



US 301 (SR 35) PD&E Study

CR 470 E to State Road 44 in Sumter County, FL

Natural Resources Evaluation

FDOT Office
District Five

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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 the 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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1.0 Executive Summary

FDOT is conducting a Project Development and Environment (PD&E) study for an approximately 8.0 mile portion of US 301 between CR 470 East and SR 44 in Sumter County. US 301 (SR 35) travels through the cities of Coleman and Wildwood within these limits. While mostly a north-south route, US 301 travels in an east-west direction through the City of Coleman where it has the local road name Warm Springs Avenue.

The PD&E study is analyzing design alternatives that widen US 301 to provide additional capacity for future traffic growth. US 301 is projected to carry more than 14,000 vehicles per day by 2022 and increase to more than 24,000 per day by 2042. Based on existing 2014 conditions analysis, US 301 carried up to 9,600 vehicles per day on a 2-lane segment south of the Turnpike operating with a Level of Service of D.

A Natural Resource Evaluation has been prepared in accordance with Part 2, Chapters 9, Wetlands and Other Surface Waters and Chapter 16 Protected Species and Habitats of the FDOT's PD&E Manual (FDOT, June 2017). The purpose of this Natural Resource Evaluation (NRE) is to identify, wetlands, surface waters, protected species and habitats that exist within the study corridor and to address potential impacts to these protected species.

Wetland (7.02 acres) and surface water (0.09) impacts totaling approximately 7.11 acres are associated with the recommended alternative along the US 301 corridor. Impacts are needed for the construction of roadway widening and drainage improvements. All build alternatives were evaluated for wetland and surface water impacts, which can be found in the Alternatives section of the PER.

Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137 Florida Statutes (F.S.) to satisfy all mitigation requirements of Part IV, Chapter 373, F.S. and 33 U.S.C.s. 1344. Under Section 373.4137 F.S., mitigation of FDOT wetland impacts will be implemented by the Southwest Florida Water Management District (SWFWMD) where the impacts occur. The SWFWMD will then provide wetland mitigation for specific FDOT project impacts through a corresponding mitigation project within the overall approved regional mitigation plan. FDOT will provide funding to the SWFWMD for implementation of such mitigation projects. If the SWFWMD is unable to provide mitigation services, credits from an approved mitigation bank will be purchased by the FDOT to satisfy all mitigation needs for the project.

The project site was evaluated during numerous site surveys in November 2016, December 2016, and July 2017, for the PD&E alternative analysis to address the occurrence, or potential occurrence, of wildlife and plant species listed as threatened, endangered, species of special concern, or otherwise protected (protected species), according to methodology outlined by the United States Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), and/or Florida Natural Areas Inventory (FNAI). Wildlife species identification was accomplished mainly through visual observation, but tracks and aural indicators were also noted. The FNAI, USFWS, and FWC databases were consulted regarding current state and federally-listed wildlife species, species of special concern and eagle nests that are known or have the potential to occur within certain habitats found in the region. An effects determination of "not likely to adversely affect" was made for the wood stork and eastern indigo snake and "no effect" for the scrub jay, snail kite, bald eagle and the red cockaded woodpecker.

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To date, coordination completed with the USFWS to comply with Section 7 of the Endangered Species Act (ESA) has occurred through the Efficient Transportation Decision Making (ETDM) process. Additional coordination with the USFWS, as well as USACE and FWC, will occur throughout the PD&E process.

2.0 Project Overview

FDOT is conducting a Project Development and Environment (PD&E) study for an approximately 8.0 mile portion of US 301 between CR 470 East and SR 44 in Sumter County (**Figure 1**). Within these limits, US 301 (SR 35) travels through the cities of Coleman and Wildwood. While mostly a north-south route, US 301 travels in an east-west direction through the City of Coleman where it has the local road name Warm Springs Avenue. The Florida's Turnpike (SR 91) crosses US 301 with an interchange to the south of the northern project limit, and I-75 runs parallel to the study corridor on the west of US 301 through Sumter County.

The PD&E study analyzed design alternatives that widen US 301; improve the US 301 interchange at Florida's Turnpike; and considered a new corridor for US 301 south of the City of Coleman. The improvements will seek to provide additional capacity for future traffic growth. US 301 is projected to carry more than 14,000 vehicles per day by 2022 and increase to more than 24,000 per day by 2042. Based on existing 2014 conditions analysis, US 301 carried up to 9,600 vehicles per day on a 2-lane segment south of the Turnpike operating with a Level of Service of D.

Within the project limits, US 301 begins as a two-lane undivided roadway at CR 470 East with turn lanes at some intersections; makes a sharp 90° turn through the City of Coleman (Warm Springs Avenue/Commercial Street) and then curves to the north at CR 468. It then continues north as an undivided roadway until it reaches the Florida's Turnpike interchange where a median is added. North of the interchange the roadway is a four-lane divided, rural typical section facility. It has a short urban curb and gutter section approaching SR 44.

The purpose of this project is to increase the capacity of US 301, to respond to future travel demand from the intersection of CR 470 East, north through the City of Coleman, to SR 44 in the City of Wildwood. The project will also improve safety and provide multi-modal facilities for pedestrian and bicyclists, and evaluate improvements to the US 301 interchange with the Florida's Turnpike.

This study evaluated viable alternatives to widen US 301 on the existing project corridor as well as a potential realignment for US 301 from near CR 525 East to CR 468 to minimize potential environmental impacts to the City of Coleman. Of these alternatives, this report documents the potential impacts from the preferred alternative.

Figure 1 | Project Location Map



2.1 Roadway Study Segments

The existing roadway has been divided into five segments as depicted on **Figure 2**. A sixth segment includes the alternative for new alignment for a truck route to reduce traffic in the City of Coleman.

Segment 1 – South of CR 470 East to Shady Brook Drive

Segment 1 extends north from south of CR 470 E (MP 14.53) to Shady Brook Drive (MP 14.83), and is approximately 0.3 miles in length. It includes open drainage to roadside swales and consists of a three-lane typical section including one travel lane in each direction and a center left turn lane. This segment of the corridor is classified as a Rural Principal Arterial Other and has an existing speed limit of 50 mph. Shady Brook Resort and Golf Club is a significant use adjacent to this segment.

Segment 2 – Shady Brook Drive to CR 525 East

Segment 2 extends north from Shady Brook Drive (MP 14.83) to CR 525 East (MP 16.991), including the Shady Brook Bridge, and is approximately 2.2 miles in length. The segment includes open drainage to roadside swales and is a two-lane rural typical section. It has a posted speed of 55 mph and is classified as a Rural Principal Arterial Other. Shady Brook Park is a significant land use located along the segment.

Segment 3 – CR 525 East to Stokes Street

Segment 3 extends from CR 525 East (MP 16.991) to Stokes Street (MP 18.706) and is classified as a Rural Principal Arterial Other with posted speeds ranging between 35 and 45 mph. It is approximately 1.7 miles in length and is a two-lane rural roadway. It follows Warm Springs Avenue as it runs east-west through the City of Coleman. There are numerous homes and businesses with relatively small setbacks from the roadway along this segment. Most of the segment has a sidewalk on one side of the roadway. This segment does not contain wetlands or other surface waters, nor does it contain suitable habitat for protected species and was not advanced as part of the preferred alternative.

Segment 4 – Stokes Street to Florida’s Turnpike

Segment 4 extends east from Stokes Street (MP 18.706) then north to Florida’s Turnpike (MP 21.663) and is approximately 3.0 miles in length. It consists of two 12-foot travel lanes (one in each direction) and a five-foot paved shoulder on either side of the roadway. This segment also includes open drainage to roadside swales and is classified as a Rural Principal Arterial Other with posted speeds of 55 mph between Stokes Street and the northbound entrance to Florida’s Turnpike (SR 91), where it reduces to 45 mph. The existing and future land use context of the corridor is mostly auto oriented development. The segment is influenced by the CR 468 curve and the development that is occurring near the CR 468 intersection at the Village of Fenney.

Segment 5 – North of Florida’s Turnpike to SR 44

Segment 5 extends north from Florida’s Turnpike (MP 21.663) to just south of SR 44 (MP 22.395) and is approximately 0.7 miles in length. It is classified as an Urban Principal Arterial with posted speeds ranging between 40 and 45 mph. In contrast to Segments 1 through 4, Segment 5 is already predominantly a four-lane divided roadway. The northern portion of the segment (north of Spring Lake Road) has a closed drainage system with an

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outside curb and gutter. South of Spring Lake Road the segment includes open drainage to roadside swales. This segment of the roadway is within the City of Wildwood and approximately half of the segment has adjacent urban development.

Segment 6 – Truck Route/US 301 Realignment

The realignment will require a new roadway alignment (approximately 1.5 miles) and construction over current non-roadway property linking CR 525 East to CR 468. While the area for the route is currently largely undeveloped, both ends of this segment have impending development that is currently in the permitting process. The Villages Industrial Park (formerly Wade Industrial) and Monarch Ranch are planned for the CR 525 East area while the CR 468 area will be home to the Village of Fenney. The recommended corridor through this area has minimal wetland and surface water impacts, and impacts less suitable habitat for kestrels and gopher tortoises. The corridor also provides a minimum 55 mph design speed meeting driving and access management criteria.

Figure 2 | US 301 (SR 35) Existing Roadway Segments



2.2 Soils

Table 1 contains the soils found within the US 301 study corridor according to the Natural Resources Conservation Service (NRCS) Soil Survey of Sumter County. Soil characteristics listed in the table include depth to water table, soil permeability, hydric rating and hydrologic group. Hydric rating will be identified as “Yes” if any component or inclusion of the soil type is considered hydric and does not define the mapped area as being hydric. The Hydrologic Groups are based upon infiltration rates and runoff potential due to precipitation. Group A indicates very high infiltration rate. Group B indicates a moderate infiltration rate. Group C indicates a slow infiltration rate. Group D indicates a very slow infiltration rate. Soils with two hydrologic group classifications reflect different runoff potential in a drained and undrained condition.

Table 1 | US 301 (SR 35) Soils

Soil Number	Soil Name	Depth to Water Table (inches)	Permeability	Hydric Rating	Hydrologic Group
4	Candler sand	80	Rapid	No	A
9	Paisley fine sand Bouldery subsurface	10	Rapid	Yes	D
11	Millhopper sand	40	Rapid	No	A
13	Tavares fine sand	40	Very Rapid	No	A
15	Adamsville fine sand Bouldery subsurface	20	Rapid	Yes	C
17	Sumterville-Mabel- Tavares	18	Rapid	No	C/A
21	EauGallie fine sand Bouldery subsurface	10	Rapid	Yes	B/D
23	Ona fine sand	10	Rapid	Yes	B/D
26	Wabasso fine sand Bouldery subsurface	10	Rapid	Yes	B/D
27	Sumterville fine sand	18	Rapid	No	C
29	Nittaw muck	0	Rapid	Yes	D
30	Placid fine sand	0	Rapid	Yes	D
33	Sparr fine sand Bouldery	20	Rapid	No	C
34	Tarrytown sandy clay loam Bouldery	12	Moderate	No	C
36	Floridana mucky fine sand	0	Rapid	Yes	D
37	Astatula fine sand	80	Very Rapid	No	A
39	Mabel fine sand Bouldery	20	Rapid	Yes	C
40	Millhopper sand Bouldery	40	Rapid	No	A
42	Adamsville fine sand	20	Rapid	Yes	C
43	Basinger fine sand	0	Rapid	Yes	D

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Soil Number	Soil Name	Depth to Water Table (inches)	Permeability	Hydric Rating	Hydrologic Group
44	Oldsmar fine sand Bouldery	10	Rapid	Yes	B/D
46	Ft. Green fine sand Bouldery	10	Rapid	Yes	D
47	Okeelanta muck	0	Rapid	Yes	D
49	Terra Ceia muck	0	Moderate	Yes	D
51	Pits-Dumps Complex	N/A	N/A	Yes	-
53	Tavares fine sand - bouldery	40	Very Rapid	No	A
54	Monteocha fine sand	10	Rapid	Yes	D
56	Wabasso fine sand	0	Rapid	Yes	D
62	Urban land	N/A	N/A	No	-
65	Candler sand Bouldery	80	Rapid	No	A

2.3 Land Use

The following land uses are located within the US 301 study area. **(Figure 5)** Each system observed was classified using the SWFWMDs Florida Land Use, Cover Classification System (FLUCCS, FDOT, 1999) and further categorized using the Classification of Wetlands and Deepwater Habitats of the United States, (Cowardin, et. al., 1979) as adopted by the USFWS and the NWI. The total area of each land use type within the corridor width is shown within **Table 2**.

Table 2 | Summary of Land Use

FLUCCS Code	Land Use Type	Total Acreage in Corridor	Percentage of Corridor
100-130	Residential	28.83	21.57
140-150	Commercial and Services/Industrial	2.27	1.70
180	Recreational	5.14	3.85
190	Open Land	0.80	0.60
210	Cropland and Pastureland	56.55	42.32
230	Feeding Operations	2.69	2.00
320	Shrub and Brushland	5.28	3.95
434	Hardwood Conifer Mixed	15.61	11.68
615	Stream and Lake Swamps	3.47	2.60
641	Freshwater Marshes	0.38	0.28
643	Wet Prairies	0.09	0.07
810	Transportation	11.11	8.32
830	Utilities	1.41	1.06

Residential (FLUCCS No. 100 – 130)

Residential land uses in the corridor range from low density farmsteads to high density small lot subdivisions. Some of the low density residential lots contain the native canopy of oaks and pine, while higher density developments lack native vegetative structure. Wildlife utilization is low for all residential uses, limited to foraging opportunities.

Commercial and Services/Industrial (FLUCCS No. 140 - 150)

These high intensity land uses are dedicated to the manufacturing and distribution of goods and services. Native vegetation has been replaced with large buildings, parking lots and storage areas. Native land forms have been modified to facilitate development. Wildlife utilization is low for these land use types due to high human activity.

Recreational (FLUCCS No. 180)

Land uses where recreation is or could be occurring. Recreational areas within the corridor include a golf course near the southern end of the corridor and Shady Brook Park. Wildlife utilization is low due to human use.

Open Land (FLUCCS No. 190)

This category included undeveloped lands within urban areas and inactive land. Several cleared parcels are located along the corridor that have not been developed or where older structures have been removed. These parcels lack native vegetation and therefore have a low likelihood for wildlife utilization. Sandhill cranes and kestrels may use these areas for foraging.

Cropland and Pastureland (FLUCCS No. 210)

Land managed for the cultivation of row and field crops. Cropland within the corridor consists of a peach farm and hay fields. Wildlife utilization is moderate allowing for foraging and movement, but typically lacks native vegetative structure needed for many animals' life cycles.

Feeding Operations (FLUCCS No. 230)

Land used for livestock production. Most pasturelands within the corridor contain cattle in relatively low densities. Wildlife utilization on these lands is moderate. Sandhill cranes and kestrels were observed in several pastures in the corridor.

Shrub and Brushland (FLUCCS No.320)

This category includes saw palmettos, gallberry, wax myrtles, and other shrubs and brush, but lacks a canopy of trees. Areas of shrub and brushland within the corridor include areas previously cleared for development and left unattended. Wildlife utilization is moderate in this habitat due to the lack of native canopy species and maintenance activities such as routine mowing.

Hardwood Conifer Mixed (FLUCCS No. 434)

This forested community consists of areas in which neither upland conifers nor hardwoods achieve a crown canopy dominance. Wildlife utilization is high within this habitat unless it has been modified for residential use or cattle grazing.

Stream and Lake Swamps (FLUCCS No. 615)

This community, often referred to as Bottomlands, is usually found on river, creek and lake floodplain or overflow areas. This forested habitat will contain a large variety of predominantly hardwood species. Wildlife utilization is high including foraging, denning and movement, and access to surrounding habitats.

Freshwater Marshes (FLUCCS No. 641)

Vegetated non-forested wetlands typically comprised of non-woody species and include marshes and seasonally flooded areas. Freshwater marshes within the corridor are typically small areas connected to larger systems via ditches and swales across pasturelands or along roadsides. Wildlife utilization is moderate, providing foraging and nesting opportunities for several species of wading birds.

Wet Prairies (FLUCCS No. 643)

This classification is composed of grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. Wet prairies within the corridor are typically small areas connected to larger systems via ditches and swales across pasturelands or along roadsides. Wildlife utilization is moderate, providing foraging and nesting opportunities for several species of wading birds.

Transportation (FLUCCS No. 810)

Transportation facilities are used for the movement of people and goods. Transportation facilities within the corridor include paved and unpaved roads and railroads. Wildlife utilization within these areas is low.

Utilities (FLUCCS No. 830)

Utilities usually include power generating facilities and water treatment plants and include related facilities such as transmission lines and aeration fields for sewage treatment sites. Major utilities with the corridor include overhead electrical lines and underground gas lines south of the intersection with the Florida Turnpike. Wildlife utilization within these areas is low.

2.4 Pond Site Descriptions

This section describes the current recommended alternative stormwater pond sites evaluated for the US 301 study and are depicted on **Figure 6**. Surveys for state and federal protected species, coordination with the appropriate agencies and permitting, if required, will be conducted prior to the commencement of construction, within each of the pond sites.

Pond Site 1B

This pond site is located approximately 900 feet north of the intersection of CR 470 and US 301 on the east side of US 301. The site is composed entirely of improved pasture, with the dominant vegetation being bahiagrass (*Paspalum notatum*). No protected plant or animal species were observed within the pond site during the field review. However, suitable habitat has been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site 2A

This pond site is located approximately 1 mile north of the intersection of CR 470 and US 301, just north of Shady Brook on the west side of US 301. This pond site is primarily non-wetland mixed hardwood dominated by a canopy of live oak (*Quercus virginiana*), American Elm (*Ulmus americana*), cabbage palms (*Sabal palmetto*) and mixed citrus trees (*Citrus* spp.). Sub canopy and ground cover was composed of Boston fern (*Nephrolepis exaltata*), greenbrier (*Smilax* spp.) and leaf litter. There were no hydrologic indicators observed within the pond site. No protected plant or animal species and no suitable protected species habitat were observed in the pond site during the field review.

Pond Site 3B

Pond site 3B is located approximately 1 mile north of the intersection of CR 470 and US 301, on the east side of US 301 and to the east of the Shady Brook Park. The canopy is composed of silver maples (*Acer saccharinum*), live oak, water oak (*Quercus nigra*) and cabbage palms. Greenbrier and canopy tree saplings dominated the herbaceous ground cover. No protected plant or animal species and no suitable protected species habitat were observed in the pond site during the field review. Additionally, no wetlands were identified on site.

Pond Site 4B

This pond site is located north of NE 16th Avenue on the east side of US 301. The western portion of the site consists of improved pasture dominated by bahiagrass and the eastern portion of the site has a canopy of live oak, laurel oak (*Quercus hemisphaerica*), and southern magnolia (*Magnolia grandiflora*). No wetland habitats were identified within the pond site. No protected plant or animal species were observed within the pond site during the field review. However, suitable habitat has been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site 9A

This pond site is located south of the intersection of Sherman Street and US 301. It contains low density residential buildings and portions of Messners Salvage Yard. Live oak and cabbage palms dominate the canopy and crowfoot grass (*Dactyloctenium aegyptium*) and greenbrier dominate the ground cover. No wetlands were observed on site. No protected plant species were observed within the pond site. However, two American kestrels were observed within and in the vicinity of the pond site. The Southeastern American kestrel is a subspecies and is listed as threatened by the FWC. A survey of the pond site will be conducted prior to construction to determine presence of Southeastern American kestrel.

Pond Site 13C

Pond 13C is located just to the east of the intersection of US 301 and CR 521, on the east side of US 301. This pond site is composed entirely of active improved pasture, with the dominant vegetation being bahiagrass. A small isolated less than 0.5-acre depression area is located within the pond boundaries. During the design and permitting process there will be opportunity to reduce or eliminate impacts, which could reduce the mitigation potentially required by the SWFWMD and USACE for impacts to this wetland. Carolina willow (*Salix caroliniana*) is the dominant vegetation within this wetland. No protected plant or animal species were observed within the pond site during the field review. However, suitable habitat was identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by FWC.

Pond Site 14C

Pond 14C is located along the east side of US 301, north of the intersection of US 301 and NE 41st Lane. The pond site consists of a mixed hardwood forest with the canopy being composed of live oak, magnolia and slash pine (*Pinus elliotii*). Understory and ground cover consists of American beautyberry and greenbrier. No wetlands were observed on site; however a herbaceous wetland system of soft rush (*Juncus effusus*) and arrowhead (*Sagittaria lancifolia*) is adjacent to the west of the pond. No protected plant species were observed during the field review.

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However, American kestrels were heard in the vicinity of the pond site during the field review. The Southeastern American kestrel subspecies is listed as threatened by the FWC. A survey of the pond site will be conducted prior to construction to determine presence of Southeastern American kestrel. Additionally, suitable habitat has also been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site 15B

Pond 15B is located also on the west side of US 301, but just south of the power line easement that crosses US 301. This pond site is a mixed upland hardwood forest with the canopy being composed of live oak, pignut hickory (*Carya glabra*) and cabbage palms. The understory and ground cover are saw palmetto (*Serenoa repens*) and American beautyberry (*Callicarpa americana*). There are no wetlands within boundaries of the pond site; however, there is a wet depressional area just north of the pond site that has a canopy of sweetgum (*Liquidambar styraciflua*) and water oak. No protected plant or animal species and no suitable protected species habitat were observed in the pond site during the field review.

Pond Site 16A

This pond site is located just south of the Florida's Turnpike interchange with US 301 and is on the east side of US 301. The pond site consists of improved pasture, with the dominant vegetation being bahiagrass. No wetlands were observed on site. However, a small ditch area is located north of the pond. The surface water appears to connect to a cross drain underneath US 301 via a culvert. No protected plant or animal species were observed within the pond site during the field review. Suitable habitat has been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site 17B

This pond site is located just north of the Florida's Turnpike interchange with US 301 and is on the east side of US 301. The site consists of improved pasture, with the dominant vegetation being bahiagrass. Wetlands were observed on site and consist of forested areas containing red maple, sweetgum, slash pine, laurel oak and saw palmetto. No protected plant or animal species were observed within the pond site during the field review. Suitable habitat has been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site 19A

This pond site is located on the north side of NE 19th Way and approximately 300 feet east of US 301, and is approximately in the same location as Pond Site 5A. The existing habitat is improved pastures that are dominated by bahiagrass. One small wetland was observed on the western portion of the site. The wetland is isolated from other wetlands and surface waters and appears to be less than 0.5 acre in size. During the design and permitting process there will be opportunity to reduce or eliminate impacts, which could reduce the mitigation potentially required by the SWFWMD and USACE for impacts to this wetland. No protected plant species were observed within the pond site during the field review. However, sandhill cranes were observed foraging within the pasture

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during the field review. Suitable habitat has been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site 20C

Pond Site 20C Alt 2 is located approximately 1,900 feet east of the US 301 and CR 525 East intersection. The site is composed entirely of improved pasture, with the dominant vegetation being bahiagrass. No wetlands were observed on site. No protected plant or animal species were observed within the pond site during the field review. However, suitable habitat has been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site 21A

Pond Site 21A is located approximately 4,700 feet east of the US 301 and CR 525 East intersection. The site is composed entirely of improved pasture, with the dominant vegetation being bahiagrass. No wetlands were observed on site. No protected plant or animal species were observed within the pond site during the field review. However, suitable habitat has been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site 22C

Pond Site 22C is located 600 feet southwest of the intersection of US 301 and County Road 523, and a portion of this pond site overlaps the boundaries of Pond Site 11C. The site is composed entirely of improved pasture, with the dominant vegetation being bahiagrass. No wetlands were observed on site. No protected plant or animal species were observed within the pond site during the field review. However, suitable habitat has been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site 23A-1

Pond Site 23A-1 is located immediately north of the US 301 and C-468E intersection. The site is composed of a mix of hardwood species including live oak and laurel oak and the groundcover is dominated by an assemblage of pasture grasses. No wetlands were observed on site. No protected plant or animal species were observed within the pond site during the field review. However, suitable habitat has been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site FPC1

This pond site is located adjacent to Pond 5C and is a floodplain compensation area. The site consists of improved pasture, with the dominant vegetation being bahiagrass. No wetlands were observed on site. However, a small surface water area is located on lands north of the pond. The surface water appears to connect to roadside swales along US 301 via a culvert and open ditch. No protected plant or animal species were observed within the pond site during the field review. However, suitable habitat has been identified that may potentially support the occurrence of the gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site FPC4

Pond FPC4 is located along the east side of US 301, north of the intersection of US 301 and NE 41st Lane and is a floodplain compensation area located adjacent to Pond 14C. The pond site consists of a mixed hardwood forest with the canopy being composed of live oak, magnolia and slash pine. Understory and ground cover consists of American beautyberry and greenbrier. No wetlands were observed on site; however, an herbaceous wetland system of soft rush and arrowhead is adjacent to the west of the pond. No protected plant species were observed during the field review. However, American kestrels were heard in the vicinity of the pond site during the field review. The Southeastern American kestrel subspecies is listed as threatened by the FWC. Additionally, suitable habitat has also been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site FPC5

This pond side is a floodplain compensation area located across US 301 from Pond 15A, adjacent to Pond 15C and north of the power line easement. The canopy of this mixed upland hardwood community is composed of water oak, sweetgum and pignut hickory. Saw palmetto, grapevine and American beautyberry make up the understory within this habitat. No wetlands were observed on site and no protected plant or animal species were observed on site. Pond site FPC-5 is also located within similar boundaries of this pond and has the same site characteristics and community structure.

Pond Site FPC6

This pond site is a floodplain compensation area located 1,900 feet south of the Florida's Turnpike interchange with US 301 on the east side of US 301. The pond site consists of improved pasture, with the dominant vegetation being bahiagrass. No wetlands were observed on site. No protected plant or animal species were observed within the pond site during the field review. Suitable habitat has been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

Pond Site FPC7

This pond site is located between Pond 16A and 16C and is a floodplain compensation area. The site consists of improved pasture, with the dominant vegetation being bahiagrass. No wetlands were observed on site. No protected plant or animal species were observed within the pond site during the field review. However, suitable habitat has been identified that may potentially support the occurrence of gopher tortoise and the Florida burrowing owl, which are both listed as threatened by the FWC.

