



Project Development and Corridor Study Report

Lorraine Road

December 14, 2021

Revision 1



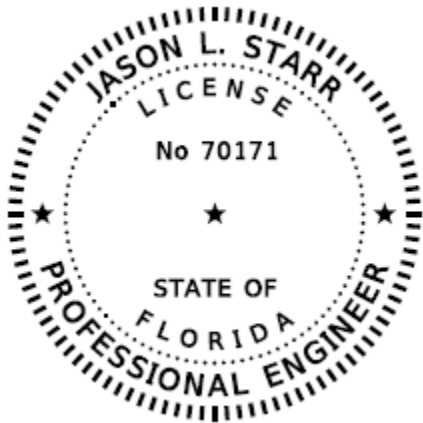
Professional Engineer Certification

PROJECT DEVELOPMENT AND CORRIDOR STUDY REPORT

Project: Lorraine Road
Limits: From south of 59th Avenue East to SR 64
CIP #: 6107660

This report contains preliminary information that fulfills the purpose and need for the Lorraine Road Project Development and Corridor Study from south of 59th Avenue East to SR 64 in Manatee County, Florida. I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgement and experience.

I hereby certify that I am a registered professional engineer in the State of Florida practicing with HDR Engineering, Inc. and that I have prepared or approved the evaluation findings, opinions, conclusions, or technical advice for this project.



This item has been digitally signed and sealed by Jason L. Starr, P.E. on the date adjacent to the seal.

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Executive Summary

Manatee County conducted a Project Development and Corridor Study to evaluate a 2.9-mile segment of Lorraine Road from south of 59th Avenue East to SR 64 in Manatee County, Florida. The purpose of this project is to enhance safety, improve traffic operations, provide multimodal access, and meet the future transportation demand. The Study evaluated options for widening the existing two-lane roadway to a divided four-lane roadway with buffered bike lanes in each direction, and pedestrian accommodations on both sides of the road. The Manatee County Comprehensive Plan shows Lorraine Road as a future four-lane roadway with 120 feet of right of way.

The existing typical section along Lorraine Road is an undivided two-lane roadway with 12-foot travel lanes and unpaved shoulders. There is a 5-foot sidewalk on the west side of the road from the beginning of the project to just south of Oasis Church. There are no bicycle facilities. The right of way varies throughout the project limits with a typical width of 66-feet. The maximum right of way width is 136-feet, and the minimum width is 66-feet within the Study limits.

Based on the engineering and environmental analysis documented in this report, the recommended alternative for Lorraine Road is Alternative 2 a four-lane roadway with 120 feet of right of way containing an 18-foot median width, 7-foot buffered bike lanes, a 10-foot sidewalk on the west side of the roadway and a 5-foot sidewalk on the east side of the roadway. Alternative 2 best meets the project purpose with:

- Additional through lanes for capacity
- Restricted raised median for access management
- Buffered bicycle lanes
- Pedestrian accommodations
- Buffer space between the road and sidewalk for pedestrian safety and comfort

The Recommended Alternative requires right of way acquisition from 59 parcels with 1 relocation. The project will require an Environmental Resource Permit (ERP) for stormwater treatment and wetland and surface water impacts, a Section 404 Permit, for wetland and surface water impacts, and an FDOT connection permit for adding impervious pavement adjacent to SR 64. One known archaeological site is located in the project boundary but has not been evaluated for inclusion in the National Register of Historic Places (NRHP). Approximately 0.65 mile of the project area has not had an archaeological survey performed. An archaeological survey of the undisturbed portion of the Study Area and a revisit to the one archaeological site is recommended. In addition, there are historic-age buildings (those constructed in 1976 or before) that have not been previously surveyed within the boundary of the study. Three medium risk potential contamination sites are adjacent to the project corridor and would require further action.

Public involvement was not conducted during this study due to an abbreviated schedule. A public meeting is recommended during the design phase. Cost estimations are based on the best available data at the time of this Study and will be refined during the design phase.

1.0 Project Summary

Manatee County conducted a Project Development and Corridor Study (Study) to develop alternatives along Lorraine Road for reducing congestion, improving safety and operational performance, and addressing future transportation needs. The project limits extend from 59th Avenue East to State Road (SR) 64, providing additional capacity between SR 70 and SR 64 in Bradenton, Manatee County, Florida, as shown in **Figure 1-1**. The Study also included the evaluations of impacts to natural resources and cultural resources within the study area, as well the potential for impacts to the study area from contamination sites because of the proposed project.

1.1 Project Description

This study consisted of evaluating alternatives to meet the following objectives:

- Accommodate four (4) vehicular travel lanes,
- Accommodate bicycle and pedestrian traffic,
- Identify stormwater management pond site alternatives,
- Identify project impacts,
- Identify right of way needs, and
- Recommend alternative for further development.

1.2 Purpose and Need

The primary purpose of the Lorraine Road Study is to provide congestion relief by providing additional capacity between SR 70 and SR 64. Located between the Manatee River and SR 70, additional capacity along Lorraine Road would provide relief to existing major north-south corridors, such as Interstate 75 (I-75) and Lakewood Ranch Boulevard. The project would also connect to four-lane east-west corridors 44th Avenue East and Rangeland Parkway.

The Manatee County Capital Improvement Plan (CIP) includes funding for design and construction of a four-lane urban roadway from 59th Avenue East to SR 64.

To encourage and promote the Complete Streets Concept throughout the County, the Manatee County Comprehensive Plan has identified Lorraine Road with a twenty-year functional classification as an Arterial with a twenty-year Level of Service standard of D, a twenty-year travel lane needs of four lanes, and a right of way width of 150 feet.

1.3 Consistency with Other Plans

Related projects within the Lorraine Road Study area include signalized intersections at Rangeland Parkway (Project #6093860) and 44th Avenue East (Project #6093760) and a proposed roundabout at the SR 64 intersection (FPID 196022-6). There are several projects proposed for the Premier Sports Complex site, which is accessed from Lorraine Road and Rangeland Parkway (see **Figure 1-2**).

1.3.1 Rangeland Parkway Signal

This capital improvement project will provide a new signal installation to improve operations and safety. The intersection will be signalized by four mast arms, one on each quadrant of the intersection. The intersection footprint was designed with a four-lane Lorraine Road section that includes a left and right turn lane. Rangeland Parkway currently exists as an east-west corridor connecting Lakewood Ranch Boulevard to Polo Trail as a four-lane section. The Lorraine Road intersection is two-way stopped controlled for Rangeland Parkway. The Rangeland Parkway approaches are currently lane restricted with tubular delineators but have been constructed

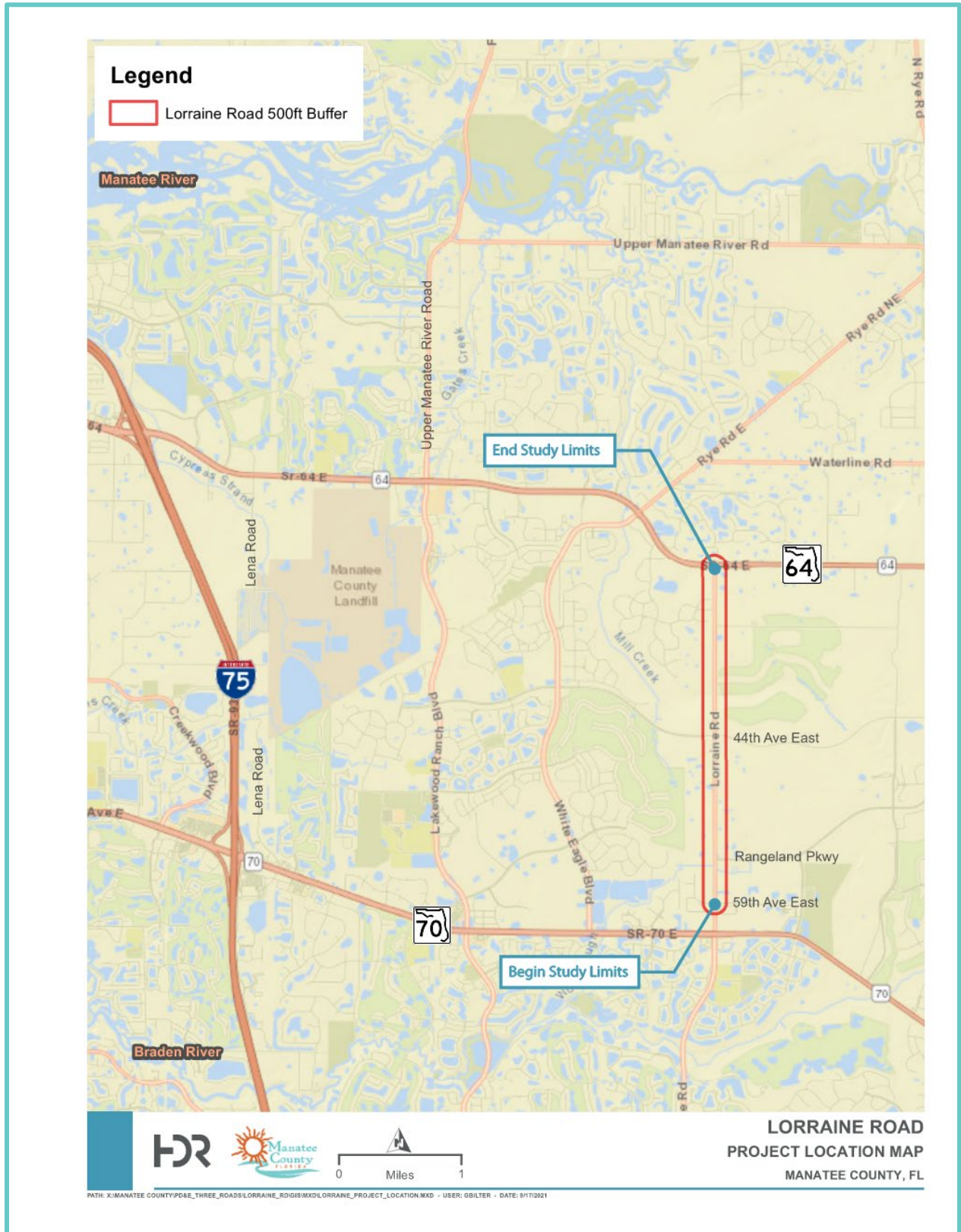


Figure 1-1 | Project Location Map

with left and right turn lanes. The capital improvement project will complete the signalization control for the intersection and is scheduled for 2021.

