulations are violated. An educational brochure including color photographs of the snake will be given to each staff member in attendance and additional copies will be provided to the construction superintendent to make available in the onsite construction office (a final brochure for Plan compliance, to be printed double-sided on 8.5" x 11" paper and then properly folded, is attached). Photos of eastern indigo snakes may be accessed on USFWS and/or FWC websites.
3. Construction staff will be informed that in the event that an eastern indigo snake (live or dead) is observed on the project site during construction activities, all such activities are to cease until the established procedures are implemented according to the Plan, which includes notification of the appropriate USFWS Field Office. The contact information for the USFWS is provided on the referenced posters and brochures.

DURING CONSTRUCTION ACTIVITIES

1. During initial site clearing activities, an onsite observer may be utilized to determine whether habitat conditions suggest a reasonable probability of an eastern indigo snake sighting (example: discovery of snake sheds, tracks, lots of refugia and cavities present in the area of clearing activities, and presence of gopher tortoises and burrows).
2. If an eastern indigo snake is discovered during gopher tortoise relocation activities (i.e. burrow excavation), the USFWS shall be contacted within one business day to obtain further guidance which may result in further project consultation.
3. Periodically during construction activities, the applicant's designated agent should visit the project area to observe the condition of the posters and Plan materials, and replace them as needed. Construction personnel should be reminded of the instructions (above) as to what is expected if any eastern indigo snakes are seen.

POST CONSTRUCTION ACTIVITIES

Whether or not eastern indigo snakes are observed during construction activities, a monitoring report should be submitted to the appropriate USFWS Field Office within 60 days of project completion. The report can be sent electronically to the appropriate USFWS e-mail address listed on page one of this Plan.



APPENDIX C

FLORIDA MANATEE COORDINATION

Chasez, Heather

From: Morris, Vincent <Vincent.Morris@fdacs.gov>
Sent: Wednesday, December 11, 2019 1:46 PM
To: Chasez, Heather
Subject: RE: Withlacoochee River through Croom

EXTERNAL SENDER: Use caution with links and attachments.

Heather,

I have never heard of a manatee this high in the river. I believed they are stopped from traveling upstream by water control structures and a lock associated with Lake Rousseau (all the way downstream near the gulf at Citrus/Levy line).

Happy Holidays,

Vince

From: Chasez, Heather <Heather.Chasez@dot.state.fl.us>
Sent: Wednesday, December 11, 2019 10:15 AM
To: Morris, Vincent <Vincent.Morris@fdacs.gov>
Subject: Withlacoochee River through Croom

Hello Vince,

I was wondering if you ever get manatee in the portion of the Withlacoochee that goes through Croom? Reviewing the species report for the trail and want to make sure we address all the applicable species. I have seen reports of them in other areas of the river, so wanted to check.

Hope your holiday season has been nice so far.

Thanks,

Heather Chasez
Environmental Specialist IV
Project Compliance Coordinator
FDOT District Five
719 S. Woodland Blvd.
DeLand, FL 32720
Phone: (386) 943-5393



APPENDIX D
USCG COORDINATION

Skurski, Doug

From: gakern@transystems.com
Sent: Friday, December 16, 2016 12:04 PM
To: Skurski, Doug
Subject: FW: S. Sumter Trail - PD&E Study

Doug - FYI

From: Blouin, Jesse [mailto:Jesse.Blouin@dot.state.fl.us]
Sent: Friday, December 16, 2016 11:36 AM
To: Chasez, Heather
Cc: OR-Gregory A. Kern; Cucek, Lorena
Subject: FW: S. Sumter Trail - PD&E Study

Heather, see below from USCG.

Jesse Blouin, AICP
Direct 386.943.5417

From: Overton, Randall D CIV [mailto:Randall.D.Overton@uscg.mil]
Sent: Friday, December 16, 2016 11:25 AM
To: Blouin, Jesse
Subject: RE: S. Sumter Trail - PD&E Study

The proposed project will not require a Coast Guard bridge permit.

Thank you,
Randall Overton

Randall Overton
Federal Permit Agent USCG
Bridge Management Specialist
909 SE 1st Ave Suite 432
Miami, FL 33131
(305) 205-0795 Cell
(305) 415-6736 Office

From: Blouin, Jesse [mailto:Jesse.Blouin@dot.state.fl.us]
Sent: Friday, December 09, 2016 10:41 AM
To: Overton, Randall D CIV
Cc: Chasez, Heather; Cucek, Lorena; Blouin, Jesse
Subject: [Non-DoD Source] S. Sumter Trail - PD&E Study

Mr. Overton,

Thank for you returning my phone call. I apologize I missed you, but here is the information you requested.

Location: <https://www.google.com/maps/place/Sumter+County,+FL/@28.5936971,-82.2230233,1849m/data=!3m1!1e3!4m5!3m4!1s0x88e7e2e9d61fc50f:0x4f2f130c7ad2c38e!8m2!3d28.6747526!4d-82.0842901>

Description: We are trying to determine if a bridge crossing over the Withlacoochee River in this part of Sumter County would require a permit from USCG. From what I can tell, this isn't a navigable portion of the river, but I wanted to verify.

Thank you,

Jesse Blouin, AICP

Planning & PD&E Study Project Manager

HNTB, Inc.

In-House Consultant for FDOT – District 5

Direct: 386.943.5417

jesse.blouin@dot.state.fl.us