3.0 Protected Species and Their Habitats

The United States Fish and Wildlife Service (USFWS), through the Endangered Species Act (ESA) and other regulatory instruments, and the Florida Fish and Wildlife Conservation Commission (FWC), through Chapter 68 of the Florida Administrative Code (FAC), regulate activities that may affect protected species. Information regarding the occurrence, or likelihood of occurrence, for any threatened or endangered species was gathered for this project area in order to comply with agency regulations.

A literature review was conducted to identify those species classified by USFWS and FWC as being endangered, threatened or species of special concern (collectively recognized as “protected species”) within the project corridor. In addition to the literature review, species lists were obtained from the USFWS and FWC via the ETDM web site.

Field reconnaissance to assess the potential occurrence of protected species within the study corridor was conducted in November and December 2016. Wildlife observations were conducted by a team of two environmental scientists through recognition of tracts, scat, calls and other visual observations. The purpose of the reconnaissance was to evaluate the existing lands for the presence of flora and fauna listed by USFWS as endangered and/or threatened, and those listed by the FWC as endangered, threatened, or species of special concern. The available habitat, habitat preferences, or critical habitat, if applicable, for these species, as well as others not expressly protected but managed through state or federal laws; such as black bear and bald eagle, were also evaluated throughout the study corridor. Representative photographs of the field findings are found in **Appendix A**.

The project site was evaluated during numerous site surveys in November and December 2016 for the PD&E alternative analysis to address the occurrence or potential occurrence of wildlife and plant species listed as threatened, endangered, species of special concern, or otherwise protected (protected species), according to methodology outlined by the USFWS, FWC, and/or FNAI. Wildlife species identification was accomplished mainly through visual observation, but tracks and aural indicators were also noted. The FNAI, USFWS, and FWC databases were consulted regarding current state and federally-protected wildlife species, species of special concern and managed species that are known or have the potential to occur within certain habitats found in the region.

A table of protected wildlife species known to occur in representative habitat types similar to that found within the US 301 Project and their potential for occurrence within the project limits is provided in **Table 3** below.

Table 3 | Protected Wildlife and their Potential for Occurrence

Scientific Name	Common Name	Potential for Occurrence	Federal or State Listing	Protection Status
<i>Aphelocoma coerulescens</i>	Florida scrub-jay	No	Both	Threatened
<i>Athene cunicularia</i>	Florida burrowing owl	Moderate	State	Threatened
<i>Drymarchon couperi</i>	Eastern indigo snake	Moderate	Both	Threatened
<i>Egretta caerulea</i>	Little blue heron	Moderate	State	Threatened
<i>Egretta tricolor</i>	Tricolor heron	Moderate	State	Threatened
<i>Falco sparverius paulus</i>	Southeastern American kestrel	High	State	Threatened
<i>Gopherus polyphemus</i>	Gopher tortoise	High	State	Threatened
<i>Grus Canadensis pratensis</i>	Florida sandhill crane	Moderate	State	Threatened
<i>Haliaeetus leucocephalus</i>	Bald eagle	Low	Federal	Managed*
<i>Lampropeltis extenuate</i>	Short tailed snake	Low	State	Threatened
<i>Leuconotopicus borealis</i>	Red cockaded woodpecker	Low	Both	Endangered
<i>Mycteria americana</i>	Wood stork	Low	Both	Threatened
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	Low	State	Threatened
<i>Rostrhamus sociabilis plumbeus</i>	Snail kite	Low	Both	Endangered
<i>Sciurus niger shermani</i>	Sherman’s fox squirrel	Low	State	Special Concern
<i>Ursus americanus floridanus</i>	Florida black bear	Low	State	Managed**

* Bald and Golden Eagle Protection Act, 16 U.S.C. 668-668c

**Florida’s Endangered and Threatened Species Rule, 68A-27, F.A.C

3.1 Federally Protected Wildlife Species

Florida Scrub-jay – is listed by both the USFWS and FWC as threatened. This small, blue and gray bird is very gregarious in nature. They can be found in low-growing, oak scrub habitat with well drained soils as well as fallow orange groves. They are year-round residents here in Florida but are most likely to be spotted between March and October. No appropriate habitat occurs within the project area and no individuals were noted during field surveys; therefore, this project will have no effect on the species.

Snail kite – is listed by both the USFWS and FWC as endangered. This medium-sized raptor is distinguished in the field by its slender, downward curved bill that is adapted to extract its primary prey, the apple snail (*Pomacea paludosa*) from its shell. Their range is restricted to watersheds in the central and southern portion of Florida. Snail kite foraging habitat is limited to sparsely vegetated freshwater marshes and shallow vegetated edges of natural and manmade lakes. The project corridor is approximately 50 miles northwest of the nearest snail kite population. No suitable habitat and no individuals were noted during field surveys; therefore, this project will have no effect on the species.

Eastern indigo snake – is listed by both the USFWS and FWC as threatened. This large, stout-bodied, shiny black snake can reach 8 feet in length and will utilize a wide range of habitats from scrub and sandhills to wetlands throughout Florida. They are known to winter in gopher tortoise burrows. Eastern indigo snakes require large tracts of natural land to survive, typically foraging in more hydric habitats. No Eastern indigo snakes were observed during the field review of the corridor. Less than 25 gopher tortoise burrows were identified within the project area and less than 25 acres of xeric habitat will be impacted by the construction of the roadway and associated pond sites. Prior to construction, any tortoise burrows identified in the construction area will be evacuated. In addition, the site contractor will implement the Eastern Indigo Snake Protection Measures found in **Appendix C** prior to construction. Therefore, based on the USFWS' Determination Key, a "not likely to adversely affect" determination is recommended for this species.

Bald eagle - The USFWS has delisted the bald eagle from the list of threatened and endangered species because the bald eagle population has recovered in the lower 48 states, threats to the species have been reduced or eliminated, and reproductive success has significantly increased. The bald eagle will continue to be managed and protected by the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act. In addition, the bald eagle is protected in Florida through F.A.C. 68A-16.002. As of February 2014, the FWC bald eagle nesting database does not indicate any active or inactive bald eagle nests on the project site or within 660 feet of the project site or any pond site. The nearest nest, SU036, occurs approximately 0.5 mile to the east of the project corridor.

Red-cockaded woodpecker - is a small woodpecker distinguished by its barred, black and white back and wings and large white cheek patches. This species is known to occur in open, mature pine woodlands throughout the state. Populations are restricted to areas of old growth pine forest. The red-cockaded woodpecker is listed by the USFWS and FWC as endangered. No documented occurrence of red-cockaded woodpeckers and no habitat for this species occur within the project corridor. Therefore, this project will have no effect on this species.

Wood stork – this long-legged wader is a large bodied white bird with black in the wings and tail. Wood storks are listed as threatened under the Endangered Species Act (ESA) and nest in colonies in a variety of inundated forested wetlands such as cypress swamps, sloughs or mangroves. Foraging habitat includes shallow fresh water marshes, ponds, ditches or pastures. The USFWS and the FWC both list the wood stork as threatened. No wood storks were observed during survey days within the project footprint or within the shallow marshes and ponds adjacent to the project area. If applicable, replacement foraging habitat will be provided through the purchase of herbaceous wetland mitigation credits at a mitigation bank within the same core foraging area. Based on the USFWS' Determination Key, a "not likely to adversely affect" determination is recommended for this species, as the project is:

- A. At a location greater than 0.47 miles from a colony site and:
- B. The project impact to Suitable Foraging Habitat is less than 0.50 acre

Additional mitigation for loss of foraging habitat could be provided through replacement habitat constructed as part of the stormwater management system.

3.2 State Protected Wildlife Species

Wading Birds - as a group, are common to wetlands where they forage for small fish and invertebrates. Species that are expected to frequent wetlands within the corridor include little blue heron and tri-colored heron, which are listed as threatened per the FWC. Review of the FWC Wading Bird Colony Locator indicated that there are no known active wading bird colonies near the project corridor. The loss of wading bird foraging habitat in roadside surface waters will be replaced through on-site replacement of habitat in the form of ditches, swales and ponds associated with the stormwater management system. No adverse effects to wading birds are anticipated.

Florida Burrowing Owl – is a pint-sized bird that resides in open, treeless areas where it spends most of its time on the ground. Its sandy brown plumage offers camouflage from predators from its ground-level perch. Throughout the state its distribution is considered localized and spotty. They often inhabit native prairies, golf courses, airports and vacant lots. Burrows are used year-round that are dug on their own, however, they can also utilize gopher tortoise or armadillo burrows. They are listed as threatened by the FWC. No burrowing owls have been observed during the field review, but appropriate habitat exists within the project corridor, therefore the project is anticipated to have no adverse effect.

Southeastern American kestrel - is a small falcon that is a full time Florida resident. This sub-species is similar in appearance to the American kestrel, which is a migratory species that winters in Florida. The Southeastern American kestrel utilizes cavities within older longleaf pine and live and turkey oak trees, many of which have been abandoned by woodpeckers. These kestrels can be seen at the edge of longleaf pine, turkey oak and live oak woodlands, in open land/pastures and along power lines and fence lines hunting for insects, reptiles, and small mammals. The FWC lists this species as threatened. Abundant habitat for kestrels is present along the corridor and kestrels were sighted during field reviews. The FDOT is committed to performing kestrel surveys during the design and permitting phase of the project, therefore the project is anticipated to have no adverse effect.

Gopher Tortoise – is a medium sized turtle fully adapted for life on land. The forelimbs are greatly expanded for excavating deep burrows to escape predators, weather or fire. Gopher tortoises are found in dry habitats such as sandhills, xeric oak habitats, and dry pine flatwoods. More than 300 other species of animals have been recorded sharing gopher tortoise burrows. Gopher tortoises are listed by the FWC as threatened and are a candidate species for listing by the USFWS. Seven (7) potentially occupied gopher tortoise burrows were identified within the project corridor. The FDOT will obtain a gopher tortoise permit to relocate any gopher tortoises identified within the project limits, therefore adverse effects to this species are not anticipated.

Florida Sandhill Crane - are tall, long-necked, long-legged birds ranging throughout the Florida peninsula from Okefenokee Swamp to the Everglades. These birds spend much of the year foraging within a variety of habitats including improved pasture, open pine forests, agricultural cropland, and freshwater marshes. In Central Florida, the Florida sandhill crane typically nests in shallow freshwater marshes and forages on agricultural lands. They are listed as threatened by FWC. Sandhill cranes have been observed during field reviews and appropriate habitat exists within the project corridor, therefore no adverse effects are anticipated. The 2016 FWC Sandhill Crane Species Guidelines will be implemented throughout the design, permitting and construction phases of this project.

Short tailed snake – is a small slender fossorial snake that can reach a length of 20 inches and has a small head that is indistinct from its body. They generally reside in sandy soils, particularly longleaf and xeric oak sandhills.

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They are endemic to Florida and are found from the Suwannee River south to Highlands County. The FWC lists this species as threatened. No short tailed snakes have been observed during field review and little to no appropriate habitat exists within the project area. Therefore, no adverse effects are anticipated.

Florida pine snake - is a large, stocky tan or rust colored snake with an indistinct pattern of large blotches on a lighter background. This species is known to occur throughout Florida in habitats with relatively open canopies and dry sandy soils, preferring sandhills and pine scrub. Florida pine snakes often coexist with gopher tortoises and pocket gophers. This species is listed by the FWC as a species of special concern. No pine snakes have been observed during field review and little to no appropriate habitat exists within the project area. Therefore, no adverse effects are anticipated.

Sherman's fox squirrel - are large tree squirrels that inhabit areas of high pine sandhills, pine flatwoods, pastures, and other open areas with scattered pines and oaks. They are listed by FWC as a species of special concern. No fox squirrels have been observed during field review and little to no appropriate habitat exists within the project area. Therefore, no adverse effects are anticipated.

Florida black bear - is protected in the state of Florida through F.A.C. 68A-4.009. It can be found in heavily wooded terrain; particularly hardwood swamp, cypress swamp, and undisturbed upland forest. The FWC has identified six core and two remnant areas of Florida bear populations: Apalachicola, Big Cypress, Eglin, Ocala, Osceola, St. Johns, Chassahowitzka, and Glades/Highlands, respectively. The proposed project is located outside of the primary and secondary black bear ranges identified by FWC, therefore no adverse effects are anticipated.

3.3 Protected Plant Species (add effect determination language)

Habitats within the project corridor consist of maintained upland areas used for maintenance access, wetland ditches, swales and an assemblage of natural (undeveloped) upland and wetland communities. As a result, some habitat exists within the project corridor for protected plants (See **Table 4**). However, during the field reviews, no protected plant species were observed within the project corridor. Areas to be impacted by the roadway and the proposed stormwater ponds will be re-evaluated for the presence of any federally protected plant species during permitting in the design phase of the project. In addition, portions of the study area are located near potential habitat for rare state protected plant species. State law prohibits the take of any protected plant species from public lands, or the private land of another. Land owners are under no state restrictions for the take of state-listed plants on their own land. If such species are discovered during the design phase, the FDOT will coordinate with the Division of Plant Industry to avoid or minimize harm. Therefore, no adverse effects are anticipated.

Table 4 | Protected Plants and their Potential for Occurrence

Scientific Name	Common Name	Potential for Occurrence	Federal or State Listing	Protection Status
<i>Asplenium erosum</i>	Auricled spleenwort	Low	State	Endangered
<i>Asplenium verecundum</i>	Modest spleenwort	Low	State	Endangered
<i>Centrosema arenicola</i>	Sand butterfly pea	Low	State	Endangered
<i>Dicerandra cornutissima</i>	Longspurred mint	Low	Both	Endangered
<i>Justicia cooley</i>	Cooley’s water-willow	Low	Both	Endangered
<i>Matelea floridana</i>	Florida spiny-pod	Low	State	Endangered
<i>Pecluma plumula</i>	Plume polypody	Low	State	Endangered
<i>Pecluma ptilodon</i>	Swamp plume polybody	Low	State	Endangered
<i>Peperomia humilis</i>	Terrestrial peperomia	Low	State	Endangered
<i>Pteroglossaspis ecristata</i>	Giant orchid	Low	State	Threatened
<i>Spigella loganioides</i>	Pinkroot	Low	State	Endangered
<i>Trichomanes punctatum spp. Floridanum</i>	Florida filmy fern	Low	Both	Endangered
<i>Triphora craigheadii</i>	Craighead’s nodding caps	Low	State	Endangered

4.0 Wetland and Surface Water Features

The jurisdictional extent of wetland and other surface water systems within the study corridor was approximated through the review of aerial photography, National Wetland Inventory (NWI) data, U.S. Geological Survey Topographic Maps (**Figure 3**), Soils Maps (**Figure 4**), Land Use Maps (**Figure 5**), and ground-truthing activities. All figures can be found in the Attachments Section of the report. The wetland limits were identified in general accordance with the United States Army Corps of Engineers' (USACE) Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (November 2010) and the state of Florida's Delineation of the Landward Extent of Wetlands and Surface Waters (Chapter 62-340, Florida Administrative Code). In the event wetland boundaries differed between the two methods, the more landward extent was used to define that particular wetland system's boundary.

Each system observed was classified using the Southwest Florida Water Management District (SWFWMD) Florida Land Use, Cover Classification System (FLUCCS, FDOT, 1999) and further categorized using the Classification of Wetlands and Deepwater Habitats of the United States, (Cowardin, et. al., 1979) as adopted by the USFWS and the NWI. Photographic documentation was used to capture the current condition of each wetland system and Uniform Mitigation Assessment Method (UMAM, Chapter 62-345 F.A.C.) was used to quantify each system's condition.

Wetland communities found within the US 301 corridor study area consists of cypress wetlands, stream and lake swamps, forested mixed wetlands, freshwater marshes, wet prairies, emergent herbaceous wetlands and ditches, which are protected under Executive Order 11990: Protection of Wetlands. The ecosystem structure of the wetland communities and the corresponding wetlands identified within the project corridor are described below and presented in **Figure 6**. Photographs of identified wetland communities can be found in Appendix A.

Within the project corridor the wetland habitat is bordered by agricultural lands, large lot residential, commercial and industrial developments, and pastures. The indications of wildlife utilization include use by avian species including black vulture (*Coragyps atratus*), pileated woodpecker (*Dryocopus pileatus*), sandhill cranes, small and medium-sized mammals including deer (*Odocoileus virginianus*), wild boar (*Sus scrofa*), coyotes (*Canis latrans*), raccoon (*Procyon lotor*) and opossum (*Didelphis virginiana*), and herpetofauna.

The table (**Table 5**) below is a brief depiction of the wetlands and surface waters found within the US 301 corridor, including their FLUCCS code, size and UMAM functional value. The location of each wetland or surface water impacts are depicted on **Figure 6**.

Table 5 | Summary of Wetlands and UMAM Assessment

Wetland ID No.	FLUCCS	NWI Code	Impact (acres)	Impact Delta	Functional Loss
WL-1	615	PFO6	0.87	0.77	0.67
WL-2	615	PFO6	0.47	0.77	0.36
WL-3	630	PFO6	0.45	0.77	0.35
WL-6	615	PFO6	0.22	0.77	0.17
WL-7	615	PFO6	0.50	0.77	0.39
WL-7A	643	PEM1	0.07	0.63	0.04
WL-9	615	PFO6	1.67	0.77	1.29
WL-9A	615	PFO6	0.14	0.77	0.11
WL-11	641	PEM2	0.24	0.63	0.15
WL-12	641	PEM2	0.31	0.63	0.20
WL-13	615	PFO6	0.12	0.77	0.09
WL-14	615	PFO6	0.25	0.77	0.19
WL-21	641	PEM2	0.28	0.63	0.18
WL-22	615	PFO6	0.49	0.77	0.38
WL-23	630	PFO6	0.47	0.77	0.36
WL-25	630	PFO6	0.41	0.77	0.31
WL-26	630	PFO6	0.06	0.77	0.04
SW-1	530	L2EM2	0.09	-	-
TOTALS			7.11		5.28

Wetland 1

Wetland 1 (WL-1) is located at the named creek, Shady Brook, and consists of a large stream and lake swamp associated with the creek. The forested wetland canopy contains red maple, live oak, water hickory, and sweetgum. Groundcover is sparse consisting of saw palmetto, grapevine, and cabbage palm. Soils are sandy and saturated with no standing water.

Surrounding land uses include pastures and agricultural lands to the east and public lands owned by the SWFWMD to the west. Wetland functions include water storage, water conveyance, and vegetative cover for denning and foraging habitat for wetland dependent species.

Wetland 2

Wetland 2 (WL-2) is north of and contiguous to WL-1. The forested wetland canopy contains red maple, live oak, water hickory, and sweetgum. Groundcover is sparse consisting of saw palmetto, grapevine, and cabbage palm. Soils are sandy and saturated but with no standing water.

Surrounding land uses include pastures and agricultural lands to the east and public lands owned by the SWFWMD to the west. Wetland functions include water storage, water conveyance, and vegetative cover for denning and foraging habitat for wetland dependent species.

Wetland 3

Wetland 3 (WL-3) is located approximately 500 feet east of US 301 and CR 525 East intersection. The wetland canopy consists mainly of water tupelo (*Nyssa aquatic*). Ground cover is very sparse due to grazing by cattle. The wetland is connected to other wetland areas via a small swale that is seasonally inundated. Soils are sandy with no standing water observed during the field review, but staining on trees indicated that standing water is present during the wet season.

The surrounding land use is pasture. Wetland functions include water storage and foraging areas for wetland dependent species.

Wetland 6

Wetland 6 (WL-6) is located on the north side of CR 468, just east of the intersection with US 301. The wetland canopy consists mainly of water tupelo with a very sparse groundcover of pasture grasses. Soils are sandy and no standing water observed during the field visit, but staining on trees indicated that standing water is present during the wet season.

The surrounding land use is pasture. Wetland functions include water storage and foraging areas for wetland dependent species.

Wetland 7

Wetland 7 (WL-7) is located east side of US 301 north of NE 41st Lane. The wetland is a freshwater marsh with scattered red maple and laurel oak along the outer edges and spikerush (*Eleocharis* spp.), chalky blue stem (*Andropogon capillipes*), and pickerelweed (*Pontederia cordata*) in the lower areas of the marsh. The wetland appears to be mowed on a regular basis.

The surrounding land use is pasture. Wetland functions include water storage and foraging areas for wetland dependent species.

Wetland 7A

Wetland 7A (WL-7A) is located on the west side of US 301 across from WL-7. The wetland is a freshwater marsh with scattered red maple and laurel oak along the outer edges and spike rush, chalky blue stem, and pickerelweed

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in the lower areas of the marsh. The wetland appears to be mowed on a regular basis. Soils are sandy and standing water was observed during the field reviews.

The surrounding land use is pasture. Wetland functions include water storage and foraging areas for wetland dependent species.

Wetland 9

Wetland 9 (WL-9) is located on the east side of US 301 south of the electrical transmission easement. This forested wetland contains a mix of red maple, sweetgum, slash pine, laurel oak, and water hickory. Soils are sandy and saturated but with no standing water.

Surrounding land uses include upland hardwood and conifer forest. Wetland functions include water storage, foraging and denning for wetland dependent species, and water conveyance.

Wetland 9A

Wetland 9A (WL-9A) is located on the west side of US 301 south of the electrical transmission easement. This forested wetland contains a mix of red maple, sweetgum, slash pine, laurel oak, and water hickory. Soils are sandy and saturated but with no standing water.

Surrounding land uses include upland hardwood and conifer forest. Wetland functions include water storage, foraging and denning for wetland dependent species, and water conveyance.

Wetland 11

Wetland 11 (WL-11) is located on the east side of US 301 approximately 500 feet south of the Florida's Turnpike. This isolated freshwater marsh contains pickerelweed, spike rush and Carolina willow along the outer edge of the wetland. The marsh appears to be isolated from other marshes in the immediate vicinity. Soils are sandy and standing water was observed during the field reviews.

Surrounding land uses include pastures. Wetland functions include water storage, foraging areas for wading birds, and stormwater conveyance.

Wetland 12

Wetland 12 (WL-12) is located on the west side of US 301 across from WL-11. This large freshwater marsh contains cattail (*Typha* spp.), Carolina willow, salt bush (*Baccharis halimifolia*), pickerelweed, wax myrtle (*Myrica cerifera*), chalky bluestem, and cabbage palm. Soils are sandy and standing water was observed during the field reviews. The wetland appears to be connected to a larger forested system that drains north towards the Florida Turnpike.

Surrounding land uses include upland shrub and brush lands. Wetland functions include water storage, foraging areas for wading birds, and stormwater conveyance.

Wetland 13

Wetland 13 (WL-13) is located on the east side of US 301 just south of the Florida's Turnpike. This forested area consists of red maple, sweetgum, slash pine, laurel oak and saw palmetto. Soils are sandy and saturated but with no standing water. The wetland is connected to a larger system to the west via a culvert under US 301.

Surrounding land uses include pastures. Wetland functions include water storage, foraging areas for wading birds, and stormwater conveyance.

Wetland 14

Wetland 14 (WL-14) is located on the west side of US 301 just south of Florida Turnpike. The wetland contains both marsh and forested components. The vegetation is consistent with WL-13, however there is a section of the wetland that was previously cleared and has started to regenerate. Soils are sandy and saturated but with no standing water.

Surrounding land use includes upland forests that were cleared but have been left to regenerate. Wetland functions include water storage, foraging areas for wading birds, and stormwater conveyance.

Wetland 21

Wetland 21 (WL-21) is located within Pond 5A. This freshwater marsh is seasonally inundated and heavily grazed by cattle. Vegetation is very limited with various pasture grasses along the perimeter. Soils are sandy and saturated but with no standing water observed during the field review.

Surrounding land use is pastures. Wetland functions include water storage and foraging habitat for wading birds.

Wetland 22

Wetland 22 (WL-22) is located within FPC5. The pond site includes three areas of forested wetlands that extend off-site to the east. The forested wetlands contain a mix of red maple, sweetgum, slash pine, laurel oak, and water hickory. Soils are sandy and saturated but with no standing water.

Surrounding land uses include upland hardwood and conifer forest. Wetland functions include water storage, foraging and denning for wetland dependent species, and water conveyance.

Wetland 23

Wetland 23 (WL-23) is located within Pond 17B. The wetland appears to be connected to wetlands south of the Florida's Turnpike. The pond site is a forested mix of red maple, sweetgum, laurel oak, water hickory and saw palmetto. Soils are sandy and saturated but with no standing water.

Surrounding land use is pastures. Wetland functions include water storage and foraging habitat for wading birds.

Wetland 25

Wetland 25 (WL-25) is located east side of US 301 north of NE 41st Lane. The wetland is a hardwood forest with red maple, sweetgum and laurel oak. Groundcover is sparse consisting of saw palmetto, grapevine, and cabbage palm. Soils are sandy and saturated but with no standing water.

The surrounding land use is pasture. Wetland functions include water storage and foraging areas for wetland dependent species.

Wetland 26

Wetland 26 (WL-26) is located approximately 2,400 feet east of US 301 and CR 525 East intersection. Ground cover is very sparse due to grazing by cattle. The onsite portion of this wetland consists of a swale that is seasonally inundated. Soils are sandy with no standing water observed during the field review, but staining on vegetation indicated that standing water is present during the wet season.

The surrounding land use is pasture. Wetland functions include water storage and foraging areas for wetland dependent species.

Surface Water 1

Surface Water 1 (SW-1) is a small agricultural pond along the west side of US 301 just south of NE 19th Way. Standing water was present during the field review and maintenance trimming/mowing was evident in the pond.

Surrounding land uses include pastures to the south and peach (*Prunus persica*) orchards to the north. Wetland functions include water storage, water conveyance, and foraging habitat for wading birds.

4.1 Assessment of Potential Impacts

Avoidance and Minimization Strategies (Quality Enhancement Strategies)

The avoidance and minimization of wetland impacts during the PD&E phase of the project include the study of multiple widening options within the five segments of existing roadway, three alignment options within the segment of new right-of-way associated with the realignment, and multiple alternatives for each proposed pond site; for which the full alternative analysis can be found in the Alternatives section of the PER.

The recommended alignment for widening of each segment is described as follows:

- Segment 1 will be widened to the right of the existing roadway and will require approximately 3.2 acres of new right of way. No wetland impacts are anticipated in this segment of the corridor.
- Segment 2 will be widened to the left of the existing roadway and will require 26.6 acres of new right of way. Segment 2 will impact 0.5 acres of wetlands associated with Shady Brook. Since Shady Brook crosses the corridor alignment, the impacts are unavoidable for all widening options. However, clearing of wetlands would be required for construction and long-term shading impacts will occur from the bridge.