1.3.2 44th Avenue East Signal

This capital improvement project will provide a new signal installation to improve operations and safety. The intersection will be signalized by four mast arms, one on each quadrant of the intersection. The intersection footprint was designed with a four-lane Lorraine Road section that includes a left and right turn lane. The 44th Avenue East corridor currently exists as an east-west corridor that parallels SR 64 and SR 70 as a four-lane section. There are multiple projects along this corridor to complete the four-lane section including a current construction project across the Braden River and a current design project across I-75 to complete the corridor. In the Lorraine Road vicinity, 44th Avenue East currently connects Lakewood Ranch Boulevard to Uihlein Road.

The Lorraine Road intersection is two-way stopped controlled for 44th Avenue East. The 44th Avenue East approaches are currently lane restricted with tubular delineators but have been constructed with left and right turn lanes. The capital improvement project will complete the signalization control for the intersection and is scheduled for 2021.

1.3.3 SR 64 at Lorraine Road (FDOT FPID 196022-6)

This FDOT project will construct a new roundabout at the SR 64 and Lorraine Road intersection. It includes accommodations for a two-lane northbound entry for Lorraine Road that will be striped out in the interim phase. The southbound exit from the roundabout is a single lane for Lorraine Road. The project includes drainage accommodations in the SR 64 right of way by increasing existing ditches. Manatee County has also entered into a Utility Work by Highway Contractor Agreement (UWHCA) with FDOT to replace impacted utilities within the project footprint. The FDOT project is currently in the design phase and is scheduled for letting in October 2023.

1.3.4 Premier Sports Complex

The Premier Sports Complex refers to the proposed improvements at the County owned property that is located east of Lorraine Road and south of Rangeland Parkway. There are several CIP projects to provide County facilities on the property, including recreational upgrades and a new library. Currently the 140-acre Premier Sports Campus at Lakewood Ranch provides parking for a concession building and sports fields.



Figure 1-2 | Related Projects Location Map

2.0 Existing Roadway Conditions

Lorraine Road is classified as an arterial roadway within Manatee County.

2.1 Typical Section

Lorraine Road from SR 70 to 59th Avenue East has been recently reconstructed to accommodate two lanes of travel in each direction with right and left turn lanes. In the northbound direction, the inside lane becomes a left turn lane into the northern entrance to the Avaunce subdivision (59th Circle East). A single northbound travel lane continues from 59th Avenue East / 59th Circle East to SR 64. A single southbound travel lane is provided from SR 64 to the southern entrance to the Avaunce subdivision (59th Circle East) and widens to two travel lanes with turn lanes.

Lorraine Road between 59th Avenue East and SR 64 is a two-lane flush shoulder roadway within a minimum sixty-six-foot right of way. The existing two 12-foot travel lanes are located near the center of the right of way. The flush shoulders are grass and there are no facilities for bicyclists or pedestrians (see Section 2.6 for isolated segments of pedestrian accommodations). The existing Lorraine Road typical section is shown below in **Figure 2-1**.

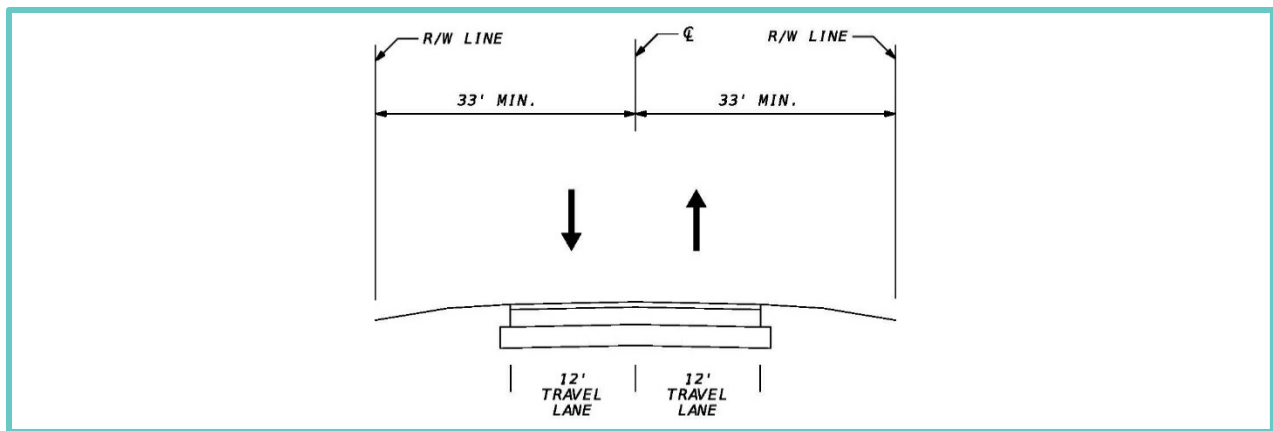


Figure 2-1 | Typical Section – Existing Lorraine Road from 59th Avenue East to SR 64

2.2 Right of Way

Existing right of way along Lorraine Road varies, with a minimum width of sixty-six feet.

Lorraine Road Segment	Minimum Right of Way	Maximum Right of Way
59 th Ave East to Rangeland Pkwy	66 ft	120 ft
Rangeland Pkwy to 44 th Ave East	66 ft	93 ft
44 th Ave East to SR 64	66 ft	136 ft

2.3 Adjacent Land Use

The adjacent land use for Lorraine Road is characterized as Suburban Neighborhood. The project corridor consists of residential communities, single family homes, churches, and commercial properties. Properties of note are:

- Avance, single family home residential community at 59th Avenue East
- The Oasis at Lakewood Ranch, multi-family residential community southeast of 59th Avenue East
- Risen Savior Lutheran Church northeast of 59th Avenue East
- Chabad of Bradenton & Lakewood Ranch, west side between 59th Avenue East and Rangeland Parkway
- Fox Creek Pet Ranch, east side between 59th Avenue East and Rangeland Parkway
- Future Lakewood Ranch High School, east side between 59th Avenue East, Rangeland Parkway, and Post Road
- Oasis Church, east side between Rangeland Parkway and 44th Avenue East
- South West Florida Therapy Animals, east side between Rangeland Parkway and 44th Avenue East
- Mariposa Nursery, west side between Rangeland Parkway and 44th Avenue East
- Ralph Taylor's Nurseries, east side between Rangeland Parkway and 44th Avenue East
- Nate's Honor Animal Rescue, east side between Rangeland Parkway and 44th Avenue East
- The Ranch Assisted Living, east side between Rangeland Parkway and 44th Avenue East
- SMR Farms, near 44th Avenue East
- Terry's Tree Service, west side between 44th Avenue East and Florida Rosemary Drive
- (Future) 7-Eleven Gas and Convenience Store, west side between 44th Avenue East and Florida Rosemary Drive
- Evangel Baptist Church, east side between 44th Avenue East and Florida Rosemary Drive
- Savanna at Lakewood Ranch, single family home community at Florida Rosemary Drive
- Driveway to Bayside Community Church, east side between Florida Rosemary Drive and SR 64
- Hide-Away Storage, east side between Florida Rosemary Drive and SR 64

2.4 Posted Speed Limit

The existing posted speed on Lorraine Road is 45 mph from 59th Avenue East to Rangeland Parkway and 50 mph from Rangeland Parkway to SR 64.

2.5 Horizontal and Vertical Alignment

Lorraine Road is a linear north-south roadway with no horizontal curves within the project limits. The roadway is considered level terrain.

2.6 Multimodal Facilities

Bicycle traffic is not accommodated along the existing roadway within the Study area.

Pedestrian traffic is accommodated sporadically along the existing roadway at the following locations:

59th Avenue East to approximately 4,000 feet north of Rangeland Parkway, along the west side of Lorraine Road

Along the Savanna subdivision property north and south of Florida Rosemary Drive, along the west side of Lorraine Road

There are no MCAT transit routes along Lorraine Road. There appears to be a Manatee County School District bus route along Lorraine Road with stops near the Savanna at Lakewood Ranch subdivision.

2.7 Intersections

2.7.1 59th Avenue East / 59th Circle East

This intersection was recently reconstructed as part of the SR 70 at Lorraine Road project. The western leg (59th Circle East) is a two-lane divided entrance road to the Avaunce subdivision. The entrance is gate protected and 59th Circle East circles to the south for another intersection on Lorraine Road. 59th Avenue East is a two-lane roadway connecting Lorraine Road and Post Boulevard. The intersection with Lorraine Road is currently two-way stop controlled for 59th Avenue East and 59th Circle East.

Pedestrians are currently accommodated by a 5-foot sidewalk on both sides of Lorraine Road and 59th Court East. 59th Avenue East accommodates pedestrians with a 5-foot sidewalk on the north side of the roadway.

2.7.2 Rangeland Parkway

Rangeland Parkway is a four-lane divided roadway that connects Lakewood Ranch Boulevard to Polo Trail. The intersection with Lorraine Road is currently built out with a dedicated left turn lane and right turn lane for both legs of Rangeland Parkway. There are currently tubular delineators limiting the travel lanes for this interim build out. Lorraine Road currently provides left turn lanes in both directions and a southbound right turn lane. The intersection is currently two-way stop controlled for Rangeland Parkway.

The intersection is currently under construction to provide a new signal. The mast arm foundations have been designed with a Lorraine Road footprint that includes a four-lane divided section and dedicated left turn lanes and right turn lanes in both directions.

Pedestrians are currently accommodated by a 5-foot sidewalk on the west side of Lorraine Road (6-foot back of curb sidewalk for the right turn lane) and 5-foot sidewalks on both sides of the western leg of Rangeland Parkway. The eastern leg of Rangeland Parkway has a 5-foot sidewalk on the south side and an 8-foot sidewalk on the north side. Crosswalks are currently provided for the Rangeland Parkway legs.

Bicycles are currently accommodated by a 4-foot bike lane on Rangeland Parkway that expands to a 5-foot keyhole adjacent to the right turn lanes.



Figure 2-2 | Lorraine Road looking north at Rangeland Parkway

2.7.3 44th Avenue East

44th Avenue East is a four-lane divided roadway that connects Lakewood Ranch Boulevard to Uihlen Road currently and ultimately Polo Trail. The intersection with Lorraine Road is currently built out with a dedicated left turn lane and right turn lane for both legs of 44th Avenue East. There are currently tubular delineators limiting the travel lanes for this interim build out. Lorraine Road currently provides a dedicated left turn lane and right turn lane in both directions. The intersection is currently two-way stop controlled for 44th Avenue East.

The intersection is currently under construction to provide a new signal. The mast arm foundations have been designed with a Lorraine Road footprint that includes a four-lane divided section and dedicated left turn lanes and right turn lanes in both directions.

Pedestrians are currently accommodated by a 5-foot sidewalk on the south side and a 10-foot sidewalk on the north side of 44th Avenue East. There are no sidewalks on Lorraine Road. Crosswalks are currently provided for the 44th Avenue East legs.

Bicycles are currently accommodated by a 4-foot bike lane on 44th Avenue East that expands to a 5-foot keyhole adjacent to the right turn lanes.



Figure 2-3 | Lorraine Road looking west at 44th Avenue East

2.7.4 Florida Rosemary Drive

Florida Rosemary Drive is currently a divided two-lane roadway providing access to Savanna at Lakewood Ranch on the west side of Lorraine Road. This T-intersection is stop-controlled for Florida Rosemary Drive. Lorraine Road provides a dedicated northbound left turn lane and dedicated southbound right turn lane for this intersection.

Pedestrians are currently accommodated with a 5-foot sidewalk on the west side of Lorraine Road for the subdivision limits and a 5-foot sidewalk on the north side of Florida Rosemary Drive. A crosswalk is currently provided for Florida Rosemary Drive.

2.7.5 SR 64

SR 64 is a four-lane divided facility with a signal-controlled intersection at Lorraine Road / 145th Street East. Lorraine Road and 145th Street East are two-lane facilities at this intersection. There is a dedicated left turn lane in each direction on SR 64 and a dedicated westbound right turn lane onto 145th Street East.

Pedestrians are currently accommodated with a 5-foot sidewalk on the south side of SR 64 and a 10-foot sidewalk on the north side of SR 64. There is a 5-foot sidewalk on the east side of 145th Street East that is not connected to the SR 64 network. There are no designated bicycle lanes on SR 64, but the westbound right turn lane is a key-hole configuration.

2.8 Traffic Data

Historical 2019 AADT volumes were utilized to develop the existing year (2021) AADT volumes using a 7.28% growth rate. Manatee County Station 11-26 was used as the basis for the AADT volumes for the Lorraine Road corridor segment from Rangeland Parkway to 44th Avenue East due to its location. The volumes along the Lorraine Road corridor segments from 59th Avenue East to Rangeland Parkway and from 44th Avenue East to SR 64 were estimated using the Concurrency Link Data sheet summary provided by the County. **Appendix B** contains the Traffic Analysis Memo performed for the Study.

Table 2-2 / Existing Year (2021) Design Traffic Volume Characteristics

Limits	59 th Ave East to Rangeland Pkwy	Rangeland Pkwy to 44 th Ave East	44 th Avenue East to SR 64
Characteristic	Value	Value	Value
2019 AADT	10,500 vehicles	8,771 vehicles	6,100 vehicles
2021 AADT	12,000 vehicles	10,000 vehicles	6,900 vehicles
Peak-to-Daily Ratio	9.50%	9.50%	9.50%
DHV	1,140 vehicles	950 vehicles	656 vehicles
Directional Distribution	56.80 %	56.80 %	56.80 %
Peak Directional Volume	648 vehicles	540 vehicles	372 vehicles
Off-Peak Directional Volume	493 vehicles	410 vehicles	283 vehicles

The existing corridor volumes were compared to the LOS D maximum service volumes found in the FDOT Quality / LOS Handbook. The Lorraine Road corridor segments operates as shown in **Table 2-3**.

Table 2-3 / Existing Year (2021) LOS D Capacity Analysis

Lorraine Road Segment	Peak Hour Directional LOS D Maximum Service Volume
59 th Ave East to Rangeland Pkwy	82%
Rangeland Pkwy to 44 th Ave East	68%
44 th Ave East to SR 64	47%

2.9 Crash Data

For the five-year crash period from 2016 to 2020, there were 49 reported crashes for Lorraine Road. One (1) fatal, two (2) incapacitating injury, two (2) non-incapacitating injury, and eight (8) possible injury crashes were reported during this time frame. Eighteen (18) crashes (37%) were reported as rear-end incidents, eight (8) crashes (16%) were off-road, and four (4) crashes (8%) were sideswipes. One (1) crash involved alcohol and three (3) crashes involved animals. A heat map showing the crash data of the Study area is shown in **Figure 2-4**.

The crash rate for Lorraine Road was compared to statewide crash rates for similar facility types. The average crash rate for this segment of Lorraine Road is less than the statewide crash rates for similar facility types.

Appendix B contains the Traffic Analysis Memo performed for the Study.

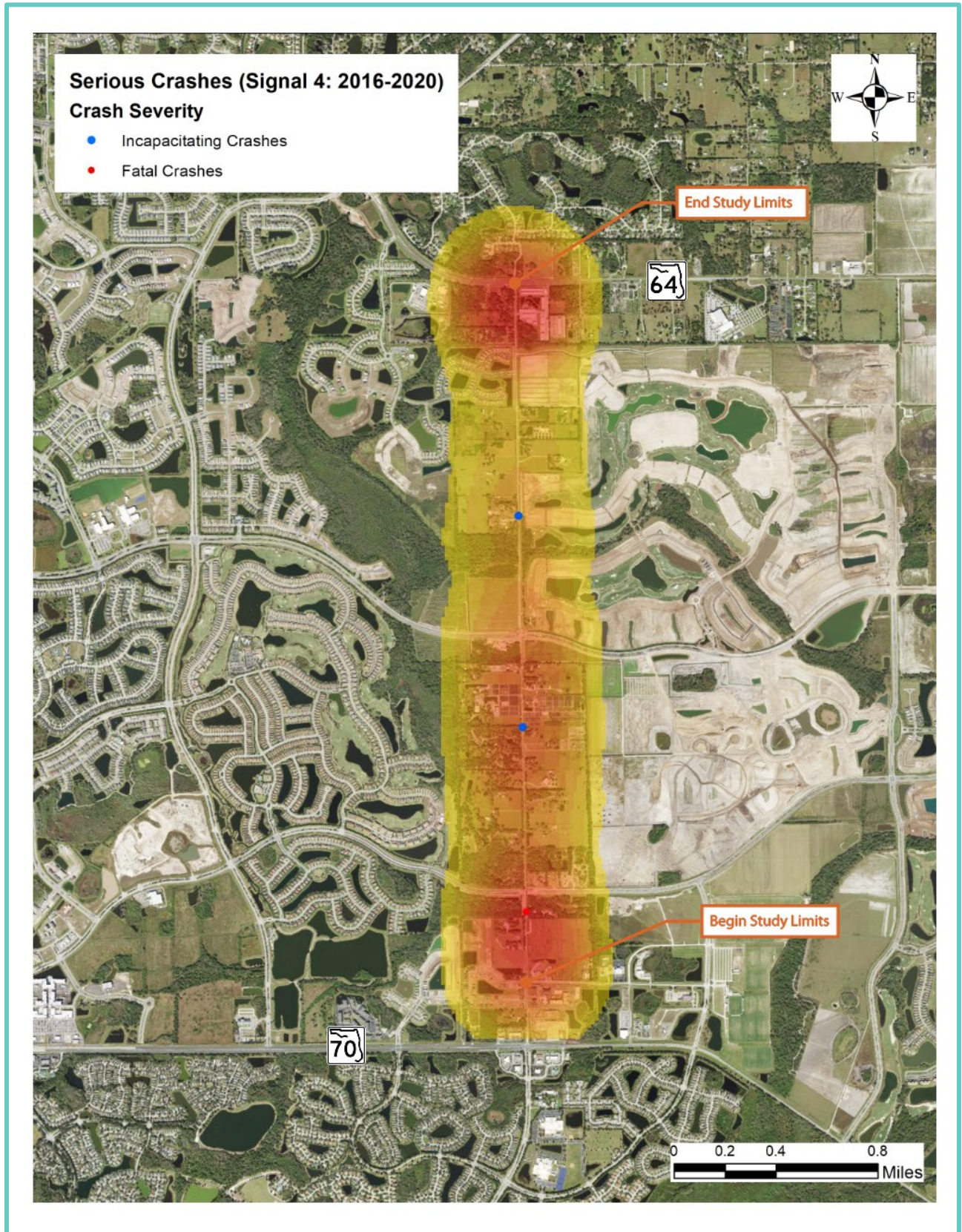


Figure 2-4 | Crash Data Heat Map

2.10 Drainage System

Lorraine Road spans two open basin watersheds: Wolf Slough (WBID 1909) [Braden River Watershed] and Mill Creek Tributaries (WBID 1872B). None of the project watersheds are impaired for nutrients or dissolved oxygen. The division between the two watersheds within the project limits is approximately 44th Avenue East.

The Lorraine Road corridor has no existing stormwater treatment or attenuation systems. Offsite drainage patterns typically flow east to west, intercepted by the easterly roadside ditches, although a certain amount of offsite flow is received on both sides of Lorraine Road. The ditch grading follows the existing topography, ultimately draining to three (3) primary outfall crossings: Wolf Slough, Mill Creek Tributary 1, and Mill Creek Tributary 2.

Corridor runoff is divided into six stormwater basins. Basin 1 extends approximately 1,600 feet from 59th Avenue East to the Wolf Slough crossing and outfall. Basin 2 extends approximately 5,500 feet from the Wolf Slough crossing and outfall to the south side of 44th Avenue East, coinciding with the Mill Creek watershed divide. Basin 3 extends approximately 1,800 feet from the south side of 44th Avenue East to the Mill Creek Tributary 1 crossing. Basin 4 extends approximately 2,400 feet from the Mill Creek Tributary 1 crossing to a topographic crest. Basin 5 extends approximately 2,400 feet from the topographic crest to the Mill Creek Tributary 2 crossing. Basin 6 extends approximately 550 feet from the Mill Creek Tributary 2 crossing to SR 64.

2.11 Floodplain

2.11.1 FEMA / Manatee County 100-Year Floodplain

Lorraine Road is within Manatee County Unincorporated Areas shown on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) 12081C0345E, 12081C0334E, and 12081C0332E with effective dates of March 17, 2014. A summarized review of the FEMA FIRM coverage indicates the Lorraine Road corridor lies within Zone X (areas of 0.2% annual chance flood) from 59th Avenue East through SR 64. There are two exceptions – a Zone AE area (100-year elevation 31+/-) within the Wolf Slough crossing and a Zone A area (100-year elevation undetermined) within Mill Creek Tributary 1, north of 44th Avenue East.