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- Segment 3 will be widened to the left side of the existing roadway and will require 13.8 acres of new right of way. Segment 3 could potentially impact 1.03 acres of wetlands that occur within the existing US 301 right-of-way.
- Segment 4 will be widened to the right side of the existing roadway and will require 34.1 acres of new right of way. Segment 4 could potentially impact 5.52 acres of wetlands that occur within the existing US 301 right-of-way.
- Segment 5 will not require new right of way and will not include new travel lanes. Segment 5 could potentially impact 0.21 acres of wetlands that occur within the existing US 301 right-of-way.

The US 301 realignment will require a new roadway alignment (approximately 1.5 miles) linking CR 525 East to CR 468. While the area for the route is currently largely undeveloped, both ends of this segment have impending development that is currently in the permitting process. The Villages Industrial (formerly Wade Industrial) Park and Monarch Ranch are planned for the CR 525 East area while the CR 468 area will be home to the Village of Fenney.

Wetlands and Surface Waters

Wetland (7.02 acres) and surface water (0.09) impacts totaling approximately 7.11 acres are associated with the recommended alternative along the US 301 corridor (**Table 5**). However, all of the surface water impacts are upland cut ditches making them non-jurisdictional to the state. Impacts are needed for the construction of roadway widening and drainage improvements. All build alternatives will require impacts to the existing wetlands and surface waters within the project corridor. The proposed wetland impacts are depicted on **Figures 6-1 – 6-10**.

UMAM Assessment

Mitigation for the estimated wetland impacts was determined using the UMAM, which is a standard procedure for assessing the functions provided by wetlands and other surface waters, the amount that those functions are reduced by a proposed impact, and the amount of mitigation necessary to offset that loss.

During November and December 2016, wetlands that were proposed for impacts associated with proposed right of way and stormwater pond locations had their associated functional loss quantified utilizing UMAM. The field forms are included under **Appendix B**. The summary of wetland impacts and associated functional loss are shown in **Table 5**.

Secondary and Cumulative Wetland Impacts

Wetland impacts associated with the construction of this project may result in secondary impacts to remaining wetlands within and outside the right of way. Potential secondary wetland impacts will be addressed by the FDOT by creating on-site upland buffers averaging 25 feet in width along the wetland boundary. In those areas where buffers cannot be provided, mitigation for secondary impacts will be provided in accordance with Section 373.4137 F.S. Secondary impacts will be calculated during the design phase. Cumulative impacts are not anticipated as a result of this project due to the wetland mitigation occurring within the same drainage basin as the proposed wetland impacts.

Essential Fish Habitat

Impacts to Essential Fish Habitat are not anticipated in conjunction with this project. Coordination with the NMFS during the ETDM screening phase indicated that protected species under the purview of the NMFS will not be impacted with this project and that no further consultation related to the Magnuson-Stevens Fishery Conservation and Management Act is necessary.

Habitat Connectivity

Movement of wildlife for feeding, reproduction, and survival is dependent upon the connectivity of large regionally significant ecosystems, patchiness of such ecosystems, and the specific type of habitats available and utilized by various species of wildlife. Habitat reduction and fragmentation at a variety of spatial scales has been widely acknowledged as a primary cause of the decline of many species. Habitat fragmentation generally leads to smaller and more isolated animal populations. Smaller populations are then more vulnerable to local extinction and they are more susceptible to the negative effects of inbreeding and transmission of disease. To reduce the isolation of habitat fragments, many conservation biologists have recommended maintaining landscape "connectivity" and preserving habitat for movement of species between remaining fragments.

Suitable wildlife habitat, connectivity, and wildlife utilization was qualitatively assessed for large, regionally significant ecosystems outside of the corridor. Data provided by Florida Greenways and Trails Council, FNAI, and FWC was reviewed to determine the location of important linkage areas, specific habitat types, and species occurrences. Coordination with regulatory personnel and biologists with specific regional knowledge or professional experience concerning wildlife habitat utilization was maintained throughout the study process to address the issue of habitat connectivity.

Florida Ecological Greenways Network Critical Linkages (University of Florida, 2002) data shows that high priority habitat was not identified within the study corridor. The Chassahowitzka-Annutteliga Hammock-Green Swamp High priority linkage areas occur just west of the study corridor and generally runs along the Withlacoochee River. The closest public lands within the linkage area to the corridor are lands owned by the SWFWMD associated with Lake Panasoffkee. Therefore, no direct impacts to strategic habitat, critical linkages, Florida Forever projects, or public lands are expected as a result of this project.

Shady Brook connects to the Lake Panasoffkee system of wetlands and surface waters. Alternatives for the crossing of this creek will include use of the existing structure for north bound traffic and a new bridge for southbound traffic. A new bridge may include shelves to accommodate the movement of small animal species along the creek and associated wetlands. A final determination and assessment of the inclusion of wildlife shelves will be made during the permitting phase of the project. Based on the FDOT's Wildlife Crossing Guidelines, no other opportunities exist along the project corridor. The corridor does not contain large tracts of public lands and has not been identified as an area of high wildlife utilization.

4.2 Mitigation

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, Chapter 373, F.S. and 33 U.S.C.s. 1344.

Surface water impacts which will result from the construction of this project will be mitigated through on-site in-kind replacement. The proposed stormwater treatment and conveyance system will maintain existing surface water function. Temporary functional loss will occur during construction, but no permanent direct, secondary or cumulative impact is anticipated.

Optional mitigation available to the project includes the purchase of mitigation credits from the Lake Louisa and Green Swamp Mitigation Bank, Withlacoochee River Mitigation Bank and the Hammock Lake Mitigation Bank. A final mitigation plan for the project will be developed during the design and permitting phase with input from FDOT, SWFWMD and USACE.

4.3 Anticipated Permits

The proposed project is anticipated to require the following permits.

- U.S. Army Corps of Engineers – Individual Dredge and Fill Permit
- U. S. Environmental Protection Agency – National Pollutant Discharge Elimination System
- Southwest Florida Water Management District – Individual Environmental Resource Permit
- Florida Fish and Wildlife Conservation Commission – Gopher Tortoise Conservation Permit

5.0 Coordination

In June 2013, comments from the Environmental Technical Advisory Team (ETAT) were published on the ETDM website. Six ETAT members commented on proposed wetland impacts. The SWFWMD, US Environmental Protection Agency (EPA), and Florida Department of Environmental Protection (FDEP) each applied a minimal degree of effect. The National Marine Fisheries Service (NMFS), USACE and USFWS applied the degree of effect as moderate. Agency comments included the need for wetland delineation, assessment of direct impacts and the assessment of secondary and cumulative impacts and the need to address the potential for increase runoff of stormwater and an increase of pollutants in surface waters and wetlands.

Through the PD&E process, the FDOT has addressed each of these agency issues as documented in this report. Wetland delineation was completed through the established criteria of the USACE and SFWMD, wetland assessments were completed using UMAM, and potential secondary and cumulative impacts were addressed through mitigation within the same drainage basin. The potential of water quality impacts has been addressed through the proposed stormwater management system and will be carried through to construction by following erosion control measures according to FDOT standard methods.

Three resource agencies submitted comments related to wildlife and habitat. The SWFWMD and FWC applied a minimal degree of effect. The USFWS applied a moderate degree of effect. Agency comments included the need for wildlife surveys and coordination during the study phase, implementation of species protection measures during construction, and investigation of opportunities to enhance wildlife connectivity.

The FDOT has addressed each of these agency issues during the study phase. Wildlife surveys were performed by the study team and will be updated during the design and permitting phase to ensure minimal impacts to protected species. FDOT commitments to perform species specific surveys for the Southeastern American kestrel, burrowing owl and sandhill crane and conduct coordination with the FWC during the permitting phase. Gopher tortoise surveys and permitting will also be performed during the permitting phase. Coordination that began through ETDM will be carried through the study phase into design and permitting with the wildlife agencies and appropriate permits obtained during the design and permitting phase. Protection measures for the eastern indigo snake will be implemented during construction to ensure no significant impacts occur to this protected species. Wildlife crossing opportunities were investigated along the corridor, to enhance wildlife movement along the wetlands associated with the creek. No other public lands or natural systems were identified within the corridor that could provide enhanced wildlife movement.

6.0 Conclusions

Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137 Florida Statutes (F.S.) to satisfy all mitigation requirements of Part IV, Chapter 373, F.S. and 33 U.S.C.s. 1344. Under Section 373.4137 F.S., mitigation of FDOT wetland impacts will be implemented by the SWFWMD where the impacts occur. Wetland (7.02 acres) and surface water (0.09) impacts totaling approximately 7.11 acres are associated with the recommended alternative along the US 301 corridor.

Adverse impacts to individual species or regional populations of federal or state protected species or their habitat are not anticipated as a result of the construction of this project. An effect determination of “not likely to adversely affect” was made for the wood stork and eastern indigo snake and “no effect” for the scrub jay, snail kite, bald eagle and the red cockaded woodpecker. This determination is based on results of the USFWS’ determination key, literature review, data research, field surveys and coordination with agency personnel. Per USFWS guidance, a concurrence letter from the USFWS is not required due to the “No Effect” determinations and the use of the effect determination keys.

Further evaluation of suitable habitat will be necessary for specific species (identified in Section 3.0) during the project design phase. If endangered or threatened species or species of special concern are identified within the construction area during design or construction phases, coordination will be initiated with the appropriate resource agencies to avoid or mitigate impacts. Furthermore, standard protection measures developed by the USFWS to address the protection of the eastern indigo snake will be implemented during the design and construction phase.

FDOT will also implement the following actions during later phases of the project:

1. Use of Best Management Practices for erosion control during construction.
2. Conduct gopher tortoise surveys and permitting during the design phase.
3. Update other wildlife and plant surveys during the design phase.

7.0 Commitments

The following commitments will be added to the environmental document relative to wildlife:

- To assure the protection of the Eastern indigo snake during site preparation and construction, the following note will be added as a General Note in the plans:
“Eastern indigo snake habitat has been identified within the project limits. Utilize the US Fish and Wildlife Service’s, Standard Protection Measures for the Eastern Indigo Snake, at the USFWS Link: <https://www/fws.gov/northflorida/indigosnakes/indigo-snake.htm>”
- During permitting, all potential burrowing owl habitat that could be impacted by the project will be systematically surveyed for the presence of this species. If burrowing owls are located and cannot be avoided, coordination and permitting with the FWC will be performed.
- During permitting, a survey for the Southeastern American kestrel will be performed using the most current survey guidelines and in coordination with the FWC.
- Prior to construction, any potential sandhill crane nesting habitat that will be impacted during the nesting season (January-August) will be surveyed for active nest sites to avoid impacts to this species. If a nest is found, coordination will occur with the FWC.

8.0 References

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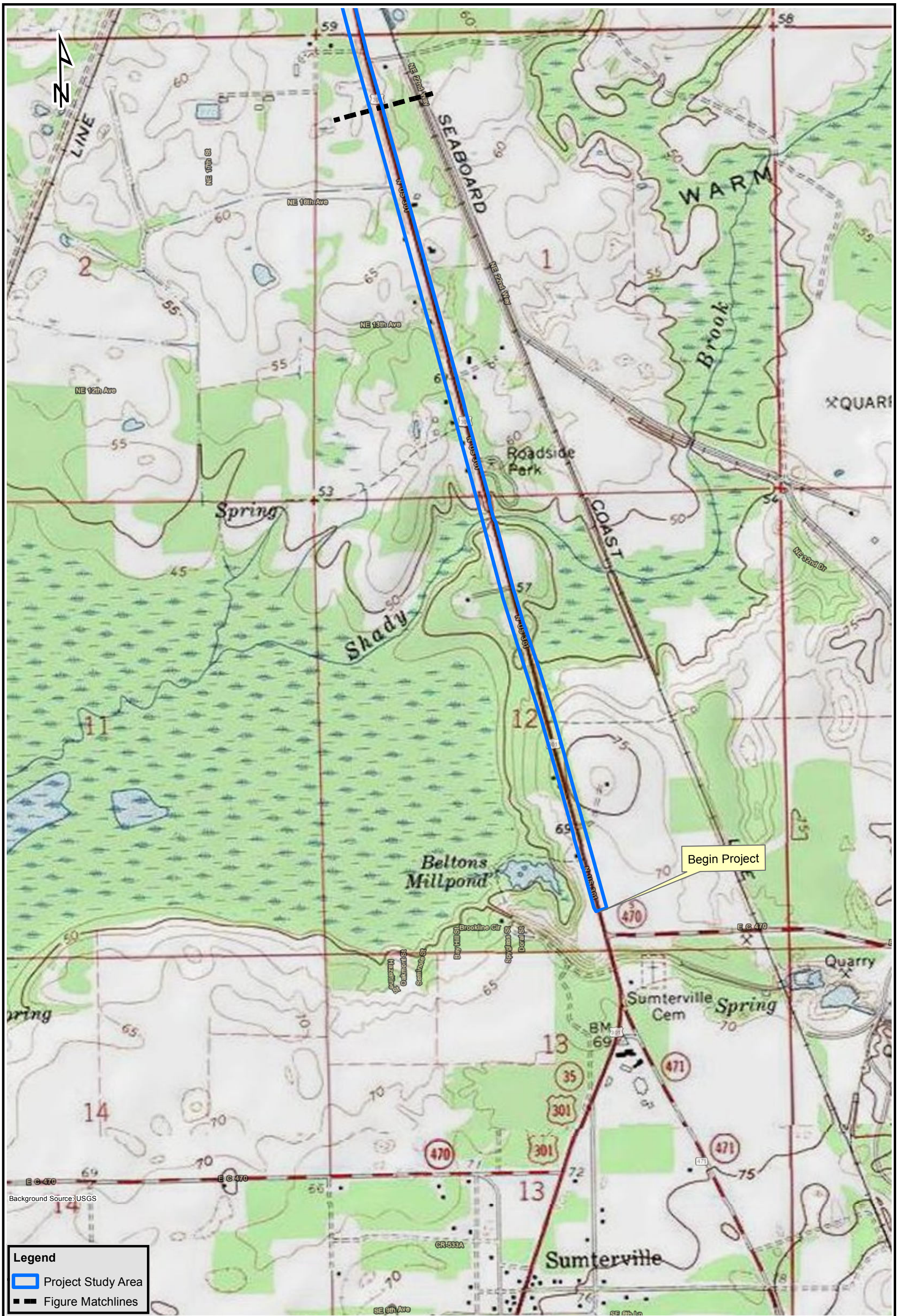
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ATTACHMENTS



Background Source: USGS

Legend

- Project Study Area
- Figure Matchlines



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

U.S. Geological Survey
Topographic Map

SCALE: 1"=1,000' DATE: 12/19/2017

FIGURE
3
Sheet 1 of 3

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Background Source: USGS

Legend

- Project Study Area
- Figure Matchlines



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

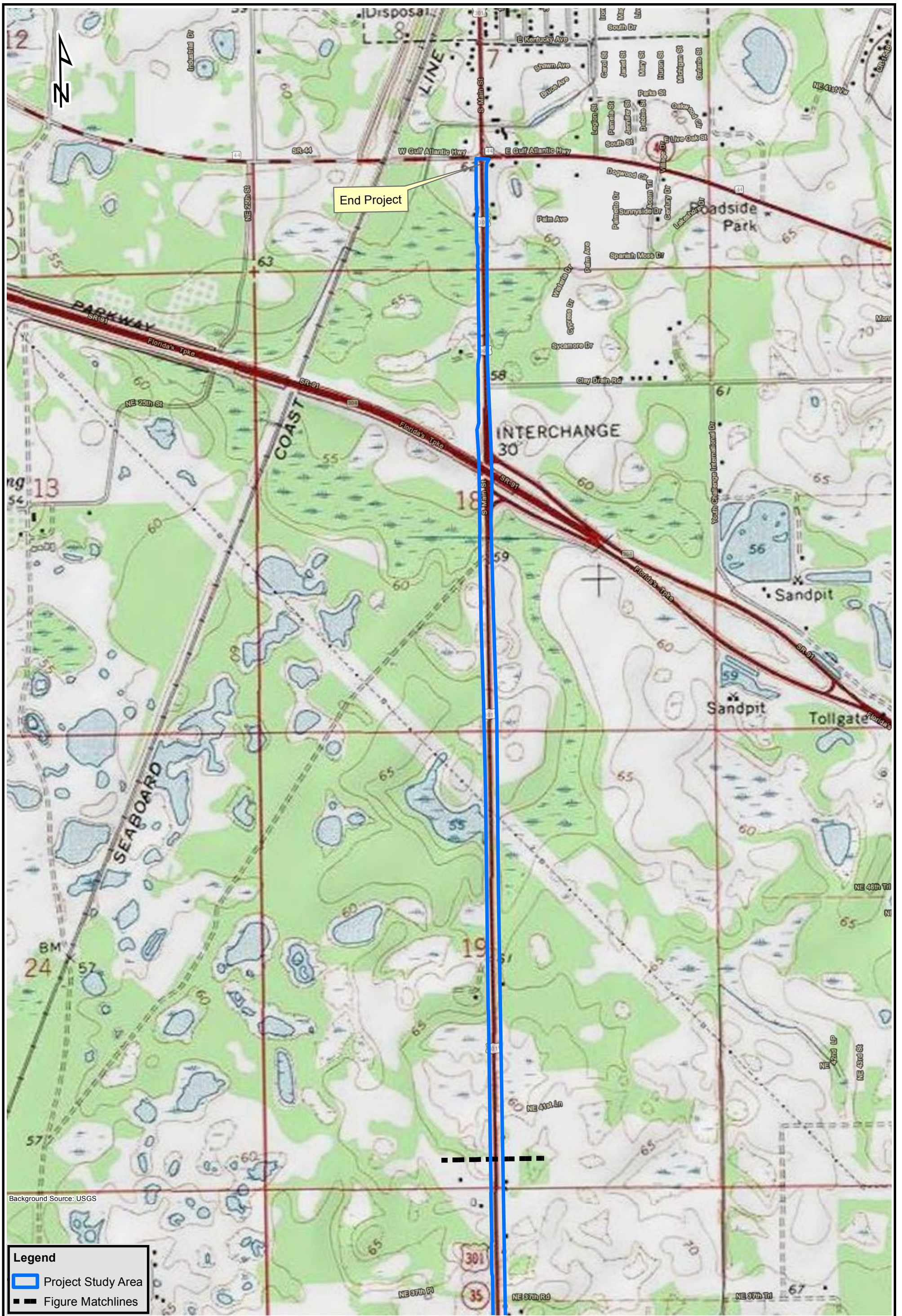
Sumter County, FL

U.S. Geological Survey
Topographic Map

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FIGURE
3
Sheet 2 of 3

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End Project

Background Source: USGS

Legend

- Project Study Area
- Figure Matchlines



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

U.S. Geological Survey
Topographic Map

SCALE: 1"=1,000' DATE: 12/19/2017

FIGURE
3
Sheet 3 of 3

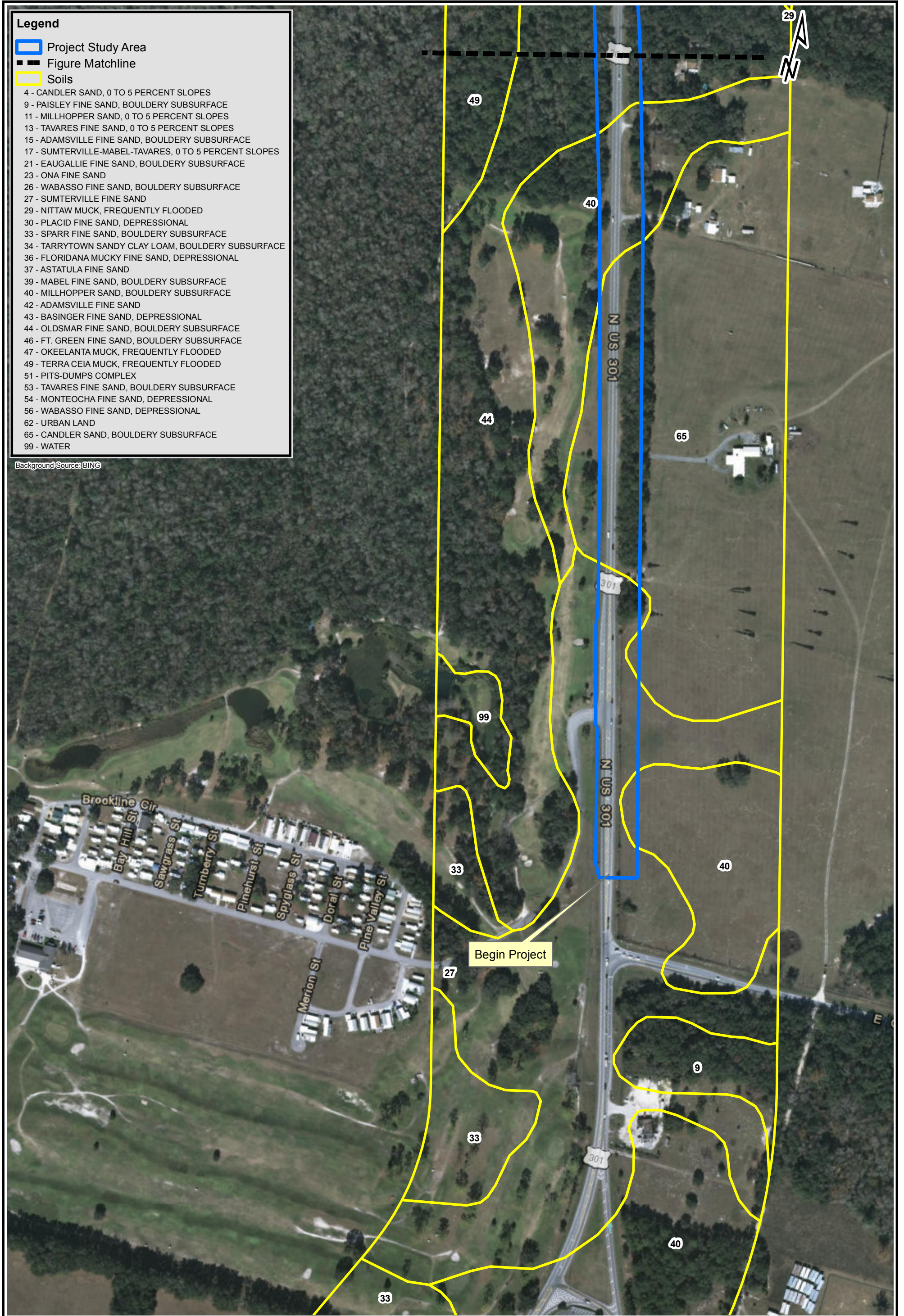
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Legend

- Project Study Area
- Figure Matchline
- Soils

4 - CANDLER SAND, 0 TO 5 PERCENT SLOPES
 9 - PAISLEY FINE SAND, BOULDERY SUBSURFACE
 11 - MILLHOPPER SAND, 0 TO 5 PERCENT SLOPES
 13 - TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES
 15 - ADAMSVILLE FINE SAND, BOULDERY SUBSURFACE
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 54 - MONTEOCHA FINE SAND, DEPRESSIONAL
 56 - WABASSO FINE SAND, DEPRESSIONAL
 62 - URBAN LAND
 65 - CANDLER SAND, BOULDERY SUBSURFACE
 99 - WATER

Background Source: BING



**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Soils Map

FIGURE
4

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Sheet 1 of 10

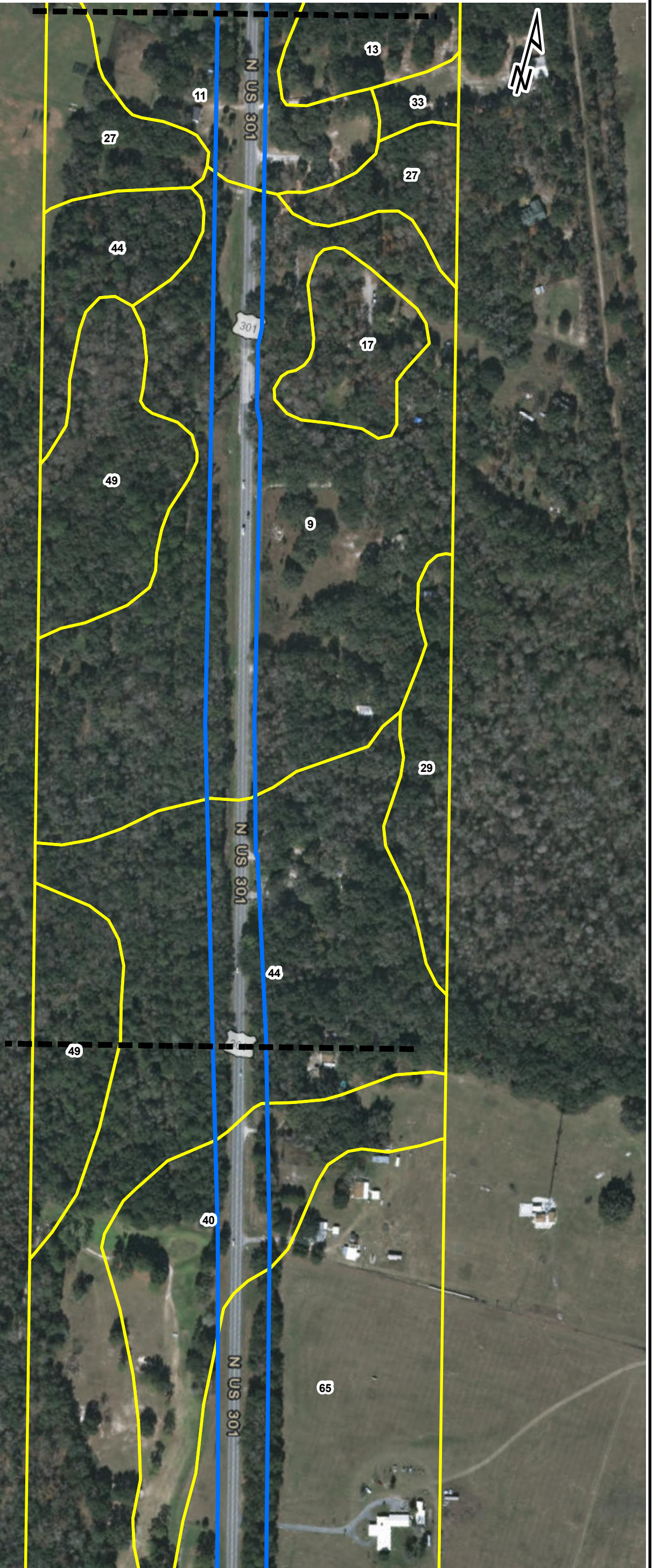
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- Project Study Area
- Figure Matchline
- Soils