2.11.2 Manatee County 25-Year Floodplain

The County provides mapped delineation of the 25-Year Floodplain. The 25-Year Floodplain, based on modeled conveyances within Wolf Slough and Mill Creek, parallels Lorraine Corridor to the west and encroaches Wolf Slough and Mill Creek tributaries up to the Lorraine Road cross drains.

2.12 Soils and Geotechnical Data

Soils within the Study area are predominantly fine sands with hydrologic soil group A/D. A United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Custom Soil Resource Report can be found in the Pond Siting Technical Memorandum in **Appendix F**. A soils map of the Study area appears in **Figure 2-5**.

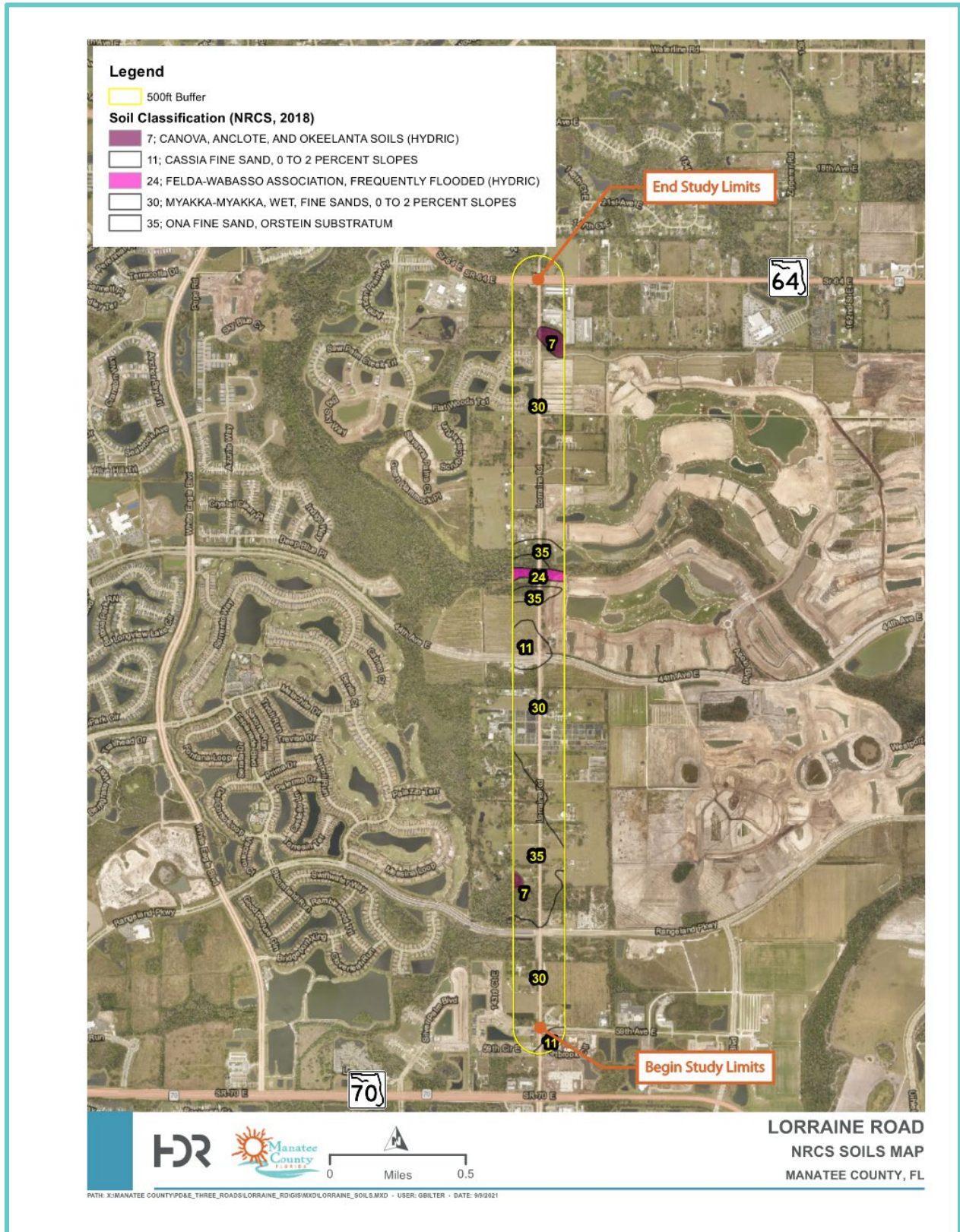


Figure 2-5 | NRCS Soils Map

2.13 Lighting

There is no street lighting provided along Lorraine Road within the Study area. Rangeland Parkway, 44th Avenue East, and SR 64 provide corridor lighting.

2.14 Utilities

An overview of the County owned utilities overlaid with the proposed 500-foot roadway buffer zone is presented below in **Figure 2-6**. Detailed maps based on County GIS information and UAO provided location and alignment information are provided in **Appendix G**.

2.14.1 Manatee County Potable Water Mains

Existing County potable water mains within the Study area include parallel mains and laterals. The parallel mains are summarized in **Table 2-4** and shown in **Figure 2-6**. A full assessment of existing potable water mains including utility age and asset IDs appears in **Appendix G**.

Table 2-4 | Lorraine Road Parallel Potable Water Mains

Description	Roadway	Location
36" PVC Water Main	Lorraine Road	Along the west side of Lorraine Road from 59 th Circle East to SR 64 – primarily located in green space but is under pavement in turn lane sections
8" PVC Water Main	59 th Circle East	Along the south side of 59 th Circle East
8" PVC Water Main	59 th Avenue East	Along the north side of 59 th Circle East
16" DIP Water Main	44 th Avenue East	Along the south side of 44 th Avenue East
10" HDPE Water Main	Lorraine Road	Eastern crossing of Lorraine Road from the 36" water main to the Taylor Morrison property (near Santa Caterina Blvd)
8" PVC Water Main	Florida Rosemary Drive	Along the south side of Florida Rosemary Drive
42" DIP Water Main	SR 64	Along the south side of SR 64, connected to the 36" water main
8" DIP Water Main	SR 64 intersection	Crossing the SR 64 intersection to 145 th Street East, connected to the 36" water main

2.14.2 Manatee County Wastewater Mains

Existing County wastewater mains within the Study area include parallel mains and laterals. The parallel mains are summarized in **Table 2-5** and shown in **Figure 2-6**. A full assessment of existing wastewater mains including utility age and asset IDs appears in **Appendix G**.

Table 2-5 | Lorraine Road Parallel Wastewater Mains

Description	Roadway	Location
24" PVC Force Main	44 th Avenue East	Along the north side of 44 th Avenue East

2.14.3 Manatee County Information Technology

The County Information Technology Department maintains the East County Fiber Ring (ECFR) which is in the Study area. The ECFR is present on SR 64 and SR 74, connected by a north-south run along Lorraine Road to complete the ring. The County Information Technology system traditionally consists of a 7-way DuraLine FuturePath conduit with pull boxes approximately every 250 feet. The County Information Technology system is shown in **Figure 2-6**.

There have been several projects within the Lorraine Road corridor that have impacted the conduit system. At the southern end of the Study area, the facility is currently on the east side of Lorraine Road from SR 70 to a pull box at 59th Avenue East in a shared trench with the County ATMS facilities. From there the conduit system crosses Lorraine Road to the west side and heads north to SR 64 with infrequent, non-standard pull box spacing. The current construction projects for the signalization of the Rangeland Parkway and 44th Avenue East intersections is also impacting the County Information Technology facilities. The planned construction efforts will also relocate the conduit system between these intersections in a shared trench with the County ATMS facilities.

There is a conduit system planned to take the fiber optic cable from Lorraine Road and the ECFR along the south side of Rangeland Parkway to the new Premier Sports Complex facilities. The proposed FDOT roundabout project at SR 64 will also require relocations of the conduit system at the northern end of the Study area.

2.14.4 Manatee County ATMS

There are currently no County ATMS facilities in the Study area. The previous project to widen Lorraine Road from SR 70 to 59th Avenue East also placed conduit for future ATMS connection, in a shared trench installation with the County Information Technology conduit system. The current construction projects for the signalization of the Rangeland Parkway and 44th Avenue East intersections will be connecting ATMS facilities to the SR 70 intersection through new conduit on the west side of Lorraine Road and this previously constructed conduit.

2.14.5 Utility CIP Projects

There are no CIP projects currently scheduled within the Study area for Manatee County Utilities.