- 4 - CANDLER SAND, 0 TO 5 PERCENT SLOPES
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Background Source: BING

Section 12
Township 20S
Range 22E



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Soils Map

FIGURE

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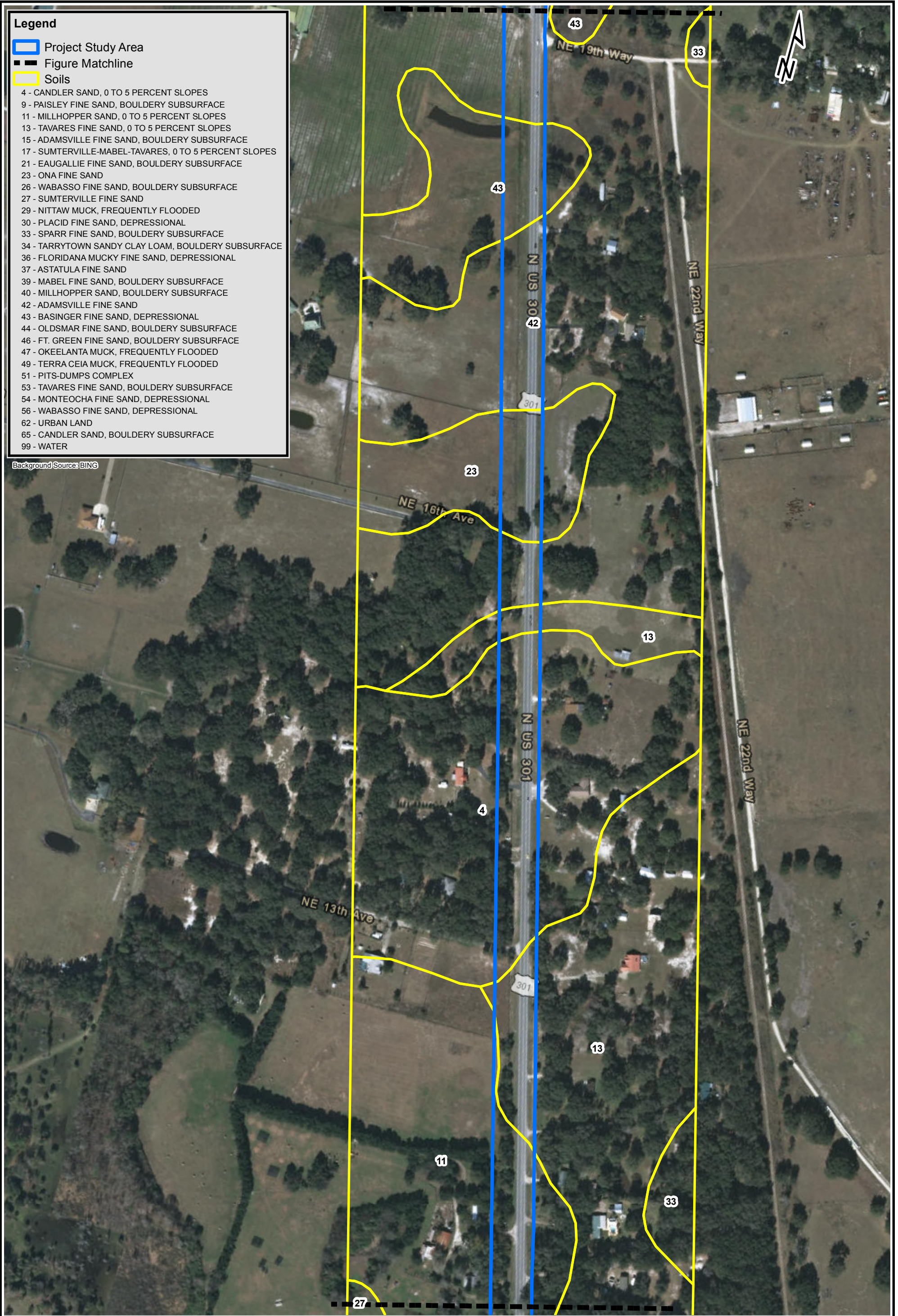
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Legend

- Project Study Area
- Figure Matchline
- Soils

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Background Source: BING



**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Soils Map

FIGURE
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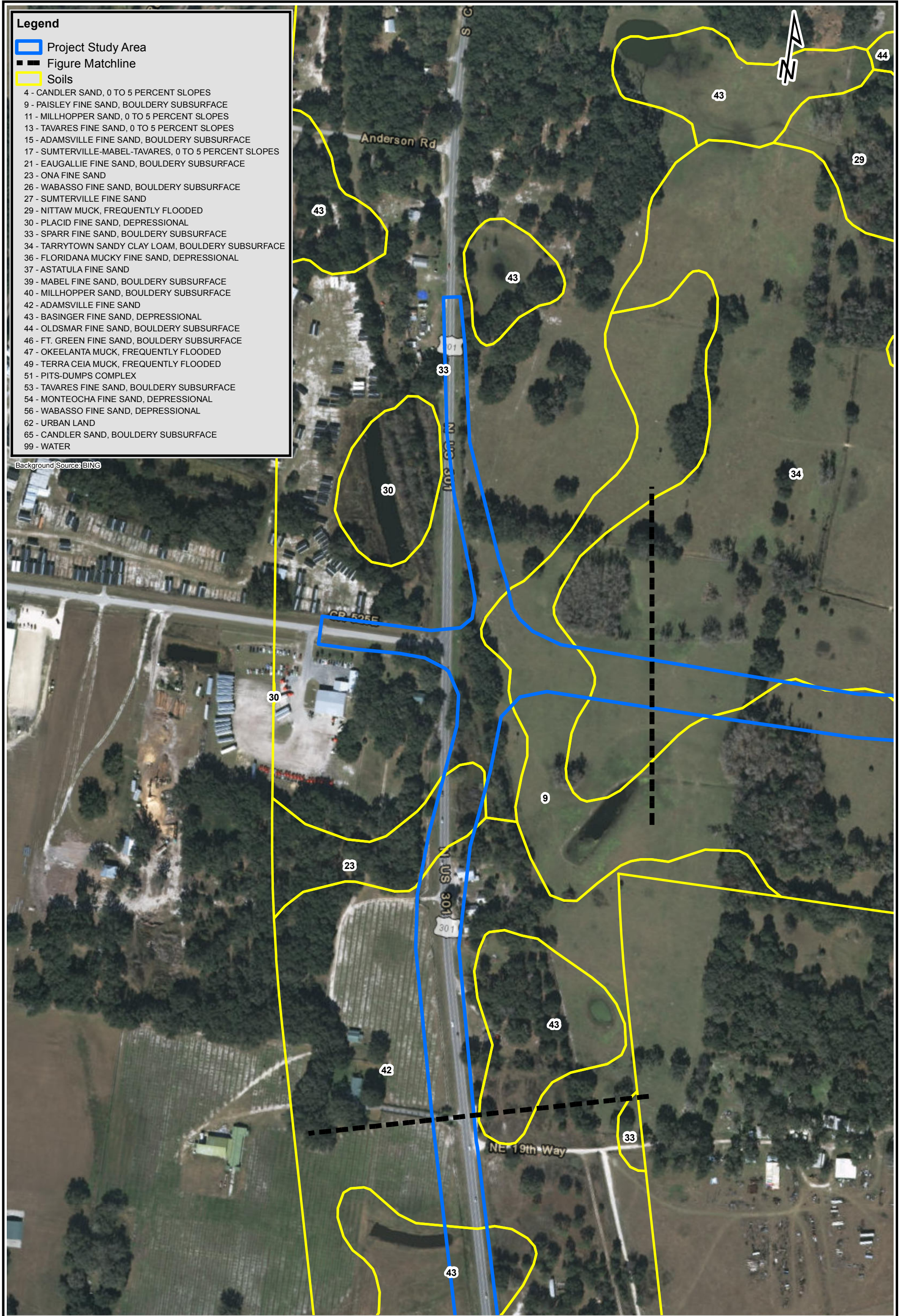
Sheet 3 of 10

Legend

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- Soils

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Background Source: BING



**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Soils Map

FIGURE
4

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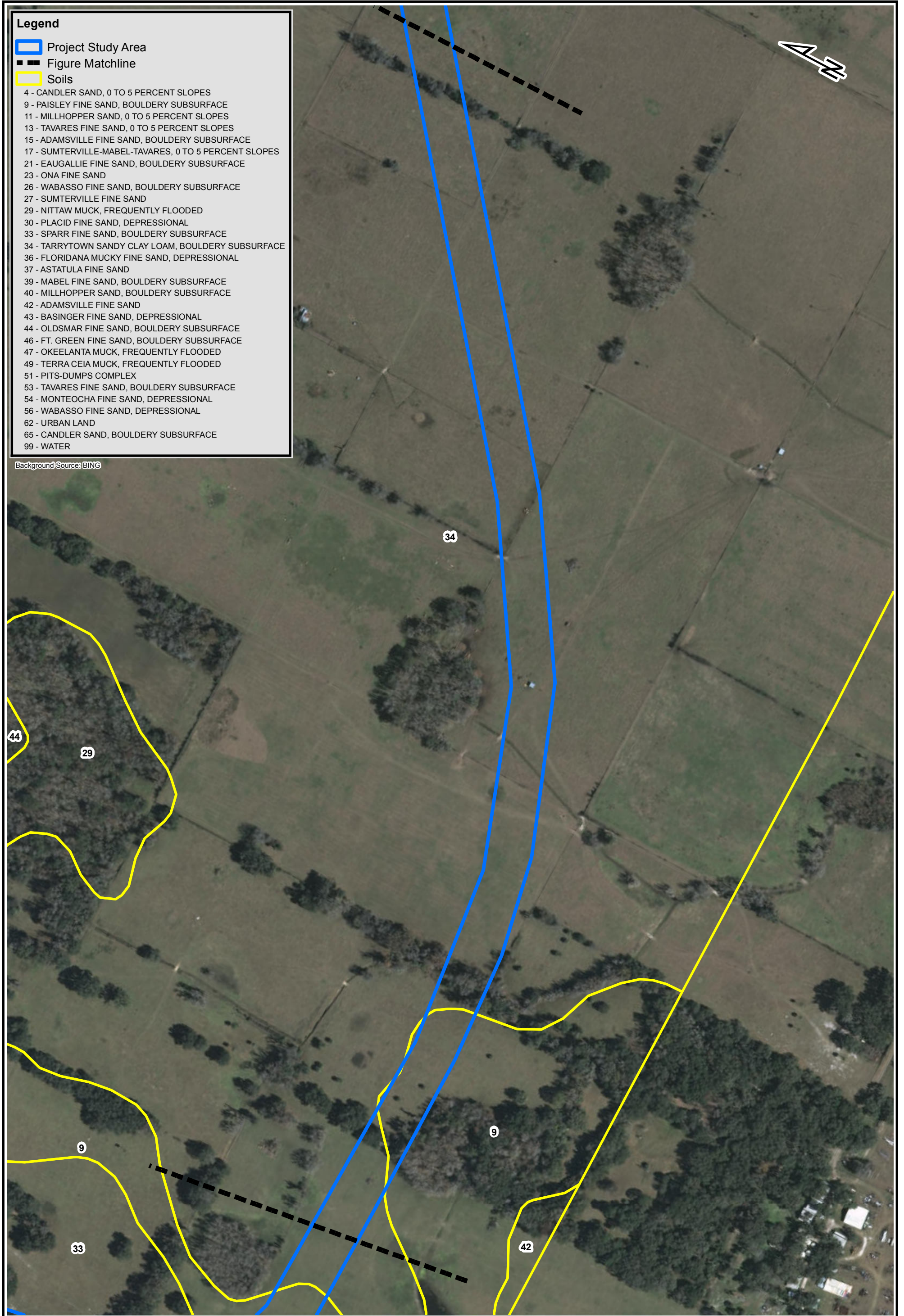
Sheet 4 of 10

Legend

- Project Study Area
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- Soils

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 49 - TERRA CEIA MUCK, FREQUENTLY FLOODED
 51 - PITS-DUMPS COMPLEX
 53 - TAVARES FINE SAND, BOULDERY SUBSURFACE
 54 - MONTEOCHA FINE SAND, DEPRESSIONAL
 56 - WABASSO FINE SAND, DEPRESSIONAL
 62 - URBAN LAND
 65 - CANDLER SAND, BOULDERY SUBSURFACE
 99 - WATER

Background Source: BING



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Soils Map

FIGURE
4

DRAWN BY: LG	CHECKED BY: PS	PROJECT NUMBER: 1-1849-001
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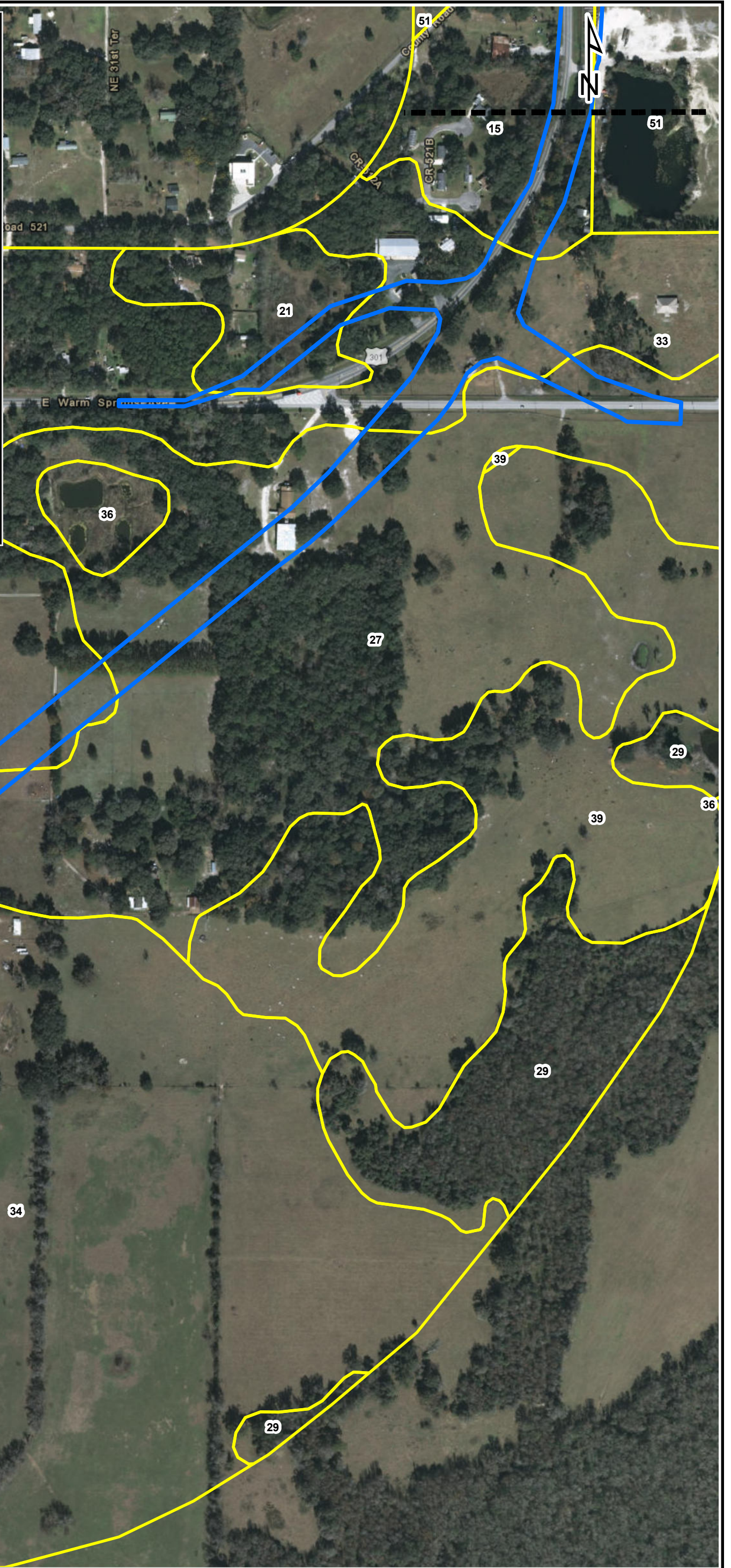
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Sheet 5 of 10

Legend

- Project Study Area
- Figure Matchline
- Soils

- 4 - CANDLER SAND, 0 TO 5 PERCENT SLOPES
- 9 - PAISLEY FINE SAND, BOULDERY SUBSURFACE
- 11 - MILLHOPPER SAND, 0 TO 5 PERCENT SLOPES
- 13 - TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES
- 15 - ADAMSVILLE FINE SAND, BOULDERY SUBSURFACE
- 17 - SUMTERVILLE-MABEL-TAVARES, 0 TO 5 PERCENT SLOPES
- 21 - EAUGALLIE FINE SAND, BOULDERY SUBSURFACE
- 23 - ONA FINE SAND
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Background Source: BING



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Soils Map

FIGURE
4

DRAWN BY: LG	CHECKED BY: PS	PROJECT NUMBER: 1-1849-001
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SCALE: 1"=400'	DATE: 12/19/2017
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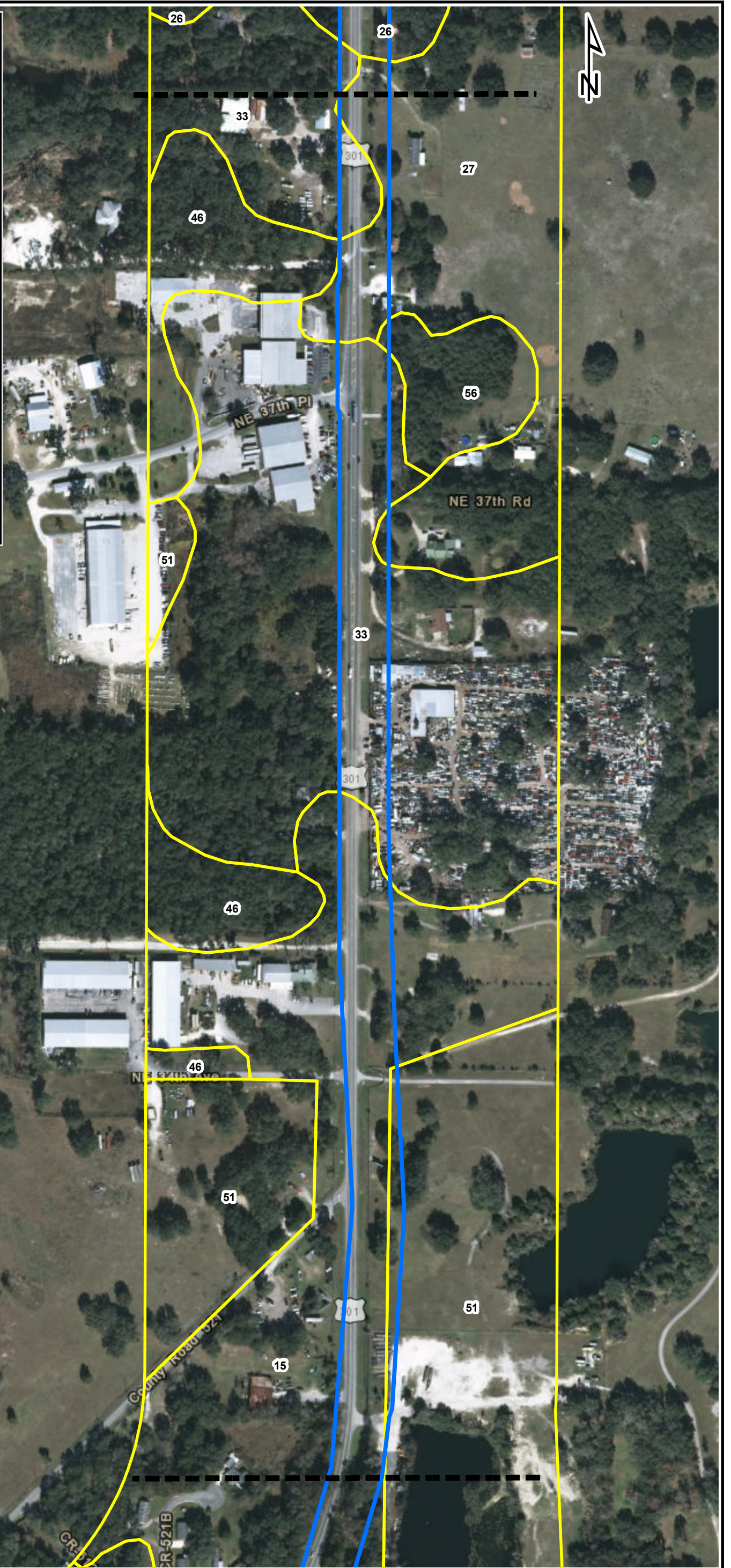
Sheet 6 of 10

Legend

- Project Study Area
- Figure Matchline
- Soils

4 - CANDLER SAND, 0 TO 5 PERCENT SLOPES
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**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Soils Map

FIGURE

4

DRAWN BY: LG	CHECKED BY: PS	PROJECT NUMBER: 1-1849-001
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SCALE: 1"=300'	DATE: 12/19/2017
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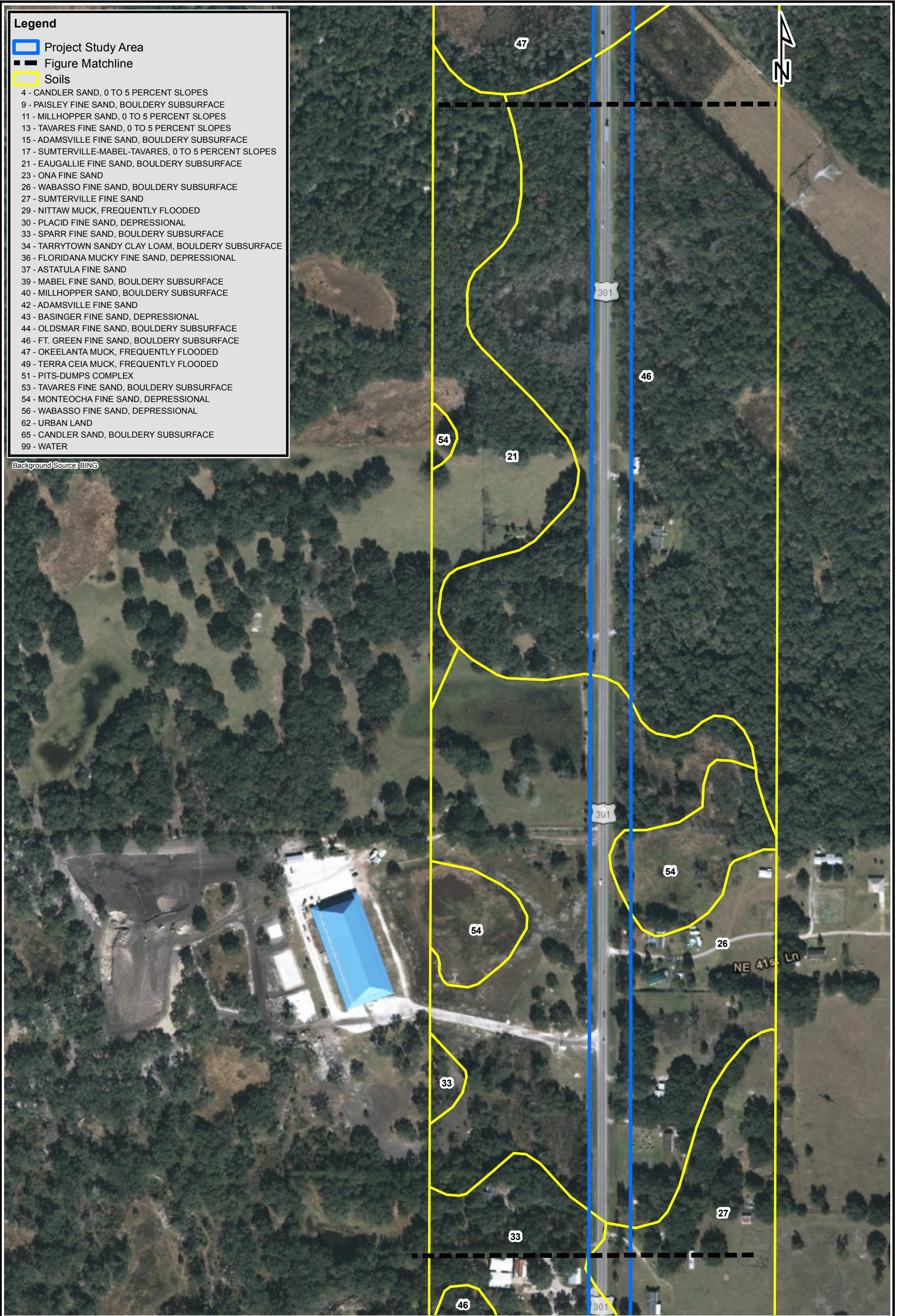
Sheet 7 of 10

Legend

- Project Study Area
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**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Soils Map

FIGURE

4

DRAWN BY: LG CHECKED BY: PS PROJECT NUMBER: 1-1849-001

SCALE: 1"=300' DATE: 12/19/2017

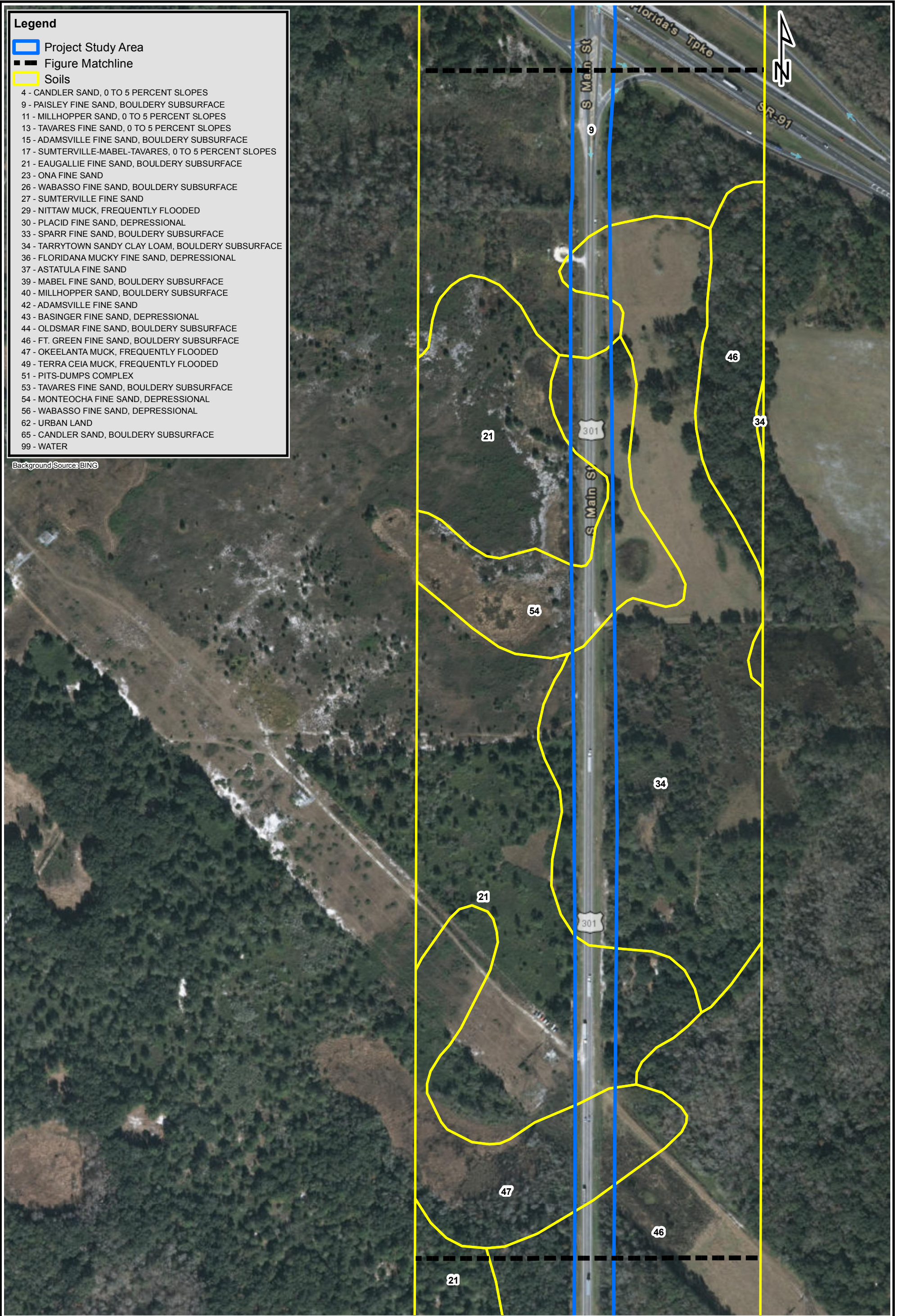
Sheet 8 of 10

Legend

- Project Study Area
- Figure Matchline
- Soils

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**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Soils Map

FIGURE

4

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SCALE: 1"=300' DATE: 12/19/2017

Sheet 9 of 10

Legend

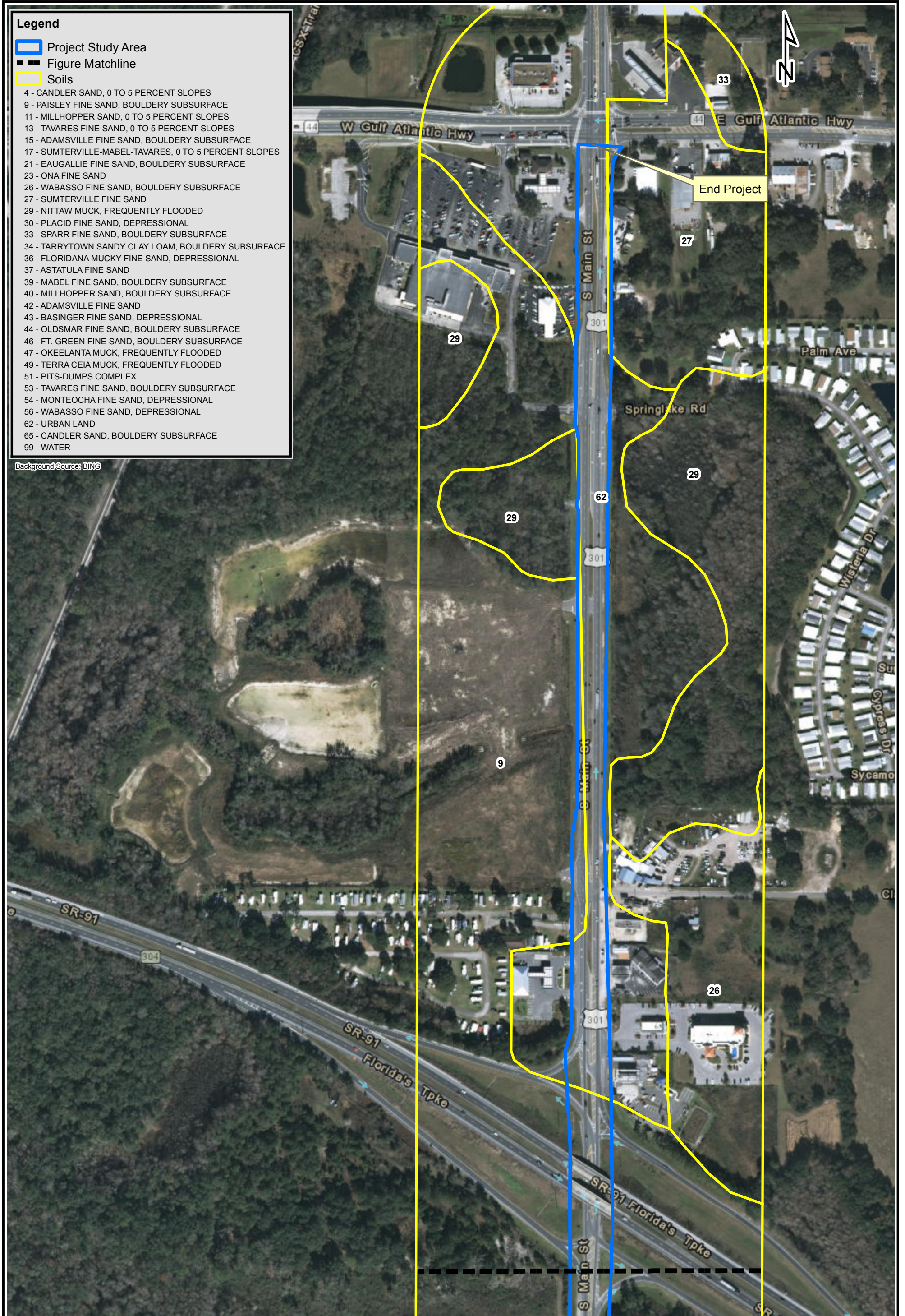
Project Study Area

Figure Matchline

Soils

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Background Source: BING



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Soils Map

FIGURE

4

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SCALE: 1"=300' DATE: 12/19/2017

Sheet 10 of 10

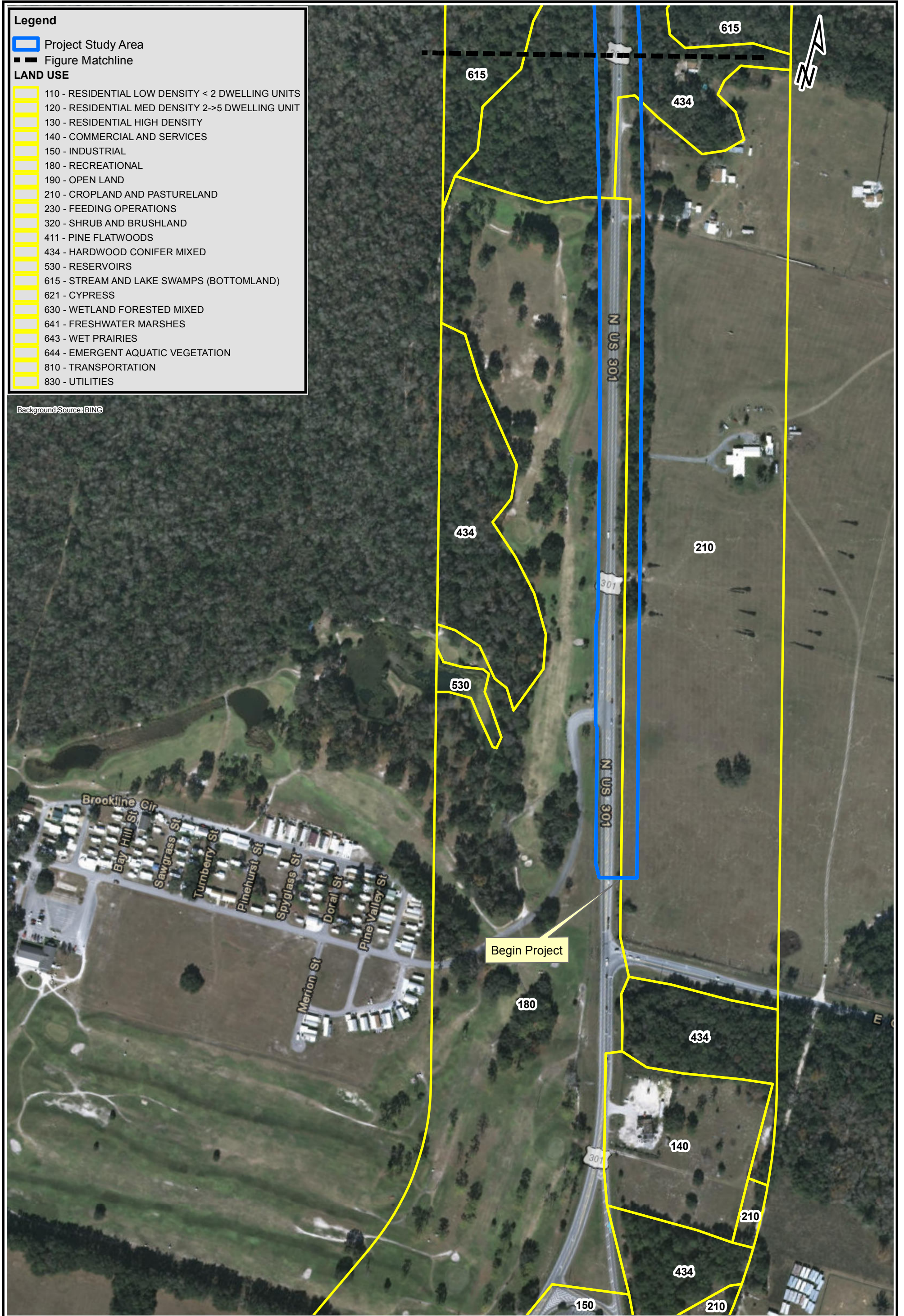
Legend

- Project Study Area
- Figure Matchline

LAND USE

- 110 - RESIDENTIAL LOW DENSITY < 2 DWELLING UNITS
- 120 - RESIDENTIAL MED DENSITY 2->5 DWELLING UNIT
- 130 - RESIDENTIAL HIGH DENSITY
- 140 - COMMERCIAL AND SERVICES
- 150 - INDUSTRIAL
- 180 - RECREATIONAL
- 190 - OPEN LAND
- 210 - CROPLAND AND PASTURELAND
- 230 - FEEDING OPERATIONS
- 320 - SHRUB AND BRUSHLAND
- 411 - PINE FLATWOODS
- 434 - HARDWOOD CONIFER MIXED
- 530 - RESERVOIRS
- 615 - STREAM AND LAKE SWAMPS (BOTTOMLAND)
- 621 - CYPRESS
- 630 - WETLAND FORESTED MIXED
- 641 - FRESHWATER MARSHES
- 643 - WET PRAIRIES
- 644 - EMERGENT AQUATIC VEGETATION
- 810 - TRANSPORTATION
- 830 - UTILITIES

Background Source: BING



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL


Land Use Map


SCALE: 1"=300' DATE: 12/19/2017

FIGURE
5
Sheet 1 of 10






















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Legend

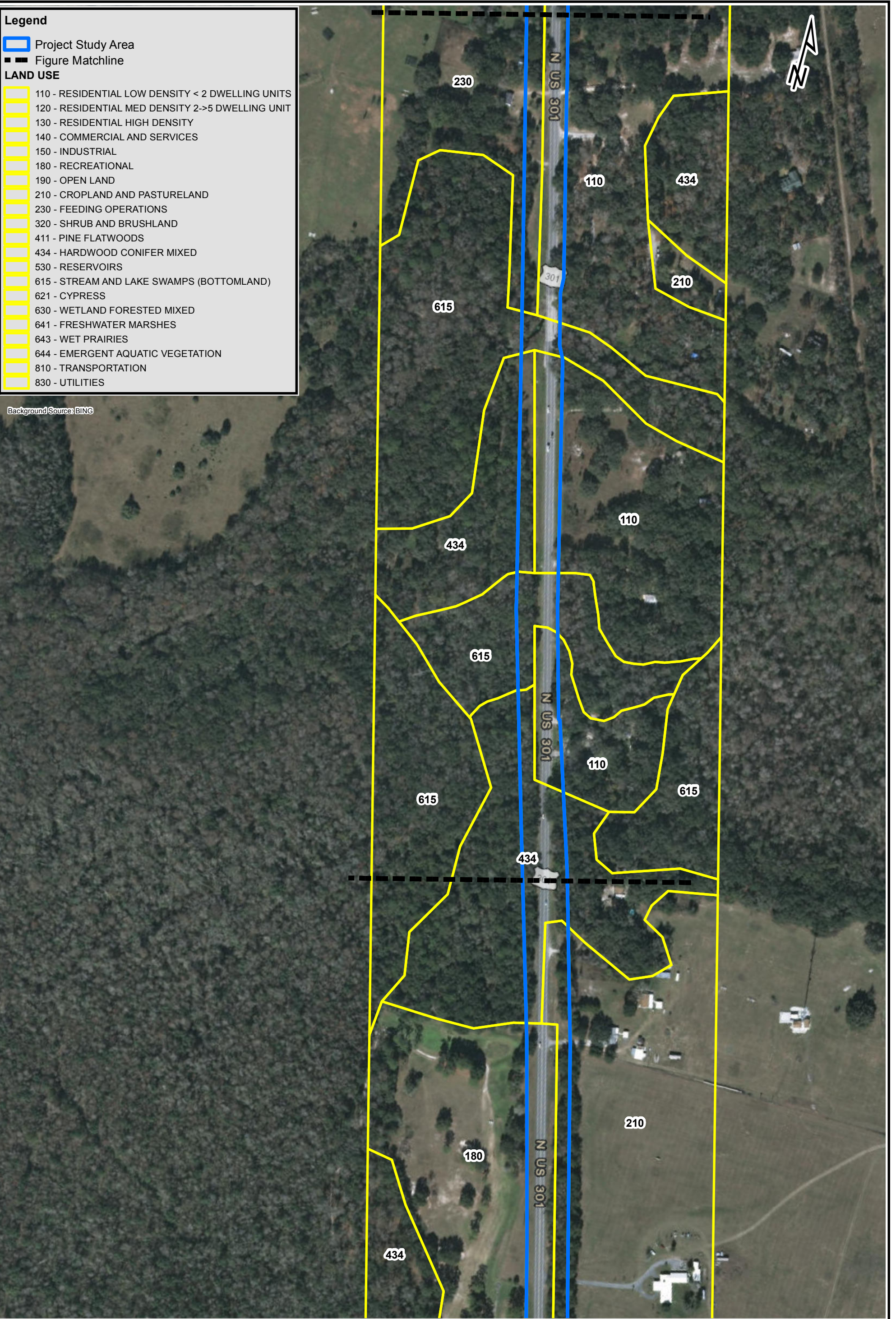

 Project Study Area

 Figure Matchline

LAND USE

-  110 - RESIDENTIAL LOW DENSITY < 2 DWELLING UNITS
-  120 - RESIDENTIAL MED DENSITY 2->5 DWELLING UNIT
-  130 - RESIDENTIAL HIGH DENSITY
-  140 - COMMERCIAL AND SERVICES
-  150 - INDUSTRIAL
-  180 - RECREATIONAL
-  190 - OPEN LAND
-  210 - CROPLAND AND PASTURELAND
-  230 - FEEDING OPERATIONS
-  320 - SHRUB AND BRUSHLAND
-  411 - PINE FLATWOODS
-  434 - HARDWOOD CONIFER MIXED
-  530 - RESERVOIRS
-  615 - STREAM AND LAKE SWAMPS (BOTTOMLAND)
-  621 - CYPRESS
-  630 - WETLAND FORESTED MIXED
-  641 - FRESHWATER MARSHES
-  643 - WET PRAIRIES
-  644 - EMERGENT AQUATIC VEGETATION
-  810 - TRANSPORTATION
-  830 - UTILITIES

Background Source: BING

DRAWN BY: LG	CHECKED BY: PS	PROJECT NUMBER: 1-1849-001
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
**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**


Sumter County, FL

Land Use Map






















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Legend

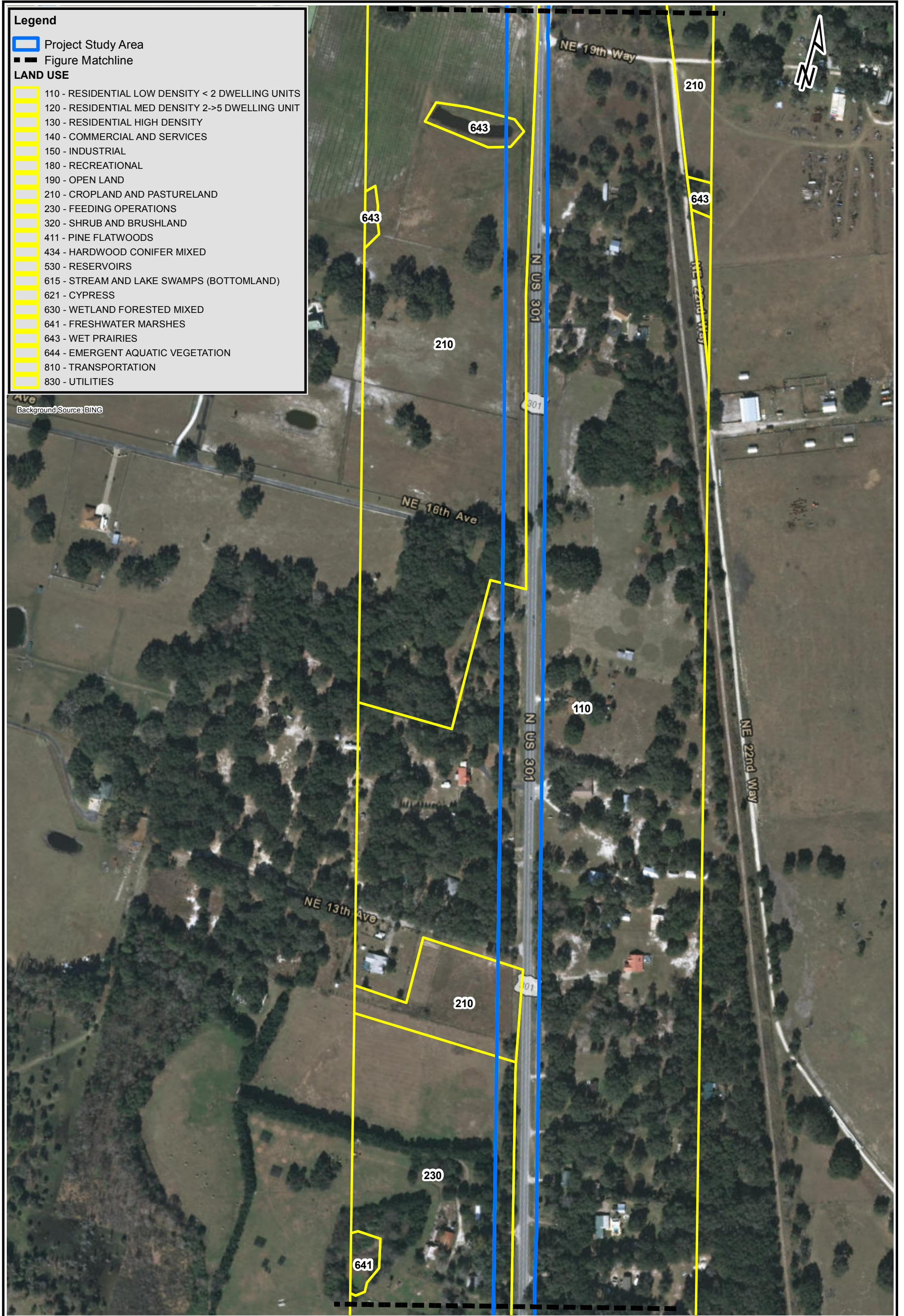
 Project Study Area

 Figure Matchline

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-  643 - WET PRAIRIES
-  644 - EMERGENT AQUATIC VEGETATION
-  810 - TRANSPORTATION
-  830 - UTILITIES

Background Source: BING



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Land Use Map

FIGURE
5

DRAWN BY: LG CHECKED BY: PS PROJECT NUMBER: 1-1849-001

SCALE: 1"=300' DATE: 12/19/2017

Sheet 3 of 10

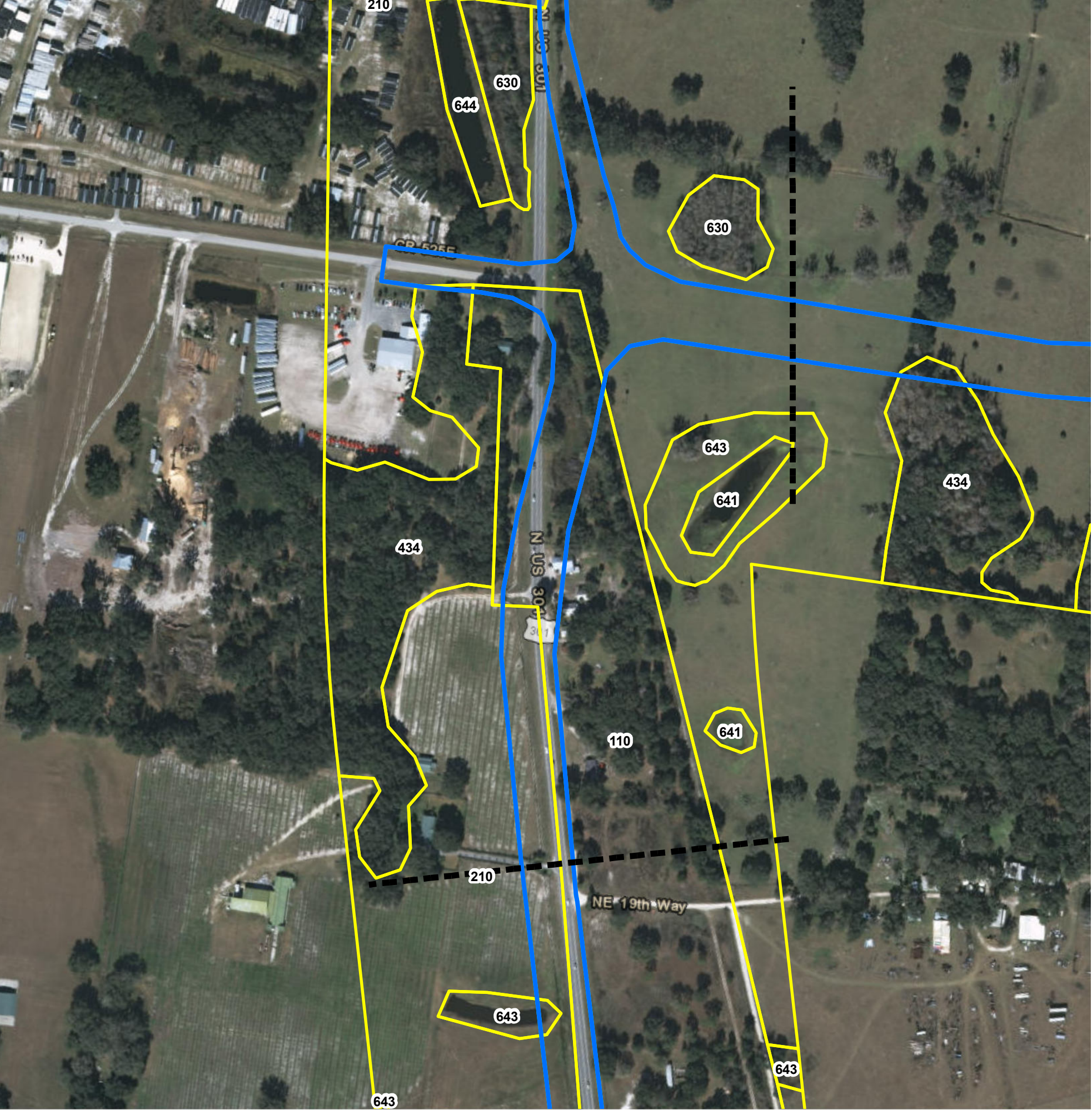
Legend

- Project Study Area
- Figure Matchline

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- 810 - TRANSPORTATION
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Background Source: BING



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Land Use Map


FIGURE
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
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SCALE: 1"=300'	DATE: 12/19/2017
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



