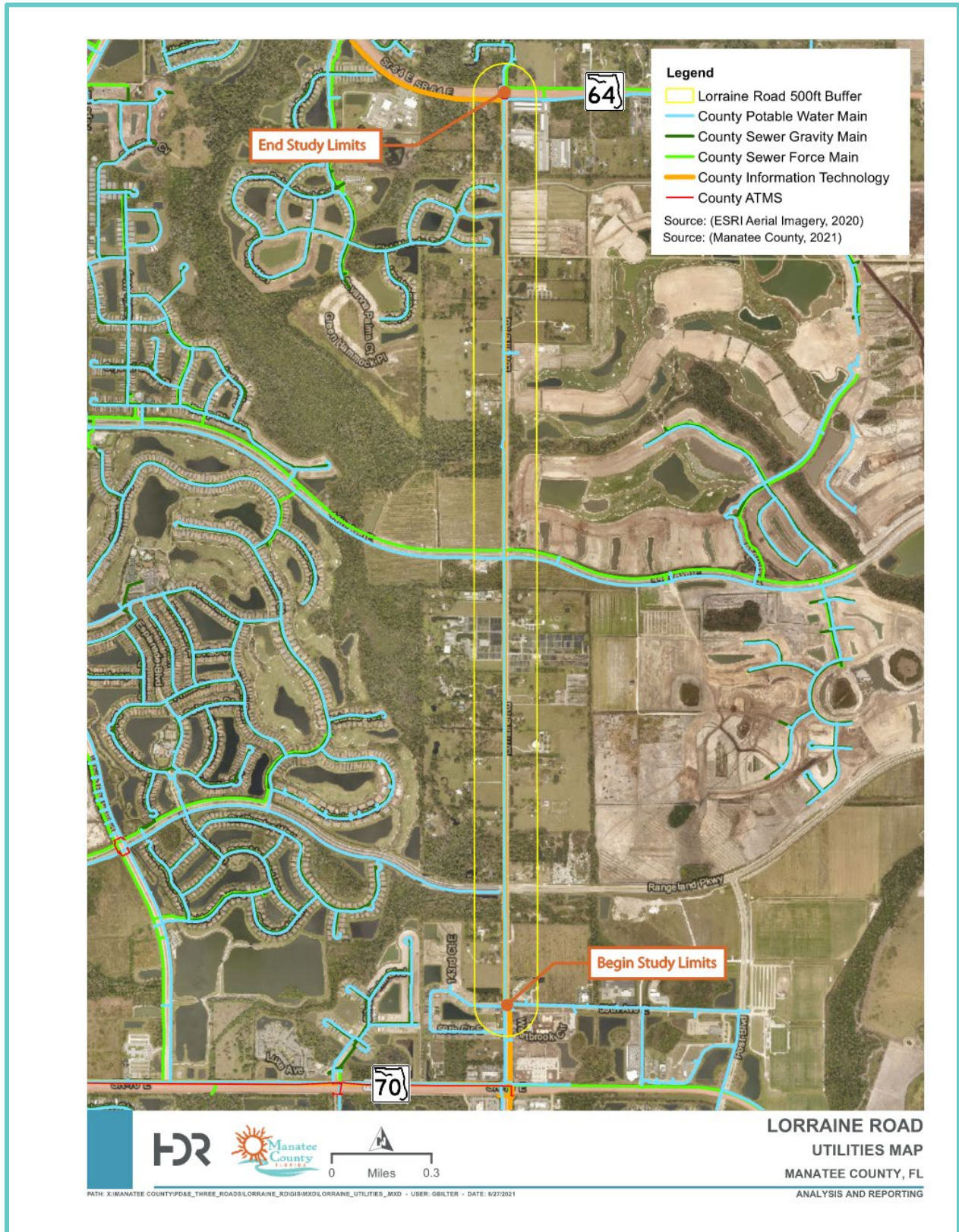


Figure 2-6 | Utilities Map

2.14.6 Private Utility Facilities

Private utility agency owners (UAOs) with utilities located within the Study area were contacted for information on their facilities. **Table 2-6** summarizes the information received for these private UAOs. Additional coordination will be required during the design phase of Lena Road.

Table 2-6 | Lorraine Road Private Utility Facilities

Utility Agency Owner	Description of Facilities
Peace River Electric Cooperative (PRECO)	<ul style="list-style-type: none"> • PRECO maintains a Distribution corridor along the east side of Lorraine Road for the entire Study area • At the southern end, a Transmission corridor is maintained along the east side of Lorraine Road from SR 70 to 59th Avenue East • PRECO maintains Transmission a corridor along both sides of 59th Avenue East
Spectrum (Charter Communications)	<ul style="list-style-type: none"> • Spectrum maintains aerial facilities along the east side of Lorraine Road for the entire Study area, on the PRECO poles
Braden River Utilities (BRU)	<ul style="list-style-type: none"> • BRU maintains a 24-inch DIP reclaim main that starts at the 44th Avenue East intersection and extends north along the east side of Lorraine Road to the Taylor Morrison property • BRU maintains a 10-inch PVC reclaim main in the median of 44th Avenue East, crossing the Lorraine Road intersection • BRU maintains a 16-inch PVC reclaim main along the north side of 44th Avenue East, crossing the Lorraine Road intersection
AT&T	<ul style="list-style-type: none"> • AT&T maintains one (1) 2-inch HDPE transmission facility along the east side of Lorraine Road for the entire Study area
MCI	<ul style="list-style-type: none"> • MCI maintains a buried fiber optic cable that runs along the west side of Lorraine Road from SR 70 to 59th Circle East then heads east along the south side of 59th Avenue East
Frontier Communications	<ul style="list-style-type: none"> • Fronter maintains a 1-1.5" polypipe and a 1-1.25" polypipe with fiber on the west side of Lorraine Road • Fronter maintains 2 buried copper cables on the west side of Lorraine Road • Frontier maintains a 6-4" PVC conduit on the north side of SR 64
TECO Peoples Gas	This UAO from the Sunshine One Call for the Study area has not responded

2.15 Signs

There are no overhead sign structures along Lorraine Road. Standard ground mounted signs are provided for traffic control (speed limit, stop, etc.).

There are monument signs for residential communities, businesses, and churches along the corridor, located outside of the existing right of way

2.16 Structures

There are three (3) structural crossings of waterways on Lorraine Road.

2.16.1 Concrete Box Culvert NB2055 – Wolf Slough Tributary 1

This crossing is located south of Rangeland Parkway and is a double 7-foot by 7-foot concrete box culvert for Wolf Slough. This 100 LF box culvert was replaced in 2021 with the turn lane widening of Lorraine Road.



Figure 2-7 | Concrete Box Culvert NB2055

2.16.2 Bridge 134045 – Wolf Slough

This crossing is located north of 44th Avenue East and is a three (3)-span slab unit bridge. The structure was built in 1965 and has been designated as functionally obsolete. The structure is on the County recommended list for replacement.



Figure 2-8 | Three-Span Bridge 134045

2.16.3 Bridge NB2009 – Mill Creek

This crossing is located south of SR 64 and is a single span slab unit bridge with external post-tensioning. The structure has been designated as functionally obsolete and is on the County recommended list for replacement.



Figure 2-9 | Single-Span Bridge NB2009

2.16.4 Signalized Intersections

With the completion of the Capital Improvement Projects at Rangeland Parkway and 44th Avenue East in 2021, signal mast arm structures will be located at these signalized intersections. Strain pole signals are currently located at the signalized intersection with SR 64.

3.0 Existing Environmental Conditions

An analysis of the natural, cultural, and contamination issues/resources was performed as part of the Study. The purpose of this analysis was to determine the existing conditions within the corridor study area and identify potential effects from the proposed modifications to Lorraine Road. The existing natural and cultural resources within the study area, as well as the potential for impacts to the study area from contamination sites are summarized below.

3.1 Natural Resources

A Natural Resources Assessment Technical Memorandum (see **Appendix C**) was prepared to support the Study through the evaluation of **Protected Species and Habitat, Wetlands and Other Surface Waters, and Essential Fish Habitat**. The Technical Memorandum documents the results of the corridor assessment in order to support decisions associated with the proposed project as it relates to natural resources potentially present in the corridor study area.

The natural resources assessment was performed using as guidance Part 2, Chapter 16 Protected Species and Habitat and Chapter 9 Wetlands and Other Surface Waters of the Florida Department of Transportation (FDOT) PD&E Manual (July 1, 2020). However, this assessment is not considered a full Natural Resources Evaluation (NRE) as defined in the FDOT PD&E Manual. For this project, the study area includes a 500-foot buffer, east and west of the existing road centerline (i.e., project limits), totaling a 1,000-foot-wide study corridor. All natural resources discussed below fall within this study area. The natural resources assessment did not evaluate proposed stormwater management facilities outside of the corridor study area, such as potential pond locations, if any.

3.1.1 Protected Species and Habitat

The project was evaluated for potential impacts to federal and State of Florida (state) endangered or threatened species of fish, wildlife, and plants (listed species) and habitat of such species that has been designated as critical habitat under Section 7(a) of the Endangered Species Act (ESA) of 1973, as amended. Protected species were also reviewed for their potential to occur within the corridor study area.

Federal Protected Wildlife and Critical Habitat

Five federal listed species protected by the U.S. Department of Interior Fish and Wildlife Service (USFWS) potentially occur within the corridor study area. The proposed project would be expected to result in the effect determinations provided in **Table 3-1** for federal listed species. Migratory birds and their habitat, including the non-listed but federally protected bald eagle and osprey were also present in this region and included in **Table 3-1**. However, this list may need to be refined based on the project alternative selected to proceed. USFWS designated critical habitat, as defined by Congress 50 CFR §17.94, was not present within the corridor study area. Therefore, the proposed project would not result in the ***destruction or adverse modification of critical habitat***.

Table 3-1 | Project Effect Determinations for Federal Listed and Protected Wildlife

Scientific Name	Common Name	Status	Project Effect Determination
Federal Listed Wildlife			
<i>Ammodramus savannarum floridanus</i>	Florida grasshopper sparrow	Endangered	No effect
<i>Caracara cheriway</i>	Crested caracara	Threatened	No effect

Scientific Name	Common Name	Status	Project Effect Determination
<i>Drymarchon corais couperi</i>	Eastern indigo snake	Threatened	May affect, not likely to adversely affect
<i>Mycteria americana</i>	Wood stork	Threatened	May affect, not likely to adversely affect
<i>Aphelocoma coerulescens</i>	Florida scrub jay	Threatened	No effect
Federal Protected Wildlife			
<i>Haliaeetus leucocephalus</i>	Bald eagle	BGEPA* MBTA**	No effect
<i>Pandion haliaetus</i>	Osprey	MBTA**	No effect

*Bald & Golden Eagle Protection Act and Migratory Bird Treaty Act. **Migratory Bird Treaty Act

State Protected Wildlife

Nine state listed wildlife managed by the Florida Fish and Wildlife Conservation Commission (FWC) could potentially occur within the corridor study area. The proposed project would be expected to result in the effect determinations provided in **Table 3-2** for state listed species. However, this list may need to be refined based on the project alternative selected to proceed.

Table 3-2 | Project Effect Determinations for State Listed Wildlife

Scientific Name	Common Name	Status	Project Effect Determination
<i>Antigone canadensis pratensis</i>	Florida sandhill crane	Threatened	No effect anticipated
<i>Athene cucularia floridana</i>	Florida burrowing owl	Threatened	No effect anticipated
<i>Falco sparverius paulus</i>	Southeastern American kestrel	Threatened	No effect anticipated
<i>Gopherus polyphemus</i>	Gopher tortoise	Threatened	No adverse effect anticipated
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	Threatened	No effect anticipated
Wading Birds			
<i>Egretta caerulea</i>	Little blue heron	Threatened	No effect anticipated
<i>Egretta tricolor</i>	Tricolored heron	Threatened	No effect anticipated
<i>Platalea ajaja</i>	Rosette spoonbill	Threatened	No effect anticipated

Scientific Name	Common Name	Status	Project Effect Determination
Nesting Shorebirds			
<i>Sternula antillarum</i>	Least Tern	Threatened	No effect anticipated

Federal and State Protected Plants

There were eight state listed plants and one federal listed plant protected by the Florida Department of Agricultural and Consumer Services (FDACS) that have the potential to occur within the corridor study area, including five endangered and three threatened. These listed plant species are shown in **Table 3-3**. None were observed during preliminary field surveys. However, this list may need to be refined based on the project alternative selected to proceed. Due to their low likelihood of occurrence, there is **no effect anticipated** to these federal and state listed plant species.

Table 3-3 | Project Effect Determinations for Federal and State Listed Plants

Scientific Name	Common Name	Status	Project Effect Determination
<i>Calopogon multiflorus</i>	Many-flowered Grass-pink	State Threatened	No effect anticipated
<i>Centrosema arenicola</i>	Sand Butterfly Pea	State Endangered	No effect anticipated
<i>Chrysopsis floridana</i>	Florida Goldenaster	Federal/State Endangered	No effect anticipated
<i>Lechea cernua</i>	Nodding Pinweed	State Threatened	No effect anticipated
<i>Matelea floridana</i>	Florida Spiny-pod	State Endangered	No effect anticipated
<i>Nemastylis floridana</i>	Celestial Lily	State Endangered	No effect anticipated
<i>Panicum abscissum</i>	Cutthroat Grass	State Threatened	No effect anticipated
<i>Rhynchospora megaplumosa</i>	Large-plumed Beaksedge	State Endangered	No effect anticipated

3.1.2 Wetlands and Other Surface Waters

Wetlands and other surface waters were identified within the corridor study area. The primary wetland types in the study area included stream and lake swamps, wetland forested mixed, and freshwater marshes. Generally, all wetland systems identified were in moderate to poor condition, having incurred drainage by ditching, watershed conversions to farmland, and/or nearby development. Vegetation communities within the wetlands have also been degraded by agricultural activities, tree harvesting, and nuisance and exotic species growth.

Surface waters were present mostly associated with the three water channels that cross Lorraine Road at the north, central, and south areas of the project. These drainages were historically natural and associated with wetlands draining from east to west across the road corridor.

A total of six (6) wetlands and six (6) surface waters were identified within the corridor study area. During evaluation of the road alignment alternatives, potential impacts to wetlands and surface waters would be identified and quantified. Direct impacts would include permanent and temporary impacts and would be quantified and tabulated for the state and federal permit applications.

3.1.3 Essential Fish Habitat

Essential fish habitat does not occur within the corridor study area; therefore, an Essential Fish Habitat (EFH) Assessment was not required.

3.2 Cultural Resources

To support the Study, background research was conducted to identify known cultural resources within the corridor study area that have the potential to be impacted by the proposed project improvements. The background research informed recommendations for future cultural resources surveys (archaeological and architectural) in the corridor study area. For the cultural resources' assessment, the corridor study area comprises a 500-foot buffer on either side of the existing Lorraine Road centerline.

A desktop review was completed to identify known cultural resources within the corridor study area, and within 1 mile of the corridor study area boundaries. The results of the desktop review are shown in Figure 3-1. The desktop review consisted of a search of Florida Master Site File (FMSF) records to identify previous cultural resources surveys conducted in the corridor study area and vicinity, and previously recorded archaeological sites and architectural resources (buildings and structures) in those areas. Manatee County Appraisal District data, and historic aerials and United States Geological Survey (USGS) maps available online, were used to identify historic-age buildings in the corridor study area.

The desktop review revealed that previous archaeological surveys have been performed within much of the corridor study area over the past 20 years. Approximately 0.65 miles of the length of the corridor study area has not been previously surveyed. Of the un-surveyed area, approximately 580 feet is undisturbed. The undisturbed area also crosses an unnamed tributary of Mill Creek, which indicates a higher probability for undiscovered archaeological material. One known archaeological site, Site 8MA00036, is located in the corridor study area. Site 8MA00036 has not been evaluated for inclusion in the National Register of Historic Places (NRHP). An archaeological survey of the undisturbed portion of the corridor study area and a revisit to Site 8MA00036 is recommended. It is advised that should any archaeological materials be identified during construction, all construction should cease, and the Florida Division of Historic Resources should be notified.

No historic-age architectural resources have been previously recorded in the corridor study area. A review of Manatee County Appraisal District data online showed 13 historic-age buildings (those constructed in 1976 or before) that have not been previously surveyed in the corridor study area. Given the presence of previously unrecorded historic-age architectural resources in the corridor study area, an architectural resources survey may also be necessary to survey those resources and evaluate their eligibility for listing in the NRHP, depending on the final project design and potential impacts to historic-age architectural resources.

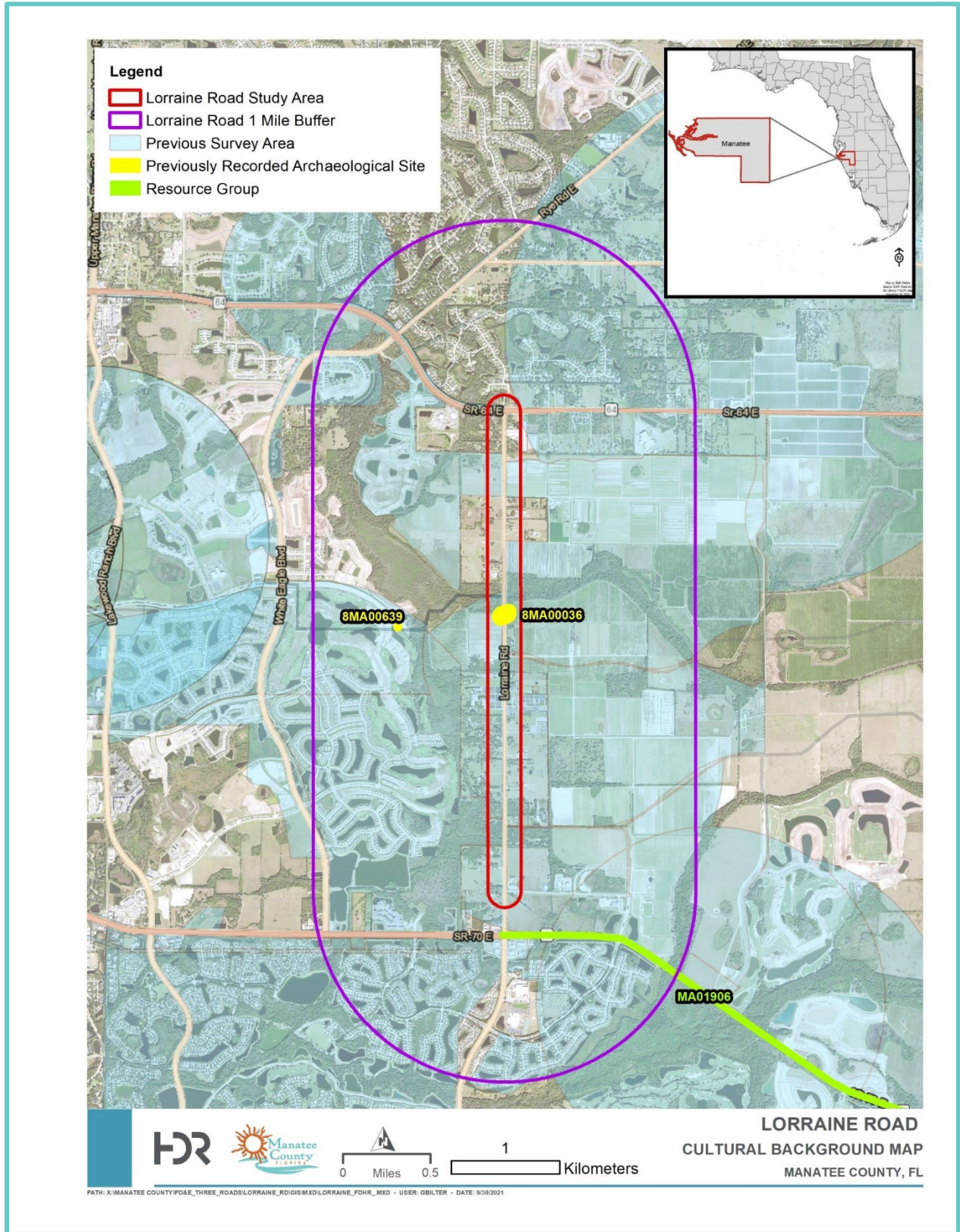


Figure 3-1 | Cultural Background Map

3.3 Contamination

A preliminary contamination screening was conducted for the project corridor to support the Study by identifying properties or facilities that have potential contamination that may affect the Lorraine Road corridor. The preliminary contamination screening was performed and documented using the Florida Department of Transportation (FDOT) Project Development and Environment (PD&E) Manual, Chapter 20 as a guide. However, it is not considered a full Contamination Screening Evaluation Report as defined in the FDOT PD&E Manual. The Contamination Screening Technical Memorandum is provided in **Appendix E**.

A hazardous materials rating system that expresses the degree of concern for potential contamination problems was used to rank the identified sites. The ratings are No, Low, Medium, and High. Twelve (12) sites were identified within the contamination screening buffer distances. These sites were investigated for current or past operations that may present the potential for finding contamination concerns and therefore may impact proposed improvements for the study area. The applied risk ratings are provided in **Table 3-4**.

Table 3-4 | Risk Ratings for Potential Contamination Sites

Risk Rating	No. of Sites in Study Area
High	0
Medium	3
Low	4
No	5

No High-risk sites were identified. The location of the three Medium risk sites are shown in **Figure 3-2**.

For sites ranked No and Low for potential contamination, no further action is required at this time. These sites/facilities have the potential to impact the study area but based on select variables have been determined to have low risk to the project at this time. Variables that may change the risk rating include a facility's non-compliance to environmental regulations, new discharges to the soil or groundwater, and modifications to current permits. Should any of these variables change, additional assessment of the facilities would be conducted.

For those locations with a risk rating of "Medium", field screening or a soil management plan may be needed depending on the locations of construction and intrusive activities proposed for the study area. These sites have been determined to have potential contaminants, which may impact the proposed construction. A soil and groundwater sampling plan may be needed for each site. The sampling plan should provide sufficient detail as to the number of soil and groundwater samples to be obtained and the specific analytical tests to be performed. A site location sketch for each facility showing all proposed boring locations and groundwater monitoring wells should also be included in the sampling plan.