Sheet 4 of 10

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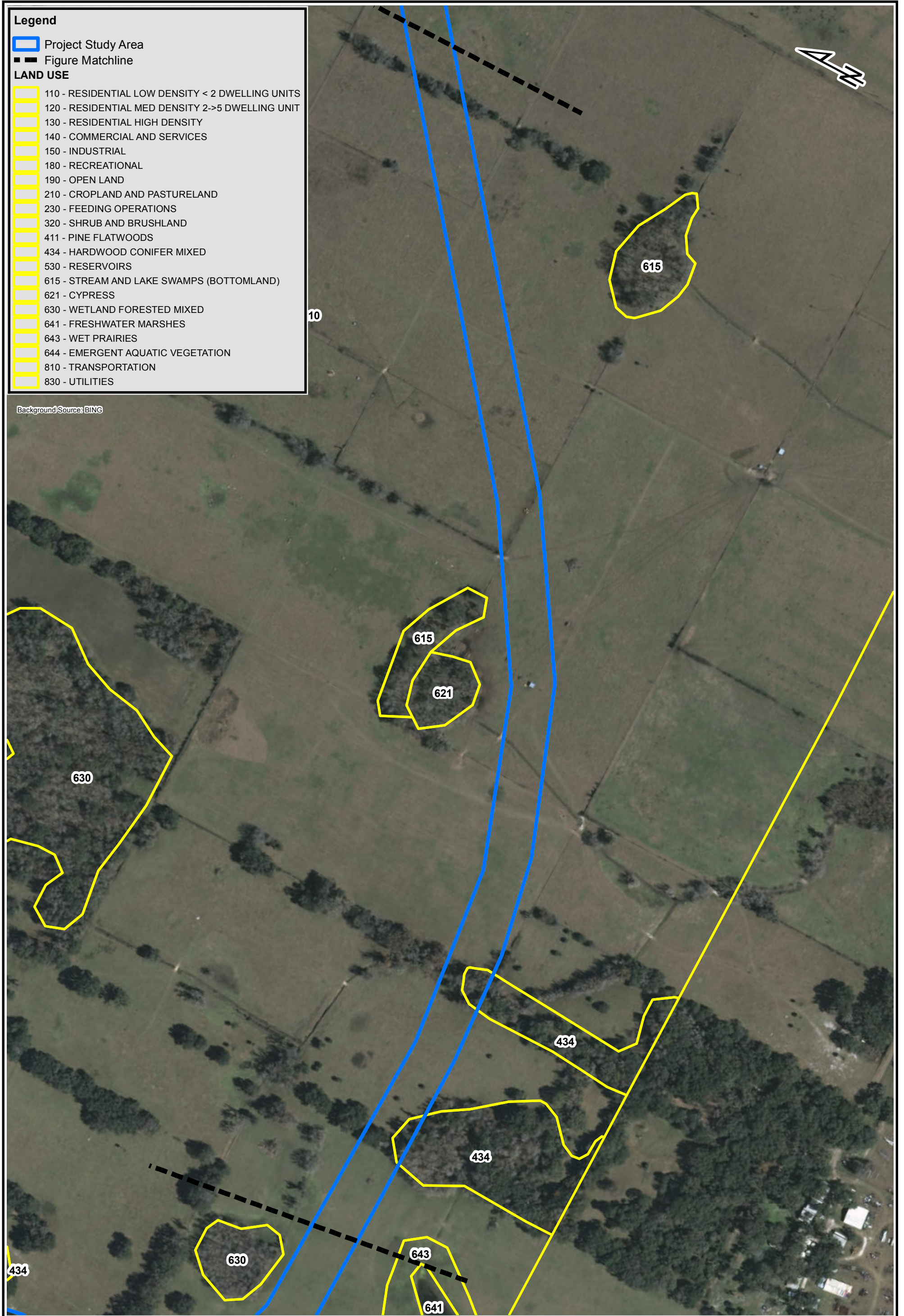
 Project Study Area

 Figure Matchline

LAND USE

-  110 - RESIDENTIAL LOW DENSITY < 2 DWELLING UNITS
-  120 - RESIDENTIAL MED DENSITY 2->5 DWELLING UNIT
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-  621 - CYPRESS
-  630 - WETLAND FORESTED MIXED
-  641 - FRESHWATER MARSHES
-  643 - WET PRAIRIES
-  644 - EMERGENT AQUATIC VEGETATION
-  810 - TRANSPORTATION
-  830 - UTILITIES

Background Source: BING



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Land Use Map

FIGURE
5

DRAWN BY: LG CHECKED BY: PS PROJECT NUMBER: 1-1849-001

SCALE: 1"=300' DATE: 12/19/2017

Sheet 5 of 10

Legend

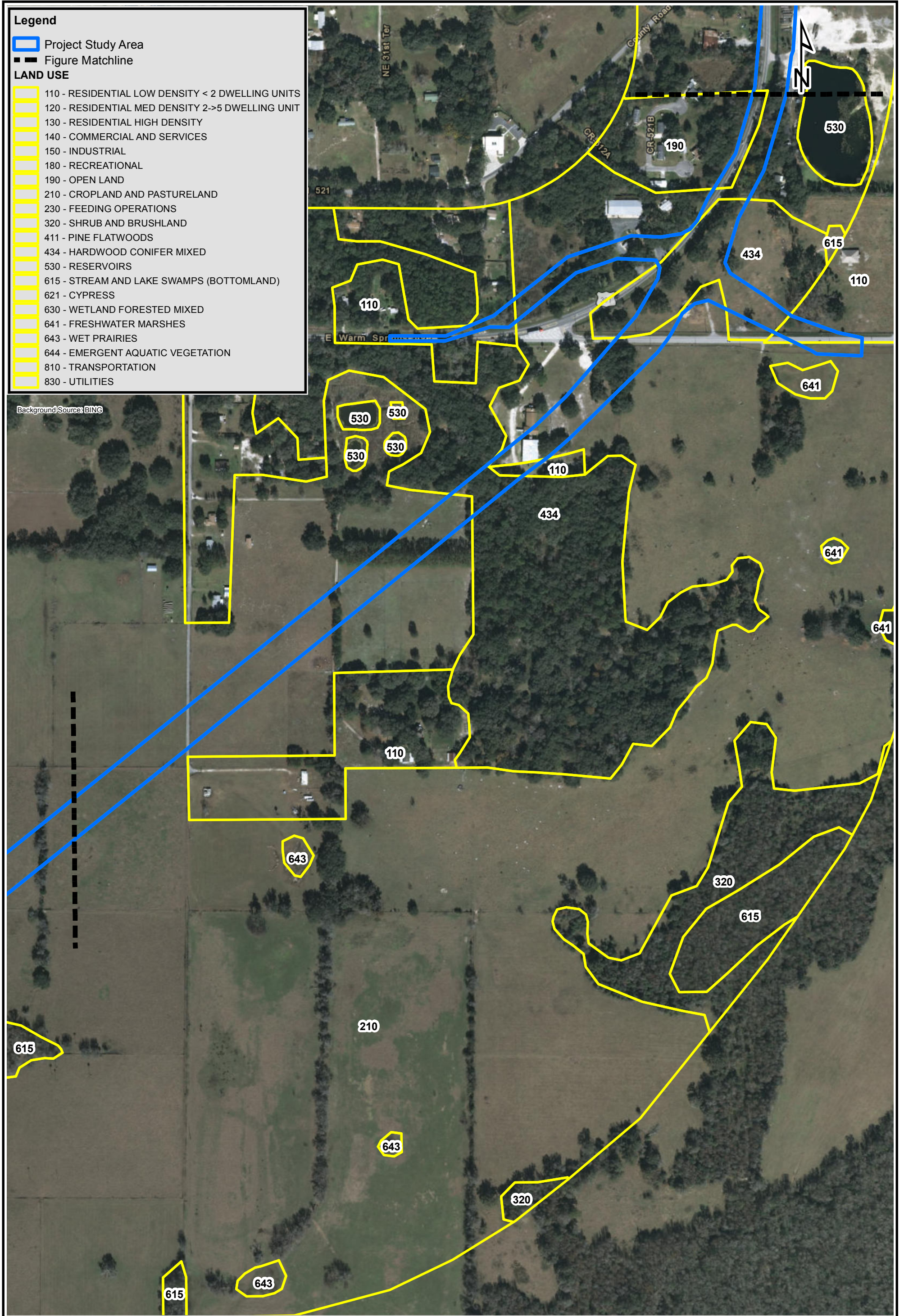
Project Study Area

Figure Matchline

LAND USE

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- 641 - FRESHWATER MARSHES
- 643 - WET PRAIRIES
- 644 - EMERGENT AQUATIC VEGETATION
- 810 - TRANSPORTATION
- 830 - UTILITIES

Background Source: BING



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Land Use Map


FIGURE
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DRAWN BY: LG CHECKED BY: PS PROJECT NUMBER: 1-1849-001

SCALE: 1"=400' DATE: 12/19/2017






















Sheet 6 of 10

Legend

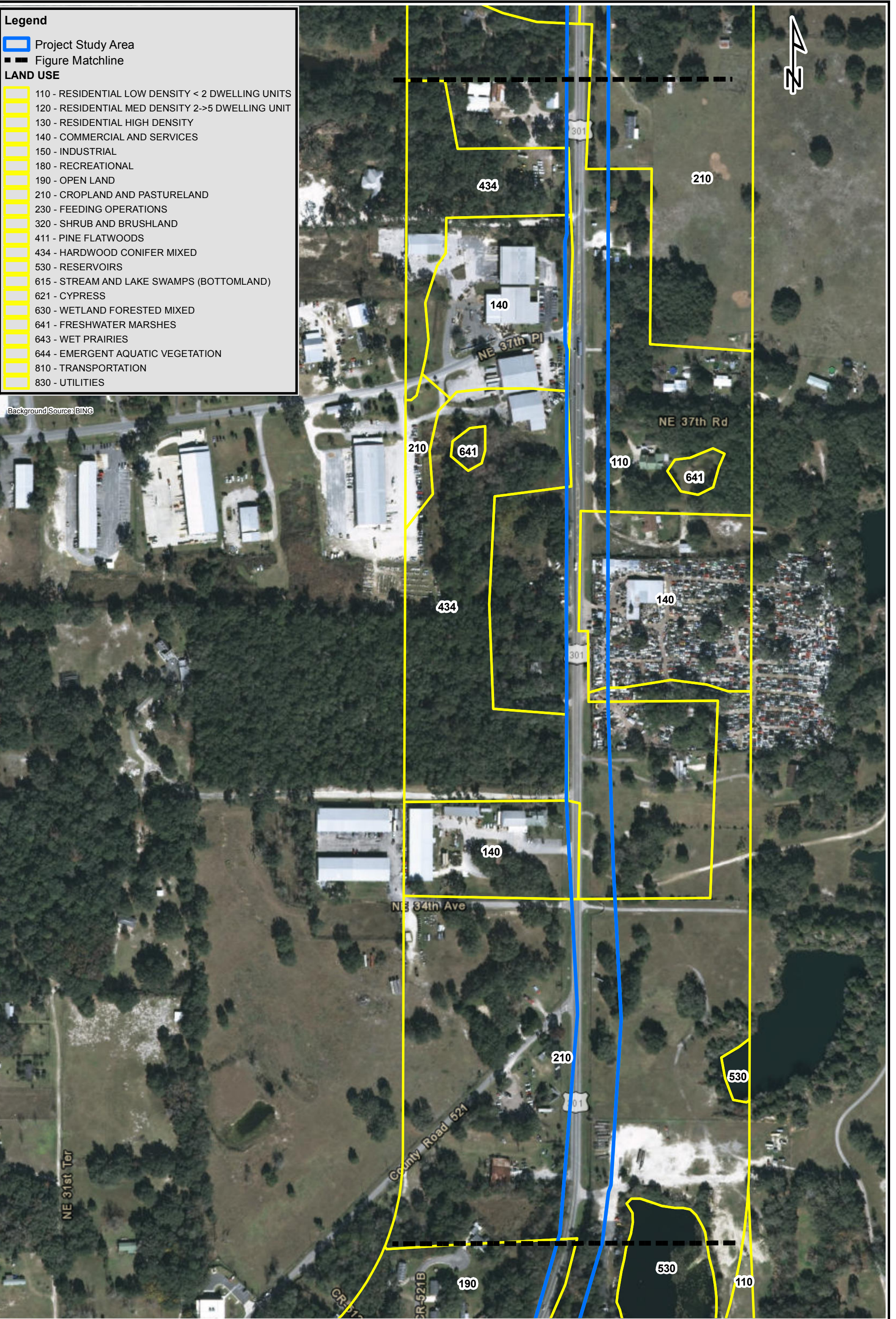
 Project Study Area

 Figure Matchline

LAND USE

-  110 - RESIDENTIAL LOW DENSITY < 2 DWELLING UNITS
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-  810 - TRANSPORTATION
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Background Source: BING



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Land Use Map


FIGURE
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DRAWN BY: LG CHECKED BY: PS PROJECT NUMBER: 1-1849-001

SCALE: 1"=300' DATE: 12/19/2017






















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Legend

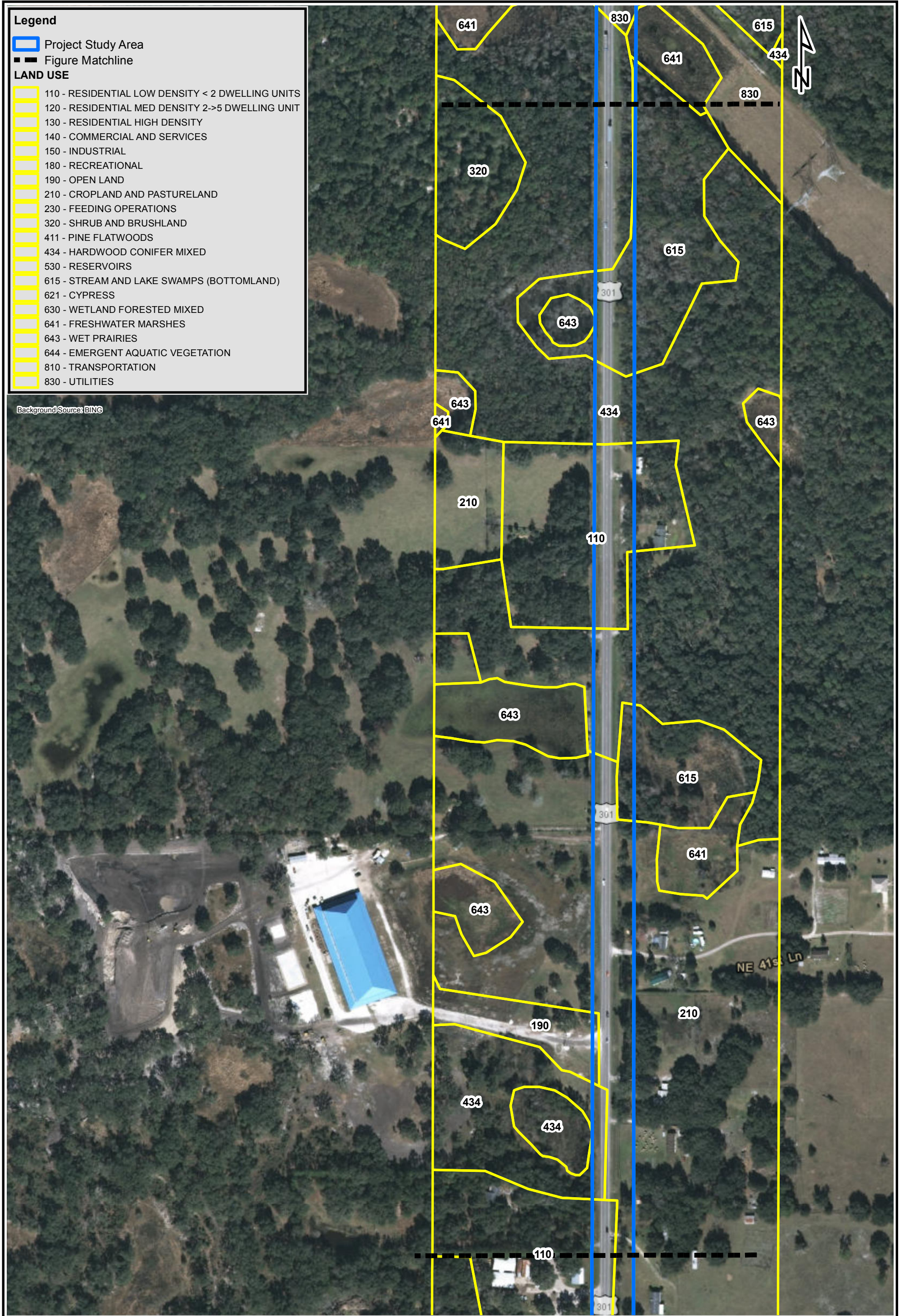
 Project Study Area

 Figure Matchline

LAND USE

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Background Source: BING



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Land Use Map


FIGURE
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
DRAWN BY: LG CHECKED BY: PS PROJECT NUMBER: 1-1849-001

SCALE: 1"=300' DATE: 12/19/2017






















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Legend

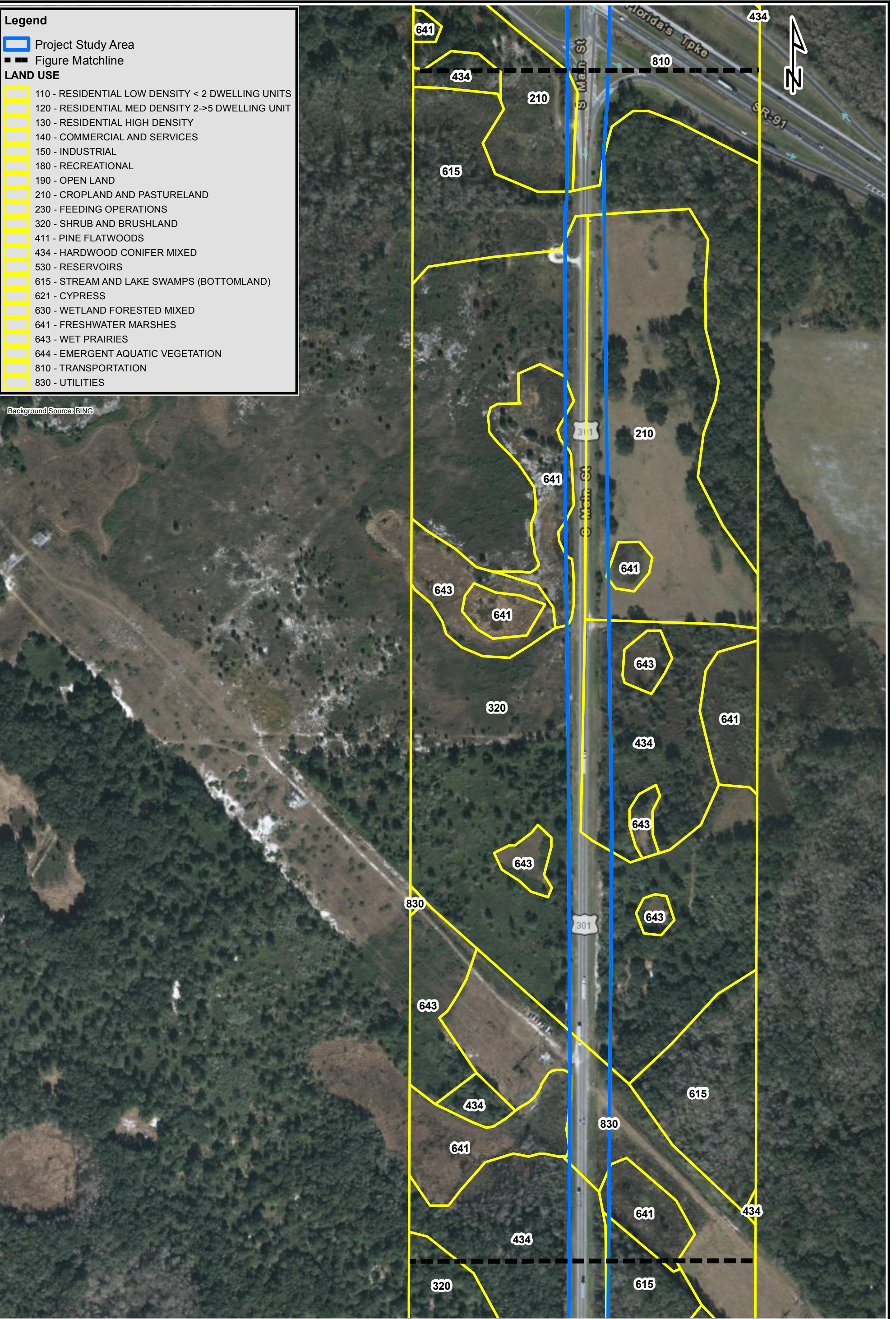

 Project Study Area

 Figure Matchline

LAND USE

-  110 - RESIDENTIAL LOW DENSITY < 2 DWELLING UNITS
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-  810 - TRANSPORTATION
-  830 - UTILITIES

Background Source: BING

DRAWN BY: LG	CHECKED BY: PS	PROJECT NUMBER: 1-1849-001
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
**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**


Sumter County, FL

Land Use Map






















SCALE: 1"=300'	DATE: 12/19/2017
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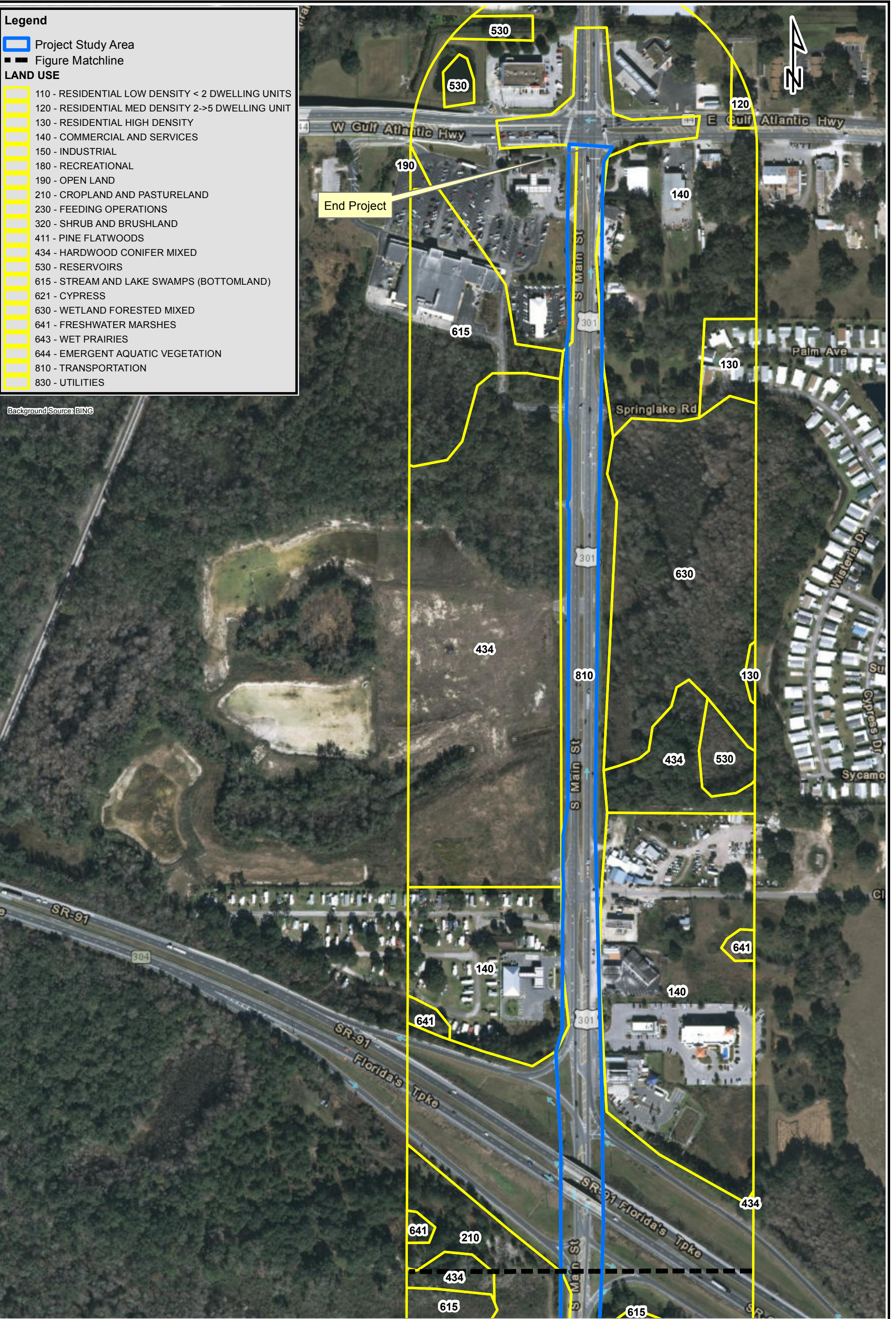
 Project Study Area

 Figure Matchline

LAND USE

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-  830 - UTILITIES

Background Source: BING



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Land Use Map

FIGURE
5

DRAWN BY: LG CHECKED BY: PS PROJECT NUMBER: 1-1849-001

SCALE: 1"=300' DATE: 12/19/2017

Sheet 10 of 10



Background Source: BING

Legend

- Figure Matchline
- Preferred Pond Sites
- Corridor Limits Nov 2017
- Wetland Impacts



DRAWN BY: LG CHECKED BY: PS PROJECT NUMBER: 1-1849-001

**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

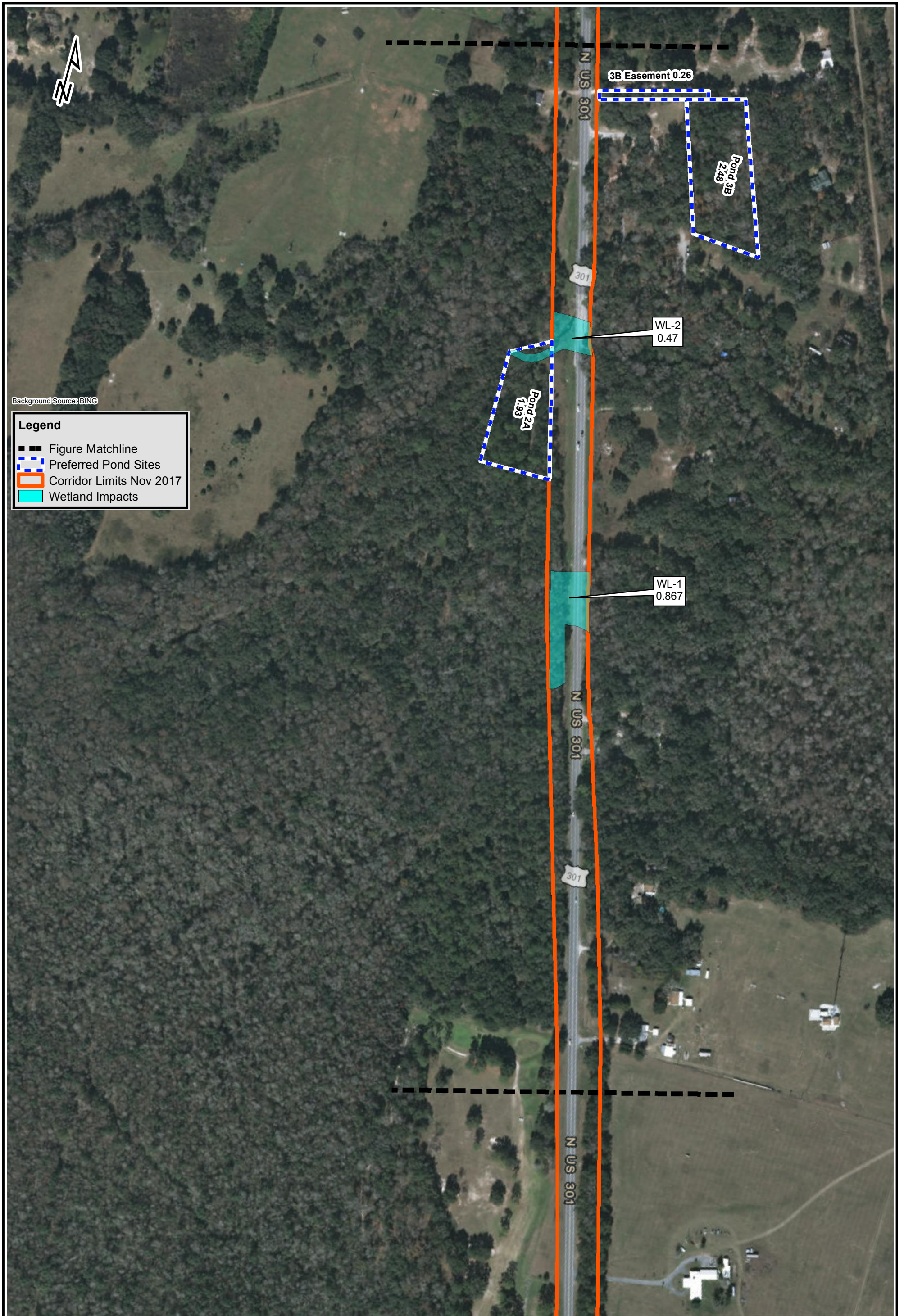
Wetland Impact Map

SCALE: 1"=300' DATE: 12/21/2017

FIGURE

6


Sheet 1 of 10



Background Source: BING

Legend

- Figure Matchline
- Preferred Pond Sites
- Corridor Limits Nov 2017
- Wetland Impacts