Figure 3-2 | Contamination Location Map

4.0 Alternatives Analysis

4.1 Design Criteria

4.1.1 Reference Manuals

1. Manatee County Public Works Standards (PWA), Part 3. Highway & Traffic Standards Manual, Amended November 2016.
2. Manatee County Comprehensive Plan, Element 5 – Transportation, Table 5-1 (PA-17-02)
3. Florida Greenbook (FGB), Manual of Uniform Standards for Design, 2018 Edition
4. FDOT Design Manual (FDM), 2021

4.1.2 Design Elements

Table 4-1 | General Design Elements

Design Element	Criteria	Source
Design Period	20 years	Manatee County
Context	Suburban Neighborhoods	PWS Figure T-15
Functional Classification	Arterial	PA-17-02 Table 5-1
Design Speed	40 mph	FDM Table 201.5.1 C3 Suburban Minimum
Posted Speed	40 mph	
Design Vehicle	WB-62 FL	FDM 201.6.1
Roundabout Control Vehicle	WB-62 FL	FDM 201.6.1, FDM 213.7

Table 4-2 | Typical Section Design Elements

Design Element	Criteria	Source
Number of Lanes	4	PA-17-02 Table 5-1
Lane Width	11 ft	FGB Table 3-20
Median Width	22 ft 15.5 ft	PWS 401.2, FGB Table 3-23 FGB Table 3-23 (Footnote 2)
Right of Way Width	120 ft	PA-17-02 Table 5-1
Bicycle Lane Width	4 ft 4' min. 7' buffered preferred	PWS 401.2, FGB Figure 9-1 FDM 223.2.1.1
Sidewalk Width	5' (4' from back of curb) 5' (2' from back of curb) 6' (adjacent to curb)	PWS 401.2 FGB Ch. 8, B.1 FGB Ch. 8, B.1
Shared Use Path Width	10' minimum 5' (minimum distance from face of curb)	FBG Ch. 9, C.1 FBG Ch. 9, C.1
Lateral Offset	4 ft	FDM Table 215.2.2 (Curbed)

Table 4-3 | Horizontal Alignment Design Elements

Design Element	Criteria	Source
Min. Stopping Sight Distance	305 ft	FGB Table 3-4
Max. Deflection without curve	2° 00' 00"	FGB Ch. 3, C.4.b
Length of Curve	600 ft (15V) 400 ft (min.)	FBG Table 3-8
Max. Curvature (Min. Radius)	10° 45' (534 ft)	FGB Table 3-11
Max. Superelevation	0.05	FBG Ch. 3, C.4.c.2

Table 4-4 | Vertical Alignment Design Elements

Design Element	Criteria	Source
Max. Grade	7 %	FGB Table 3-16 (Level, Urban)
Min. Longitudinal Gutter Grade	0.3%	FGB Ch. 20, D.6.b
Max. Change in Grade without Vertical Curve	0.8	FGB Table 3-17
Min. Crest Curve K	44	FGB Table 3-18
Min. Sag Curve K	64	FGB Table 3-18
Min. Curve Length	120 ft (3V)	FGB Table 3-18
Vertical Clearance	16.5 ft	FGB Ch. 3, C.7.j.4(b)
Base Clearance above BCWE	3 ft	FDM 210.10.3 (2)

4.2 No-Build Alternative

The No-Build Alternative considers the future conditions if the proposed project is not built. It includes the routine maintenance improvements to the existing roadway and project corridor but does not meet the project needs.

The completion of the Rangeland Parkway and 44th Avenue East signalized intersections will introduce congestion along Lorraine Road as traffic stops for these intersecting roadways. While turn lanes are provided along Lorraine Road, the lack of capacity will be realized as the regional traffic network is redefined as major developments are completed between Lorraine Road and Uihlein Road.

The growth rate proposed to forecast the Design Year (2045) traffic volumes reviewed the historic five-year and ten-year growth rates as well as the University of Florida Bureau of Economic and Business Research (BEER) population data. **Appendix B** contains the Traffic Analysis Memo performed for the Study. The proposed growth rate for the Study is 6.32%.

Table 4-5 | Design Year (2045) Design Traffic Volume Characteristics

Limits	59 th Ave East to Rangeland Pkwy	Rangeland Pkwy to 44 th Ave East	44 th Avenue East to SR 64
Characteristic	Value	Value	Value
2021 AADT	12,000 vehicles	10,000 vehicles	6,900 vehicles
2045 AADT	30,300 vehicles	25,200 vehicles	17,500 vehicles
Peak-to-Daily Ratio	9.50%	9.50%	9.50%
DHV	2,879 vehicles	2,394 vehicles	1,663 vehicles
Directional Distribution	56.80 %	56.80 %	56.80 %
Peak Directional Volume	1,635 vehicles	1,360 vehicles	944 vehicles
Off-Peak Directional Volume	1,244 vehicles	1,034 vehicles	718 vehicles

Under the No-Build Alternative, the Lorraine Road corridor is expected to exceed the LOS D maximum service volume as shown in **Table 4-6**. The peak directional volumes the design year (2045) are compared to a LOS D maximum service volume of 792 vehicles for the facility.

Table 4-6 | Design Year (2045) No Build LOS D Capacity Analysis

Lorraine Road Segment	Peak Hour Directional LOS D Maximum Service Volume
59 th Ave East to Rangeland Pkwy	206%
Rangeland Pkwy to 44 th Ave East	172%
44 th Ave East to SR 64	119%

4.3 Initial Alternatives

The Build Alternatives offer significant improvements to the capacity of Lorraine Road between 59th Avenue East and SR 64. Under the Build Alternatives, the Lorraine Road corridor is expected to operate below the LOS D maximum service volume as shown in **Table 4-7**. The peak directional volumes the design year (2045) are compared to a LOS D maximum service volume of 1,800 vehicles for the Build Alternative facilities.

Table 4-7 | Design Year (2045) Build LOS D Capacity Analysis

Lorraine Road Segment	Peak Hour Directional LOS D Maximum Service Volume
59 th Ave East to Rangeland Pkwy	91%
Rangeland Pkwy to 44 th Ave East	76%
44 th Ave East to SR 64	52%

4.3.1 Corridor Analysis

As the existing right of way is not sufficient to accommodate a planned four-lane divided facility, the corridor analysis considered three basic alignments based on a 120-foot right of way need.

Corridor Alternative A shifted Lorraine Road predominantly to the west, while aligning back to center to tie to the new intersections at Rangeland Parkway and 44th Avenue East, as to not impact the newly constructed signal structures.

Corridor Alternative B shifted Lorraine Road predominantly to the east, while aligning back to center to tie to the new intersections at Rangeland Parkway and 44th Avenue East, as to not impact the newly constructed signal structures.

Corridor Alternative C maintained Lorraine Road near its current alignment. This alternative was not evaluated further as it would nearly double the parcel impacts along the corridor.

See **Figure 4-1** and **Figure 4-2** for the initial parcel impact areas associated with each corridor alternative. **Table 4-8** below summarizes the impacts.

Table 4-8 | Corridor Alternative Right of Way Impacts

Corridor Alternative	A (West Shift)	B (East Shift)
Parcel Impacts	49	43
Residential Relocation Potential	0	0
Estimated Right of Way Need*	12.5 acres	13.8 acres

*Excludes right of way for offsite ponds, as this was considered the same for both alternatives.