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**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Wetland Impact Map

SCALE: 1"=300'	DATE: 12/21/2017
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Background Source: BING

Legend	
	Figure Matchline
	Preferred Pond Sites
	Corridor Limits Nov 2017
	Wetland Impacts



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Wetland Impact Map

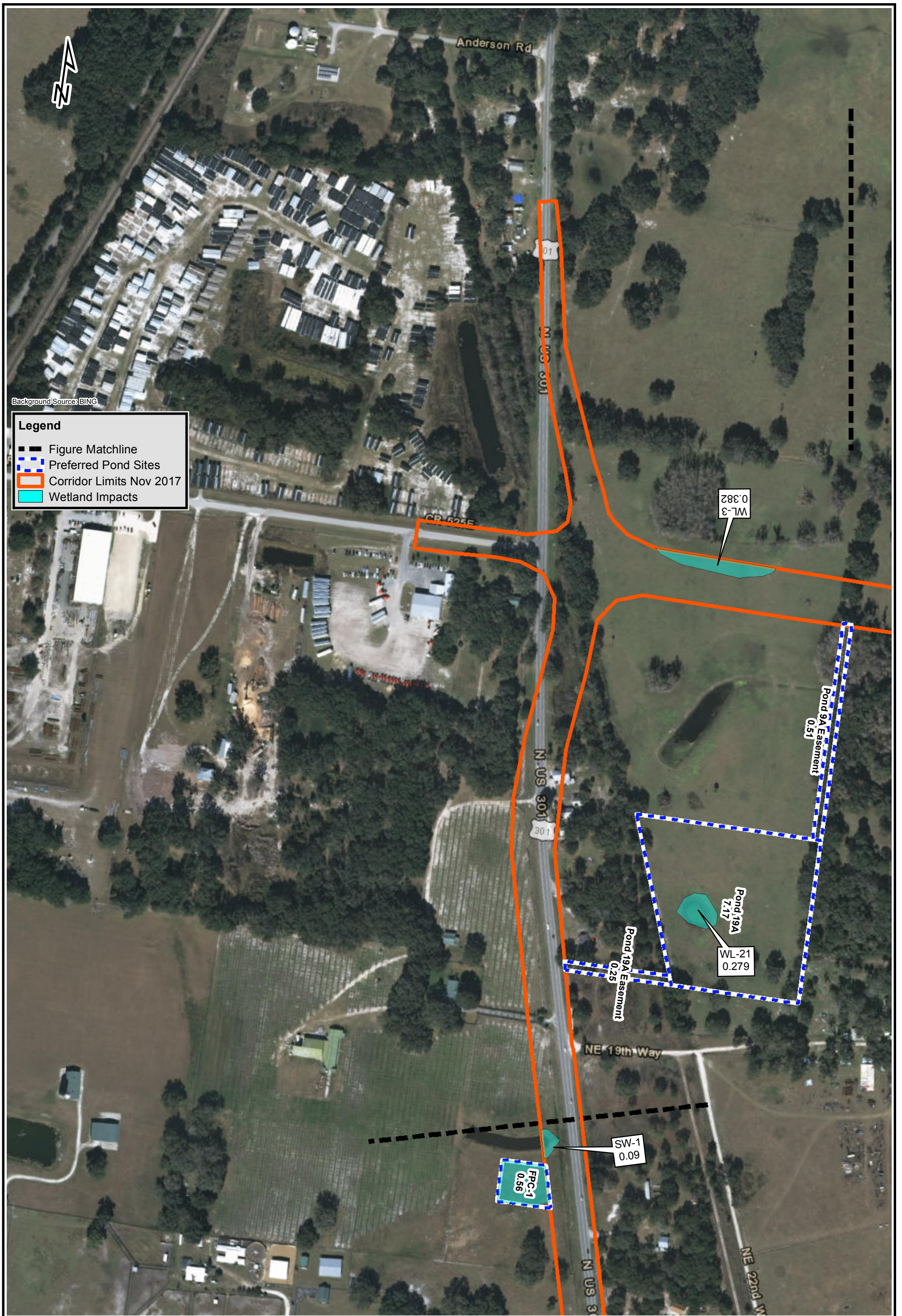
FIGURE

6

DRAWN BY: LG	CHECKED BY: PS	PROJECT NUMBER: 1-1849-001
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SCALE: 1"=300'	DATE: 12/21/2017
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Sheet 3 of 10



Background Source: BING

Legend

- Figure Matchline
- Preferred Pond Sites
- Corridor Limits Nov 2017
- Wetland Impacts

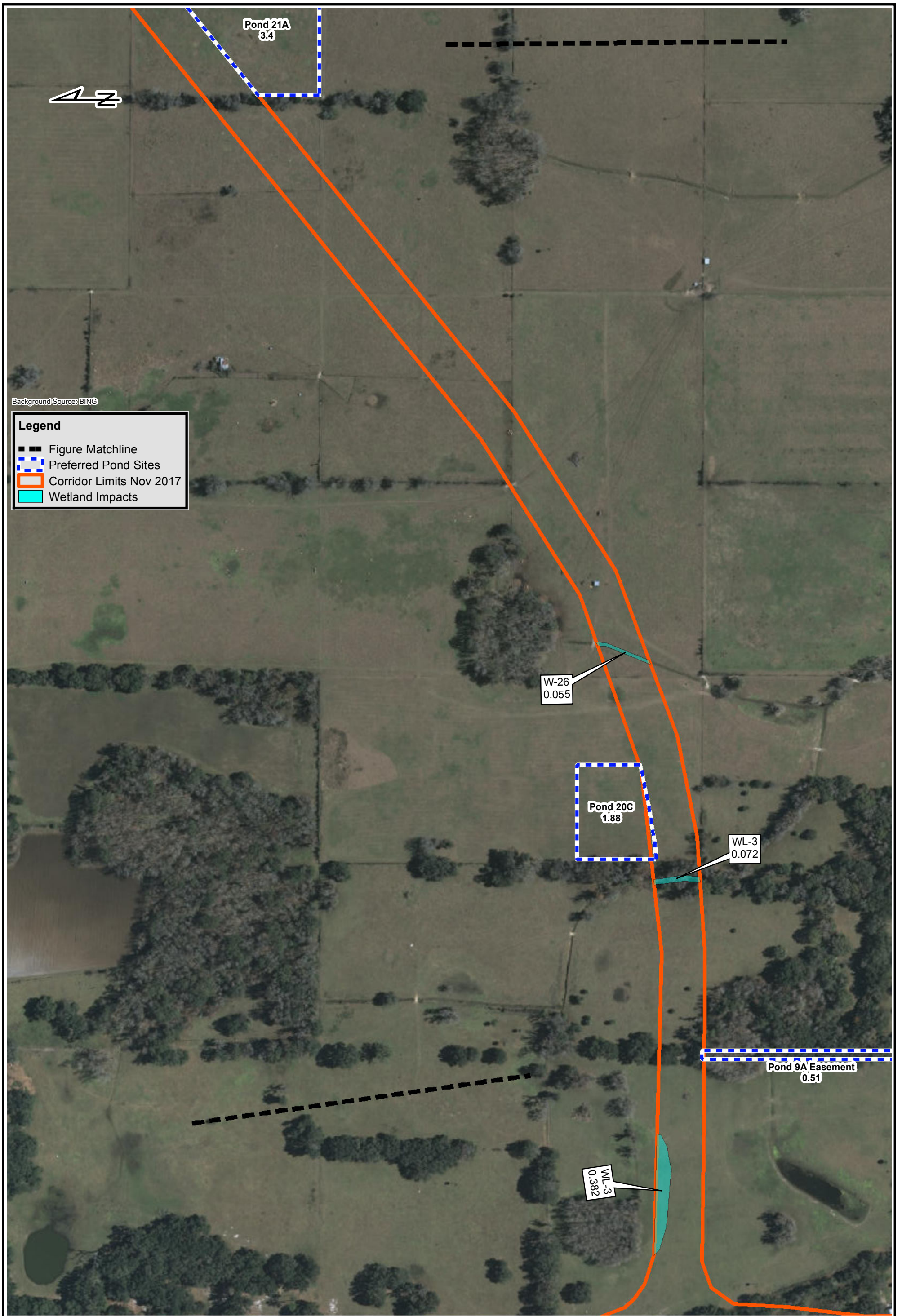
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**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Wetland Impact Map

SCALE: 1"=300'	DATE: 12/21/2017
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Background Source: BING

Legend

- Figure Matchline
- - - Preferred Pond Sites
- Corridor Limits Nov 2017
- Wetland Impacts

DRAWN BY: LG
 CHECKED BY: PS
 PROJECT NUMBER: 1-1849-001

**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Wetland Impact Map

SCALE: 1"=300'
 DATE: 12/21/2017

FIGURE
6
 Sheet 5 of 10



Background Source: BING

Legend

- Figure Matchline
- Preferred Pond Sites
- Corridor Limits Nov 2017
- Wetland Impacts



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Wetland Impact Map

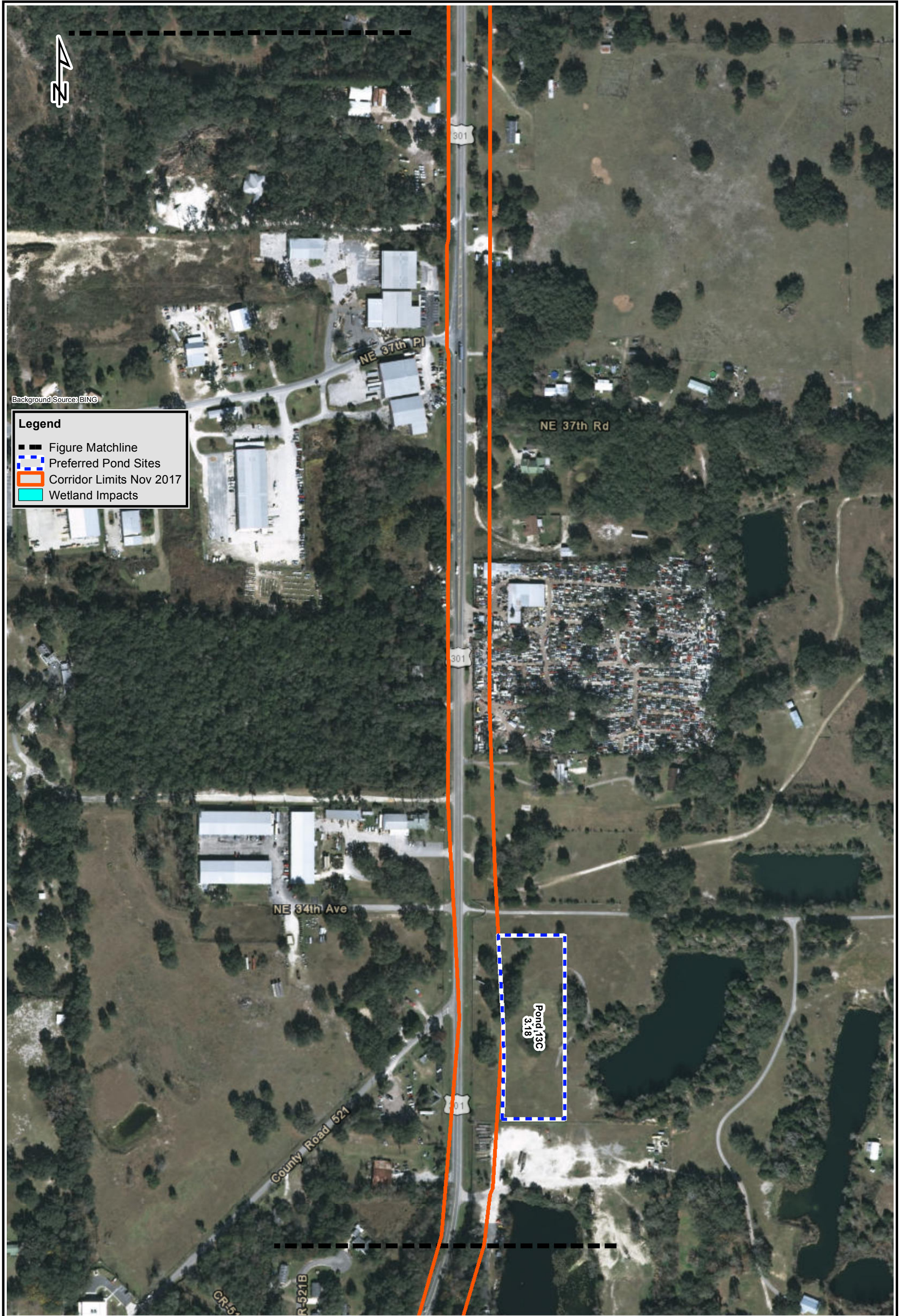
FIGURE

6

Sheet 6 of 10

DRAWN BY: LG	CHECKED BY: PS	PROJECT NUMBER: 1-1849-001
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SCALE: 1"=400'	DATE: 12/21/2017
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Background Source: BING

Legend

- Figure Matchline
- Preferred Pond Sites
- Corridor Limits Nov 2017
- Wetland Impacts



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Wetland Impact Map

SCALE: 1"=300' DATE: 12/21/2017

FIGURE

6

Sheet 7 of 10

DRAWN BY: LG CHECKED BY: PS PROJECT NUMBER: 1-1849-001



Background Source: BING

Legend

- Figure Matchline
- Preferred Pond Sites
- Corridor Limits Nov 2017
- Wetland Impacts

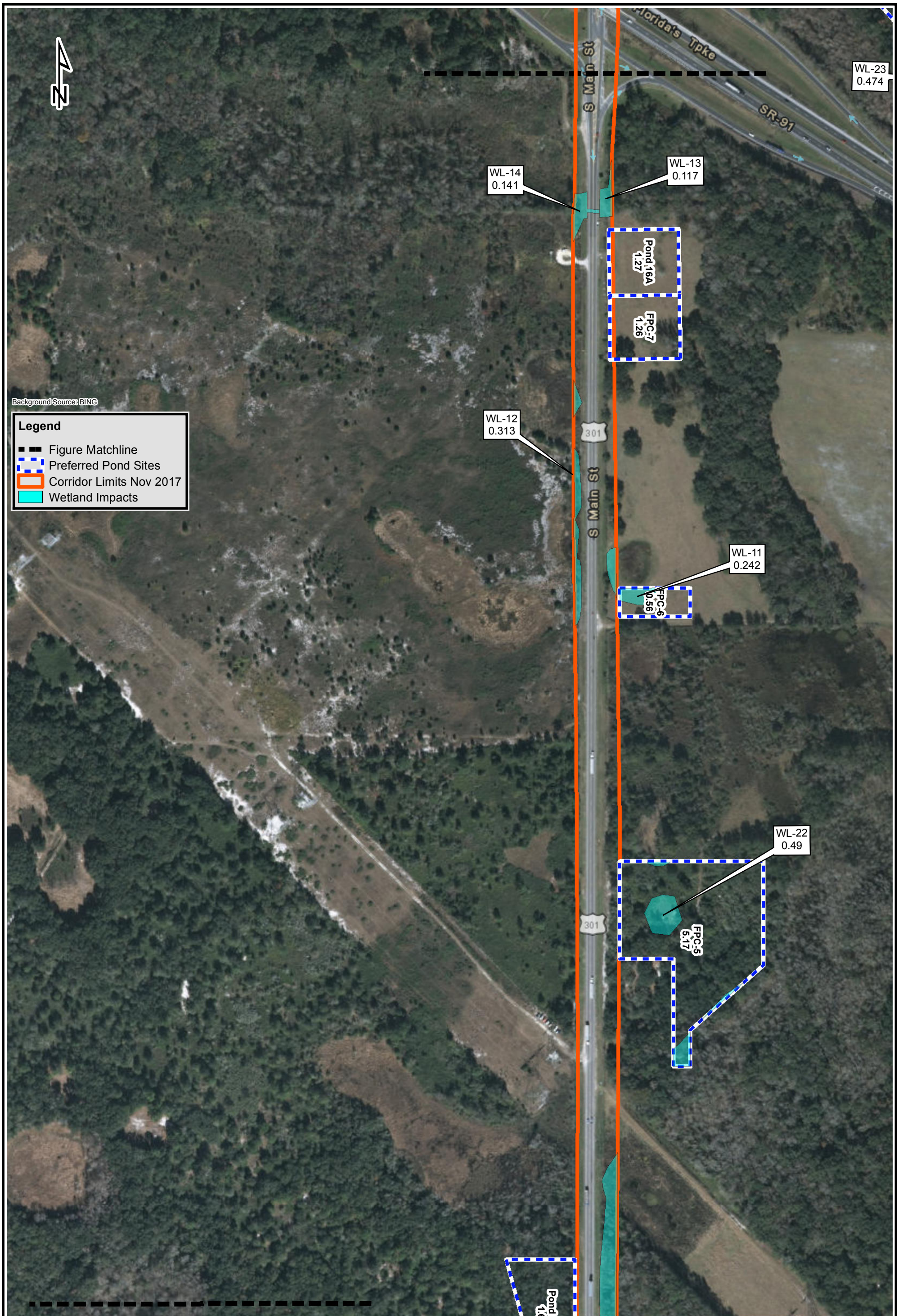
DRAWN BY: LG
 CHECKED BY: PS
 PROJECT NUMBER: 1-1849-001

**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Wetland Impact Map

SCALE: 1"=300'
 DATE: 12/21/2017



**US 301 (SR 35) PD&E Study
from CR 470 E to SR 44**

Sumter County, FL

Wetland Impact Map

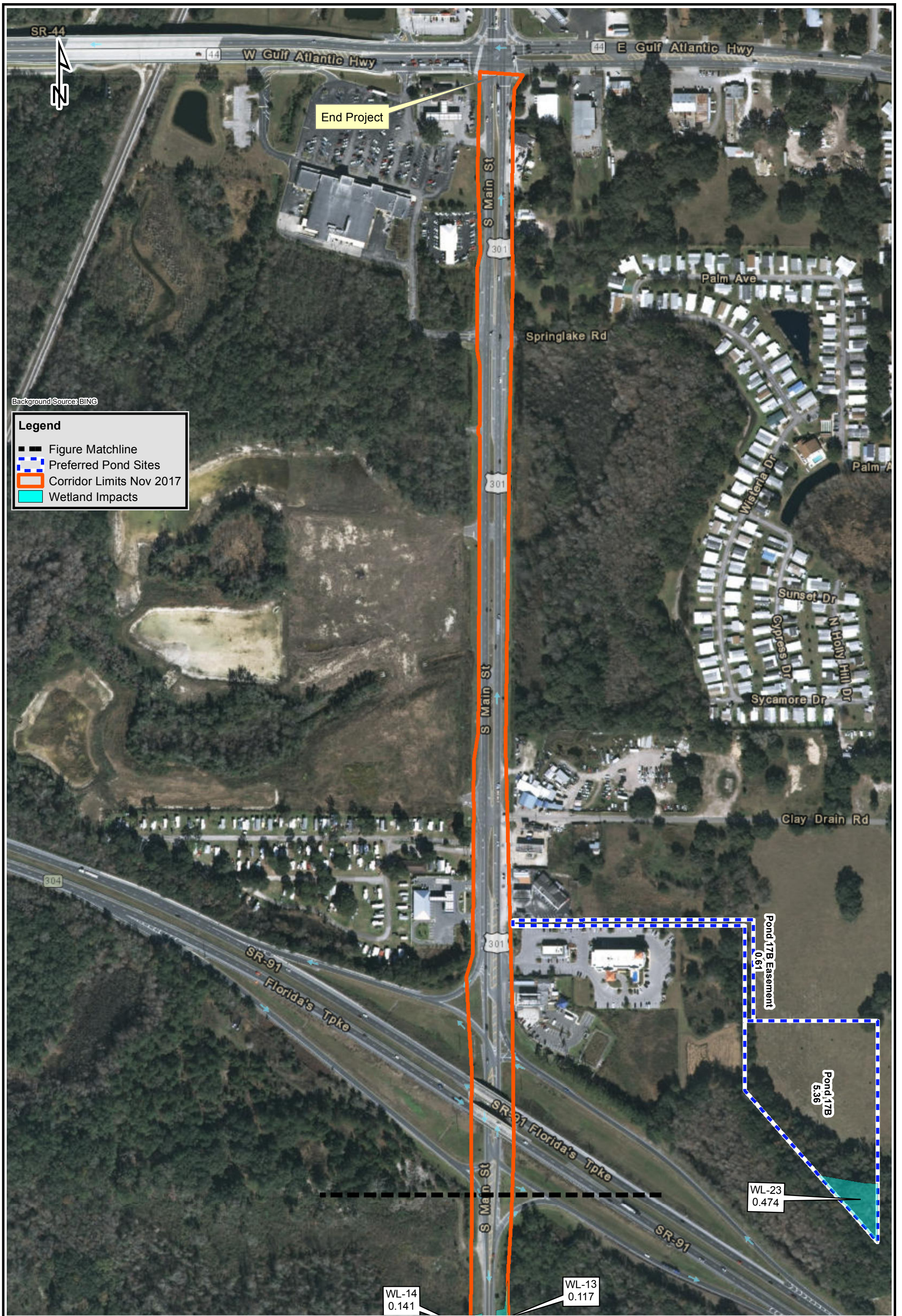
FIGURE

6

DRAWN BY: LG	CHECKED BY: PS	PROJECT NUMBER: 1-1849-001
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SCALE: 1"=300'	DATE: 12/21/2017
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Sheet 9 of 10



Background Source: BING

Legend

- Figure Matchline
- - - Preferred Pond Sites
- Corridor Limits Nov 2017
- Wetland Impacts



DRAWN BY: LG
 CHECKED BY: PS
 PROJECT NUMBER: 1-1849-001

**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**
 Sumter County, FL

Wetland Impact Map
 SCALE: 1"=300' DATE: 12/21/2017

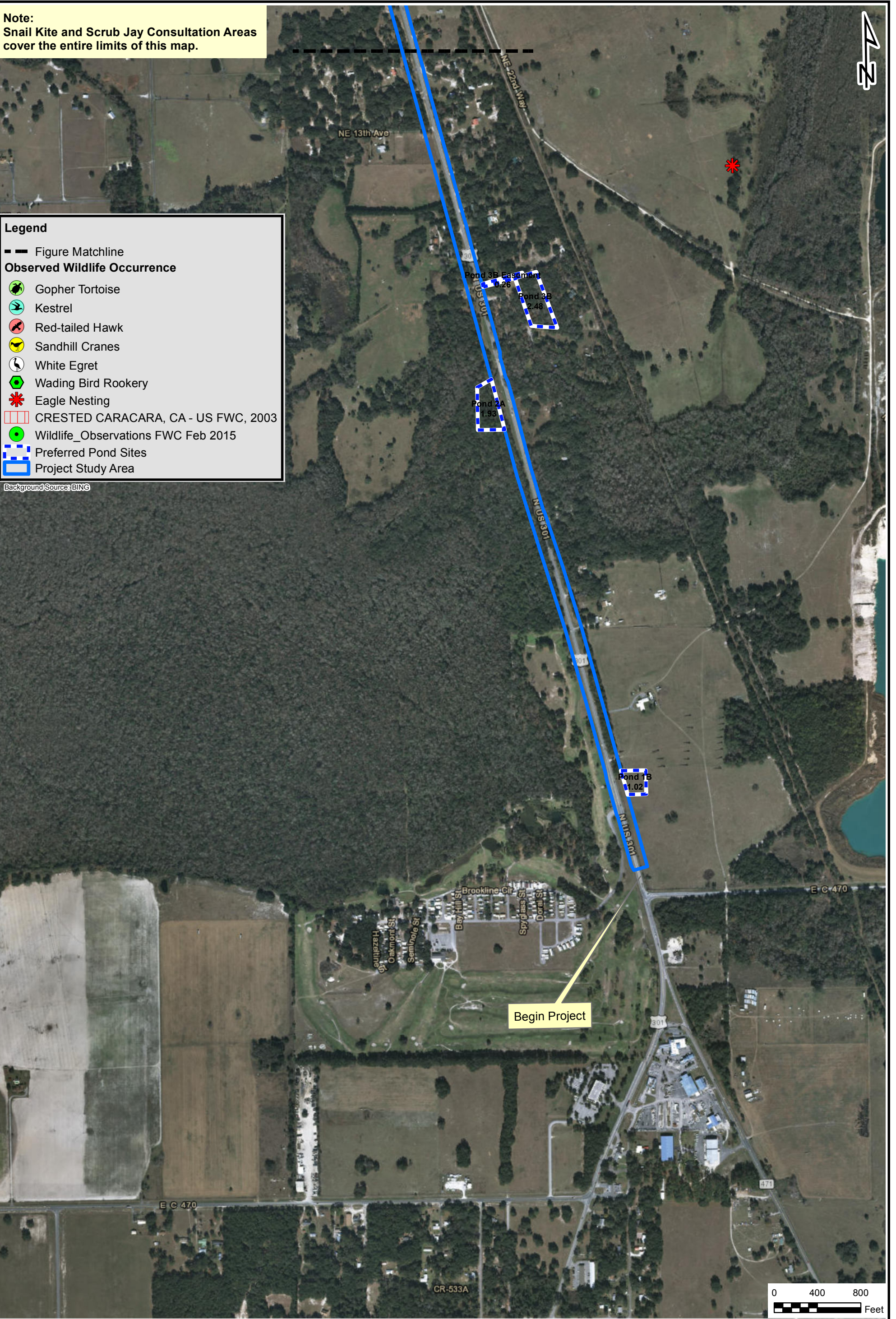
Note:
Snail Kite and Scrub Jay Consultation Areas
 cover the entire limits of this map.



Legend

- — Figure Matchline
- Observed Wildlife Occurrence**
- Gopher Tortoise
- Kestrel
- Red-tailed Hawk
- Sandhill Cranes
- White Egret
- Wading Bird Rookery
- Eagle Nesting
- CRESTED CARACARA, CA - US FWC, 2003
- Wildlife_Observations FWC Feb 2015
- Preferred Pond Sites
- Project Study Area

Background/Source: BING



**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Wildlife
 Occurrence Map

FIGURE

7

DRAWN BY: LG CHECKED BY: PS PROJECT NUMBER: 1-1849-001

SCALE: 1"=800' DATE: 12/21/2017

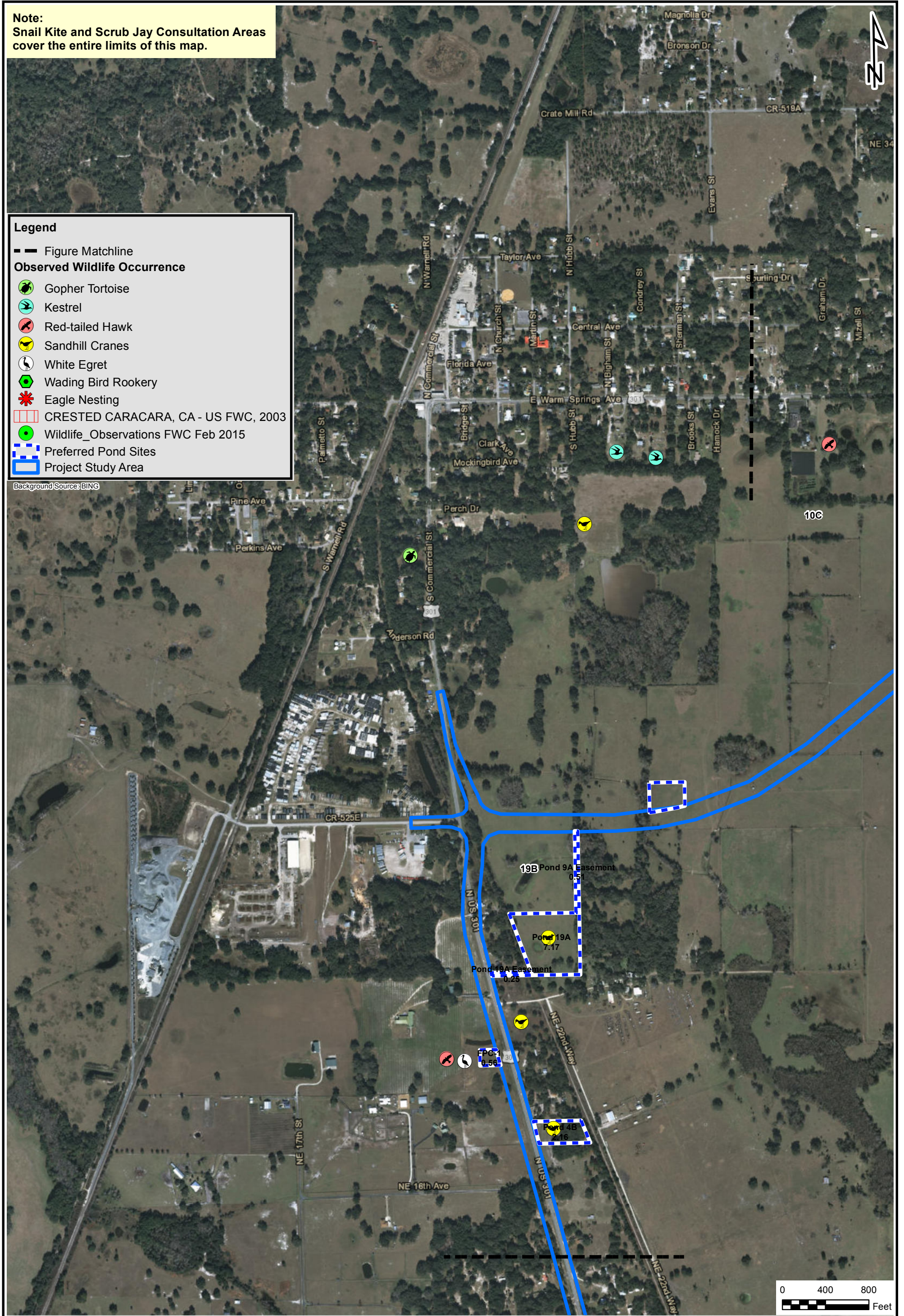
Sheet 1 of 4

Note:
Snail Kite and Scrub Jay Consultation Areas
 cover the entire limits of this map.

Legend

- Figure Matchline
- Observed Wildlife Occurrence**
- Gopher Tortoise
- Kestrel
- Red-tailed Hawk
- Sandhill Cranes
- White Egret
- Wading Bird Rookery
- Eagle Nesting
- CRESTED CARACARA, CA - US FWC, 2003
- Wildlife_Observations FWC Feb 2015
- Preferred Pond Sites
- Project Study Area

Background/Source: BING



**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Wildlife
 Occurrence Map

FIGURE
7

DRAWN BY: LG
 CHECKED BY: PS
 PROJECT NUMBER: 1-1849-001

SCALE: 1"=800'
 DATE: 12/21/2017

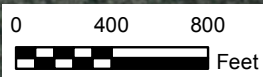
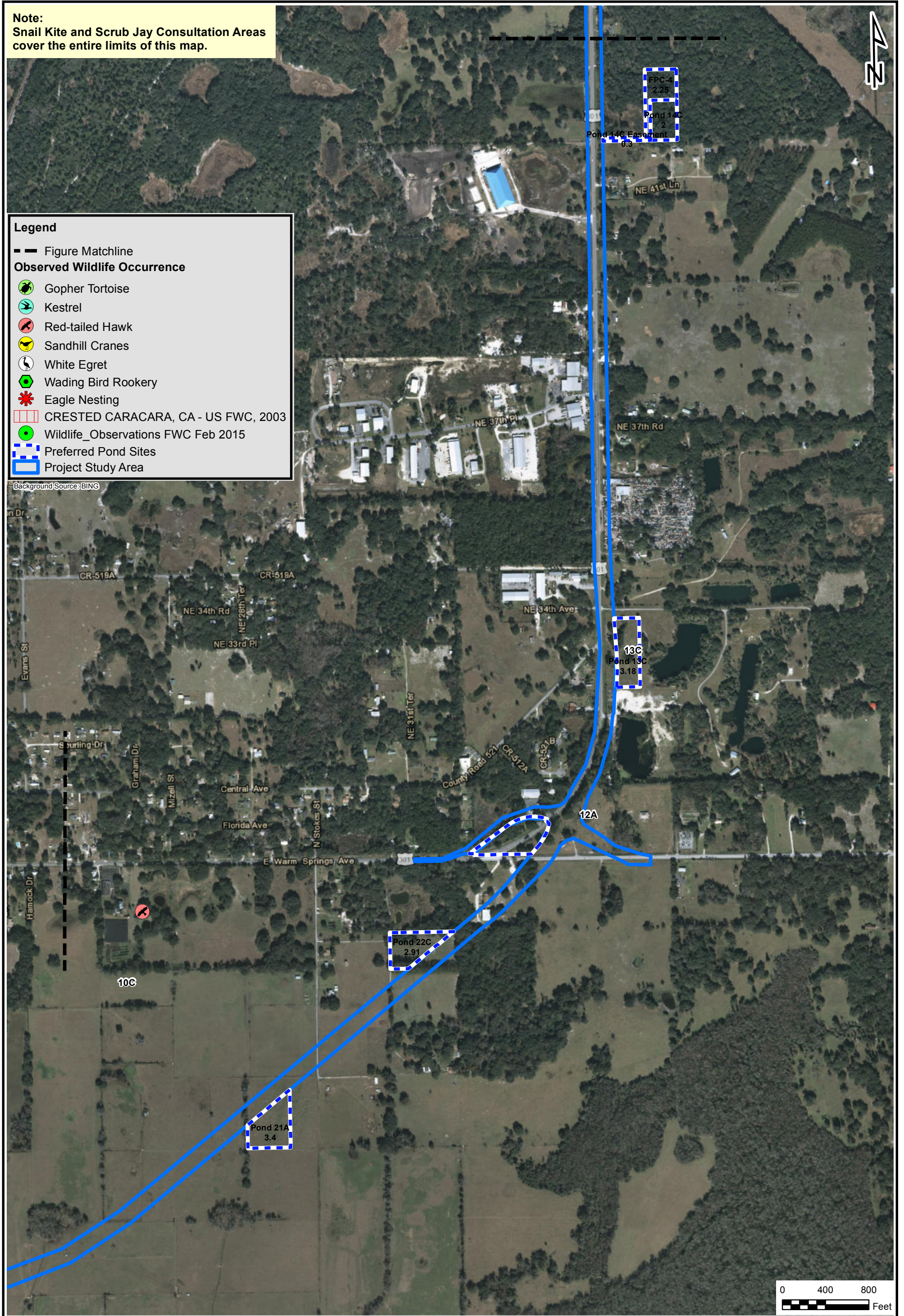
Sheet 2 of 4

Note:
Snail Kite and Scrub Jay Consultation Areas
 cover the entire limits of this map.

Legend

- — Figure Matchline
- Observed Wildlife Occurrence**
- Gopher Tortoise
- Kestrel
- Red-tailed Hawk
- Sandhill Cranes
- White Egret
- Wading Bird Rookery
- Eagle Nesting
- CRESTED CARACARA, CA - US FWC, 2003
- Wildlife_Observations FWC Feb 2015
- Preferred Pond Sites
- Project Study Area

Background Source: BING



**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Wildlife
 Occurrence Map

FIGURE
7

DRAWN BY: LG
 CHECKED BY: PS
 PROJECT NUMBER: 1-1849-001

SCALE: 1"=800'
 DATE: 12/21/2017

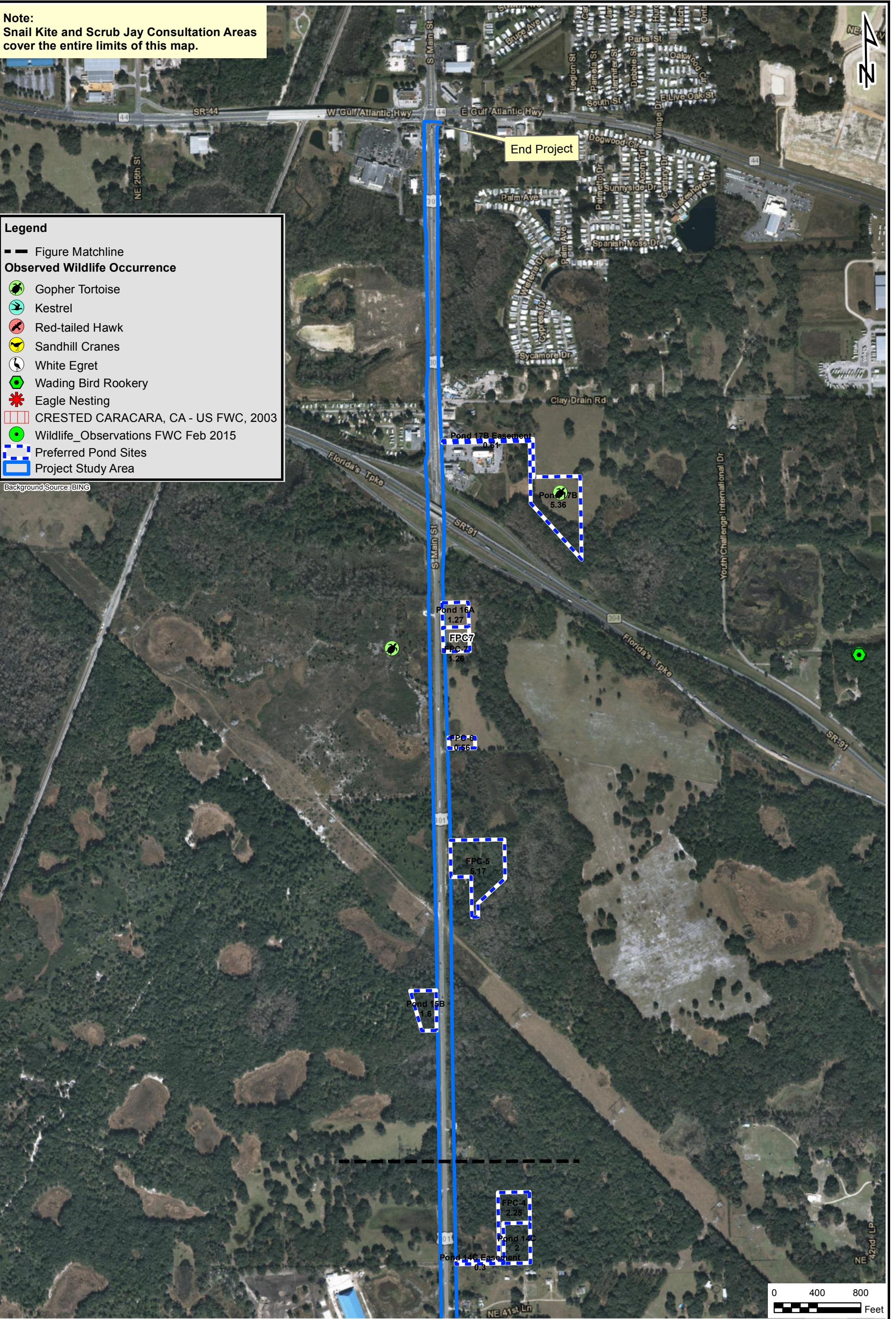
Sheet 3 of 4

Note:
Snail Kite and Scrub Jay Consultation Areas
 cover the entire limits of this map.

Legend

- Figure Matchline
- Observed Wildlife Occurrence**
- Gopher Tortoise
- Kestrel
- Red-tailed Hawk
- Sandhill Cranes
- White Egret
- Wading Bird Rookery
- Eagle Nesting
- CRESTED CARACARA, CA - US FWC, 2003
- Wildlife_Observations FWC Feb 2015
- Preferred Pond Sites
- Project Study Area

Background/Source: BING



**US 301 (SR 35) PD&E Study
 from CR 470 E to SR 44**

Sumter County, FL

Wildlife
 Occurrence Map

FIGURE
7

DRAWN BY: LG CHECKED BY: PS PROJECT NUMBER: 1-1849-001

SCALE: 1"=800' DATE: 12/21/2017

Sheet 4 of 4

APPENDICES

APPENDIX A

PHOTODOCUMENTATION LOG



Photo 1 – Typical pond site alternative consisting of improved pasture.



Photo 2 – Typical pond site alternative consisting of a golf course.

PHOTODOCUMENTATION LOG



Photo 3 – Typical disturbed/open land pond habitat.



Photo 4 – Typical non-wetland mixed hardwood forest pond habitat.

PHOTODOCUMENTATION LOG



Photo 5 – Pond alternative consisting of peach farming operations.



Photo 6 – Typical abandoned residential pond area.

PHOTODOCUMENTATION LOG



Photo 7 – Typical commercial business operation pond area.



Photo 8 – Typical lime rock mine pit pond habitat.

PHOTODOCUMENTATION LOG



Photo 9 – Typical shrub and brushland pond habitat.



Photo 10 – Typical residential pond area.

PHOTODOCUMENTATION LOG



Photo 11 – Typical cattle pond habitat.

APPENDIX B

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name SR 35		Application Number		Assessment Area Name or Number WL-1, WL-2, WL-6, WL-7, WL-9, WL-9A, WL-13, WL-14, WL-22	
FLUCCs code 615		Further classification (optional)		Impact or Mitigation Site? Impact	Assessment Area Size 4.73 Acres
Basin/Watershed Name/Number	Affected Waterbody (Class) III		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Forested wetlands connected to Shady Brook connected to Lake Panasoffkee.					
Assessment area description Forested wetlands with mixed canopy of red maple, laurel oak, water hickory, sweetgum. Sparse groundcover of saw palmetto, grape vine, sabal palm.					
Significant nearby features Lake Panasoffkee			Uniqueness (considering the relative rarity in relation to the regional landscape.)		
Functions water quality, water conveyance, wildlife habitat and movement			Mitigation for previous permit/other historic use n/a		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) black bear, eastern indigo snake, gopher frog, limpkin, little blue heron, snowy egret, tricolor heron, white ibis, sandhill crane, bald eagle, wood stork,			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Low utilization by bear, eastern indigo snake, moderate utilization by eagle, gopher frog, high utilization by wading birds		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): sandhill cranes foraging in adjacent pastures, red-tailed hawk nesting, white egret foraging, kestrel foraging					
Additional relevant factors: impact assessment area along existing SR 35.					
Assessment conducted by: PS/BB			Assessment date(s): 12/01/16		

Form 62-345.900(1), F.A.C. [effective date]

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name: SR 35	Application Number: -	Assessment Area Name or Number: WL-1, WL-2, WL-6, WL-7, WL-9, WL-9A, WL-13, WL-14, WL-22
Impact or Mitigation: Impact	Assessment Conducted by: PS/BB	Assessment Date: 12/01/16

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support		Adjacent land uses include pastures, upland forest, and SR 35. Areas within right of way subject to maintenance. Corridor mostly rural in nature with large cattle grazing parcels.
Current	With Impact	
7	0	

.500(6)(b) Water Environment (n/a for uplands)		No standing water observed, water anticipated to pond in low areas during wet season. No signs of altered hydrology or dead or damaged vegetation.
Current	With Impact	
8	0	

.500(6)(c) Community Structure		Appropriate community with wide diversity of species. Impacts by exotic vegetation along road right of way being maintained.
_____ x _____ Vegetation _____ Benthic _____ Both		
Current	With Impact	
8	0	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	With Impact
0.77	0.00

Impact Acres =	4.73
-----------------------	------

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	3.64

Impact Delta (ID)	
Current - w/Impact	0.77

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigation bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name SR 35		Application Number		Assessment Area Name or Number WL-3, WL-23, WL-25, WL-26	
FLUCCs code 630		Further classification (optional)		Impact or Mitigation Site? Impact	Assessment Area Size 1.39 Acres
Basin/Watershed Name/Number	Affected Waterbody (Class) III		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Forested wetlands connected by marshes and ditches within pastures.					
Assessment area description Forested wetlands with mixed canopy of red maple, laurel oak, water hickory, sweetgum. Sparse groundcover of saw palmetto, grape vine, sabal palm.					
Significant nearby features Lake Panasoffkee			Uniqueness (considering the relative rarity in relation to the regional landscape.)		
Functions water quality, water conveyance, wildlife habitat and movement			Mitigation for previous permit/other historic use n/a		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) black bear, eastern indigo snake, gopher frog, limpkin, little blue heron, snowy egret, tricolor heron, white ibis, sandhill crane, bald eagle, wood stork,			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Low utilization by bear, eastern indigo snake, moderate utilization by eagle, gopher frog, high utilization by wading birds		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): sandhill cranes foraging in adjacent pastures, red-tailed hawk nesting, white egret foraging, kestrel foraging					
Additional relevant factors: impact assessment area along existing SR 35.					
Assessment conducted by: PS/BB			Assessment date(s): 12/01/16		

Form 62-345.900(1), F.A.C. [effective date]

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name: SR 35	Application Number: -	Assessment Area Name or Number: WL-3, WL-23, WL-25, WL-26
Impact or Mitigation: Impact	Assessment Conducted by: PS/BB	Assessment Date: 12/01/16

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support		Adjacent land uses include pastures, upland forest, and SR 35. Areas within right of way subject to maintenance. Corridor mostly rural in nature with large cattle grazing parcels.
Current	With Impact	
7	0	

.500(6)(b) Water Environment (n/a for uplands)		No standing water observed, water anticipated to pond in low areas during wet season. No signs of altered hydrology or dead or damaged vegetation.
Current	With Impact	
8	0	

.500(6)(c) Community Structure		Appropriate community with wide diversity of species. Impacts by exotic vegetation along road right of way being maintained.
<input type="checkbox"/> x <input type="checkbox"/> Vegetation <input type="checkbox"/> Benthic <input type="checkbox"/> Both		
Current	With Impact	
8	0	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	With Impact
0.77	0.00

Impact Acres =	1.39
-----------------------	------

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	1.07

Impact Delta (ID)	
Current - w/Impact	0.77

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigation bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name SR 35		Application Number		Assessment Area Name or Number WL-11, WL-12, WL-21	
FLUCCs code 641		Further classification (optional)		Impact or Mitigation Site? Impact	
Assessment Area Size 0.84 Acres		Basin/Watershed Name/Number		Affected Waterbody (Class) III	
				Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Freshwater marshes typically connected by ditches to other marshes or forested wetlands.					
Assessment area description Deeper areas contain pickerel weed; perimeters include carolina willow, salt bush, chalky bluestem, wax myrtle.					
Significant nearby features Lake Panasoffkee			Uniqueness (considering the relative rarity in relation to the regional landscape.)		
Functions water quality, water conveyance, foraging areas.			Mitigation for previous permit/other historic use n/a		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) black bear, eastern indigo snake, gopher frog, limpkin, little blue heron, snowy egret, tricolor heron, white ibis, sandhill crane, bald eagle, wood stork,			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Low utilization by bear, eastern indigo snake, moderate utilization by eagle, gopher frog, high utilization by wading birds		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): sandhill cranes foraging in adjacent pastures, red-tailed hawk nesting, white egret foraging, kestrel foraging					
Additional relevant factors: impact assessment area along existing SR 35.					
Assessment conducted by: PS/BB			Assessment date(s): 12/01/16		

Form 62-345.900(1), F.A.C. [effective date]

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name: SR 35	Application Number: -	Assessment Area Name or Number: WL-11, WL-12, WL-21
Impact or Mitigation: Impact	Assessment Conducted by: PS/BB	Assessment Date: 12/01/16

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support		Adjacent land uses include pastures, upland forest, and SR 35. Areas within right of way subject to maintenance. Corridor mostly rural in nature with large cattle grazing parcels.
Current	With Impact	
7	0	

.500(6)(b) Water Environment (n/a for uplands)		Altered hydrology in the form of ditches and swales.
Current	With Impact	
6	0	

.500(6)(c) Community Structure		Appropriate community with wide diversity of species. Impacts by exotic vegetation along road right of way being maintained.
_____ x _____ Vegetation _____ Benthic _____ Both		
Current	With Impact	
6	0	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	With Impact
0.63	0.00

Impact Acres =	0.84
-----------------------	------

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.53

Impact Delta (ID)	
Current - w/Impact	0.63

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigation bank.

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART I - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.400 F.A.C.)

Site/Project Name SR 35		Application Number		Assessment Area Name or Number WL-7A	
FLUCCs code 643		Further classification (optional)		Impact or Mitigation Site? Impact	
Assessment Area Size 0.07 Acres		Basin/Watershed Name/Number		Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)	
Affected Waterbody (Class) III		Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Freshwater marshes typically connected by ditches to other marshes or forested wetlands.			
Assessment area description Deeper areas contain pickerel weed; perimeters include carolina willow, salt bush, chalky bluestem, wax myrtle.					
Significant nearby features Lake Panasoffkee			Uniqueness (considering the relative rarity in relation to the regional landscape.)		
Functions water quality, water conveyance, foraging areas.			Mitigation for previous permit/other historic use n/a		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) black bear, eastern indigo snake, gopher frog, limpkin, little blue heron, snowy egret, tricolor heron, white ibis, sandhill crane, bald eagle, wood stork,			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Low utilization by bear, eastern indigo snake, moderate utilization by eagle, gopher frog, high utilization by wading birds		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): sandhill cranes foraging in adjacent pastures, red-tailed hawk nesting, white egret foraging, kestrel foraging					
Additional relevant factors: impact assessment area along existing SR 35.					
Assessment conducted by: PS/BB			Assessment date(s): 12/01/16		

Form 62-345.900(1), F.A.C. [effective date]

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II - IMPACT
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name: SR 35	Application Number: -	Assessment Area Name or Number: WL-7A
Impact or Mitigation: Impact	Assessment Conducted by: PS/BB	Assessment Date: 12/01/16

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support		Adjacent land uses include pastures, upland forest, and SR 35. Areas within right of way subject to maintenance. Corridor mostly rural in nature with large cattle grazing parcels.
Current	With Impact	
7	0	

.500(6)(b) Water Environment (n/a for uplands)		Altered hydrology in the form of ditches and swales.
Current	With Impact	
6	0	

.500(6)(c) Community Structure		Appropriate community with wide diversity of species. Impacts by exotic vegetation along road right of way being maintained.
<input type="checkbox"/> x Vegetation <input type="checkbox"/> Benthic <input type="checkbox"/> Both		
Current	With Impact	
6	0	

Raw Score = Sum of above scores/30 (if uplands, divide by 20)	
Current	With Impact
0.63	0.00

Impact Acres =	0.07
-----------------------	------

Functional Loss (FL) [For Impact Assessment Areas]:	
FL = ID x Impact Acres =	0.04

Impact Delta (ID)	
Current - w/Impact	0.63

NOTE: If impact is proposed to be mitigated at a mitigation bank that was assessed using UMAM, then the credits required for mitigation is equal to Functional Loss (FL). If impact mitigation is proposed at a mitigation bank that was not assessed using UMAM, then UMAM cannot be used to assess impacts; use the assessment method of the mitigation bank.

APPENDIX C

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.