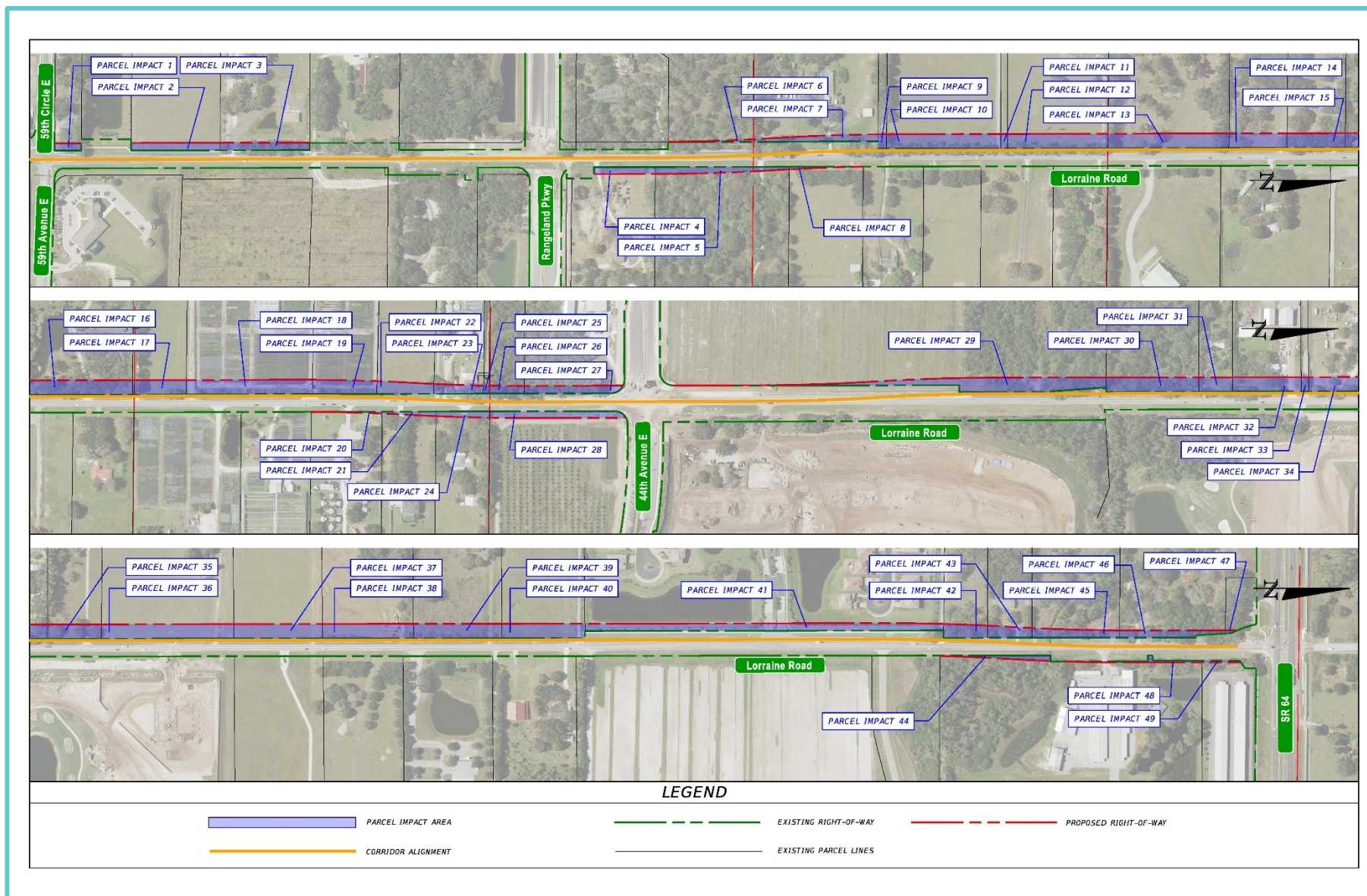


Figure 4-1 | Corridor Alternative A Initial Parcel Impacts

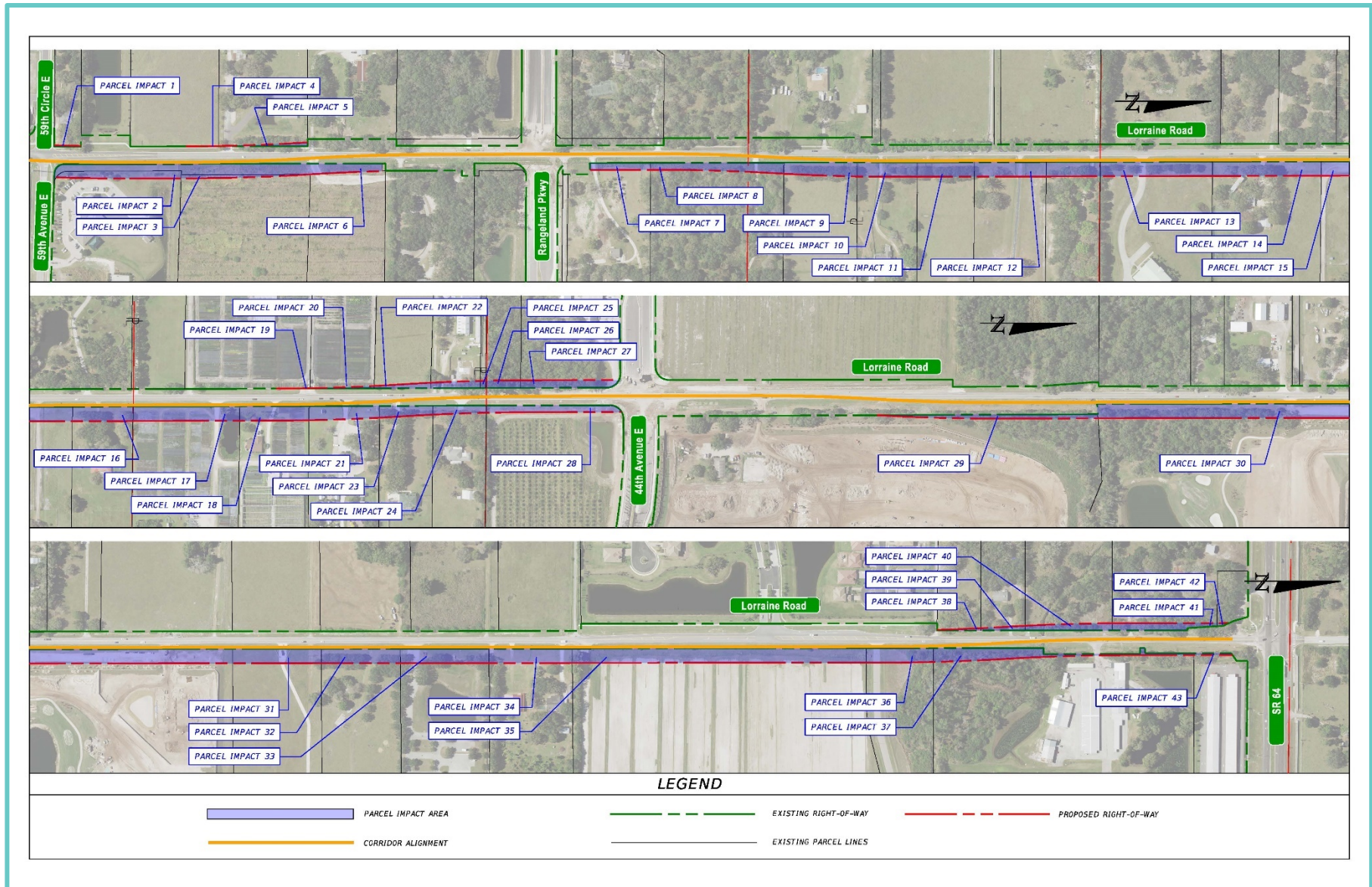


Figure 4-2 | Corridor Alternative B Initial Parcel Impacts

4.3.2 Typical Section Analysis

Build Typical Section 1

Build Typical Section 1 is a four-lane divided curbed roadway, based on the Manatee County Public Works Manual Figure 401.2. This typical section accommodates vehicular traffic with four 12-foot travel lanes, two lanes in each direction separated by a 22-foot raised median. Bicycle traffic is accommodated by a 4-foot bike lane adjacent to the outside vehicular travel lane. Pedestrian traffic is accommodated by 5-foot sidewalks located within the border of the roadway, offset 4 feet from the back of curb. The required right of way is 120 feet. Temporary construction easements are anticipated for driveway connections and harmonization with adjacent property, as required.

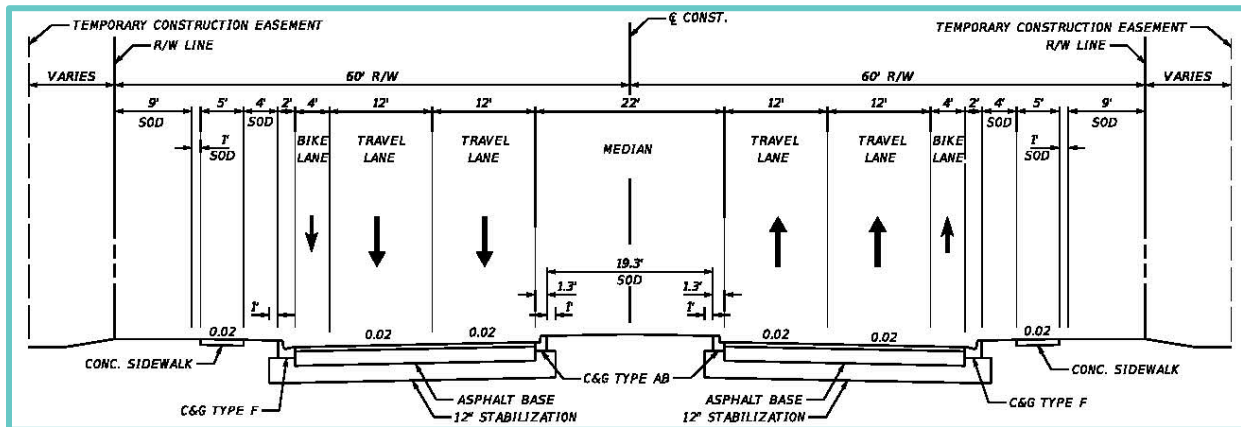


Figure 4-3 | Build Typical Section 1

Build Typical Section 2

Build Typical Section 2 is a four-lane divided curbed roadway with a reduced median and wider sidewalk on the west side. This typical section would accommodate vehicular traffic with four 12-foot travel lanes, two lanes in each direction separated by an 18-foot raised median. Bicycle traffic would be accommodated by a 7-foot buffered bike lane adjacent to the outside vehicular travel lane. Pedestrian traffic is accommodated by a 10-foot sidewalk on the west side of the roadway and a 5-foot sidewalk on the east side of the roadway. The sidewalks are located within the border of the roadway, offset 4 feet from the back of curb. The required right of way is 120 feet. Temporary construction easements are anticipated for driveway connections and harmonization with adjacent property, as required.

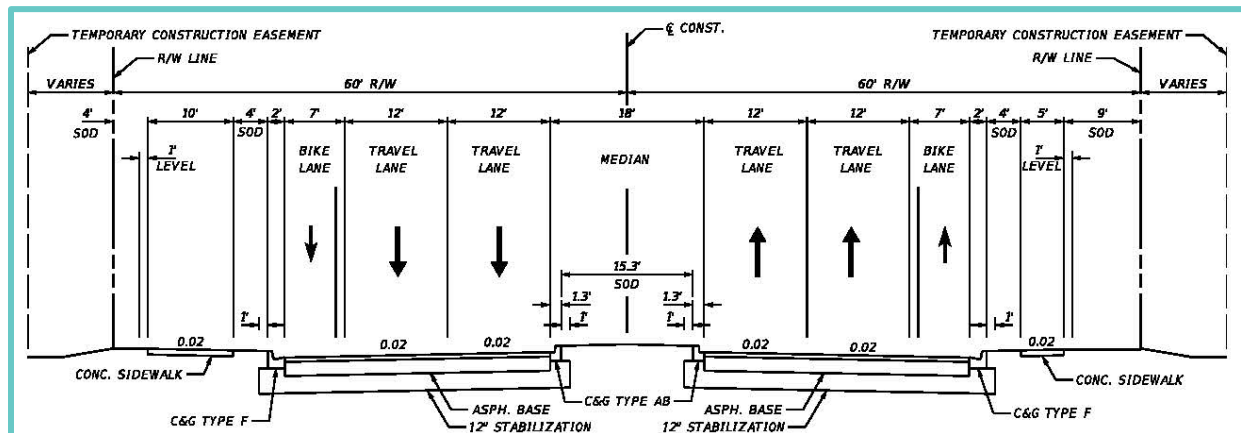


Figure 4-4 | Build Typical Section 2

Build Typical Section 3

Build Typical Section 3 is a four-lane divided curbed roadway with a reduced median and wider sidewalk on the west side. This typical section accommodates vehicular traffic with four 11-foot travel lanes, two lanes in each direction separated by an 18-foot raised median. Bicycle traffic is accommodated by a 6-foot buffered bike lane adjacent to the outside vehicular travel lane. Pedestrian traffic is accommodated by a 10-foot sidewalk on the west side of the roadway and a 5-foot sidewalk on the east side of the roadway. The sidewalks are located within the border of the roadway, offset 4 feet from the back of curb. The required right of way is 110 feet. Temporary construction easements are anticipated for driveway connections and harmonization with adjacent property, as required.

Due to the anticipated traffic and the substantial amount of residential development in the area, while Build Typical Section 3 reduced the amount of right of way required, it would not significantly reduce impacts and would be less safe for bicycle traffic. Build Typical Section 3 was eliminated from further consideration.

Build Typical Section 2 was selected as it best served all modes of transportation within the 120-foot right of way. The reduced median of 18-feet and 7-foot bike lane is consistent with Manatee County Complete Streets criteria for Parkway Urban facilities.

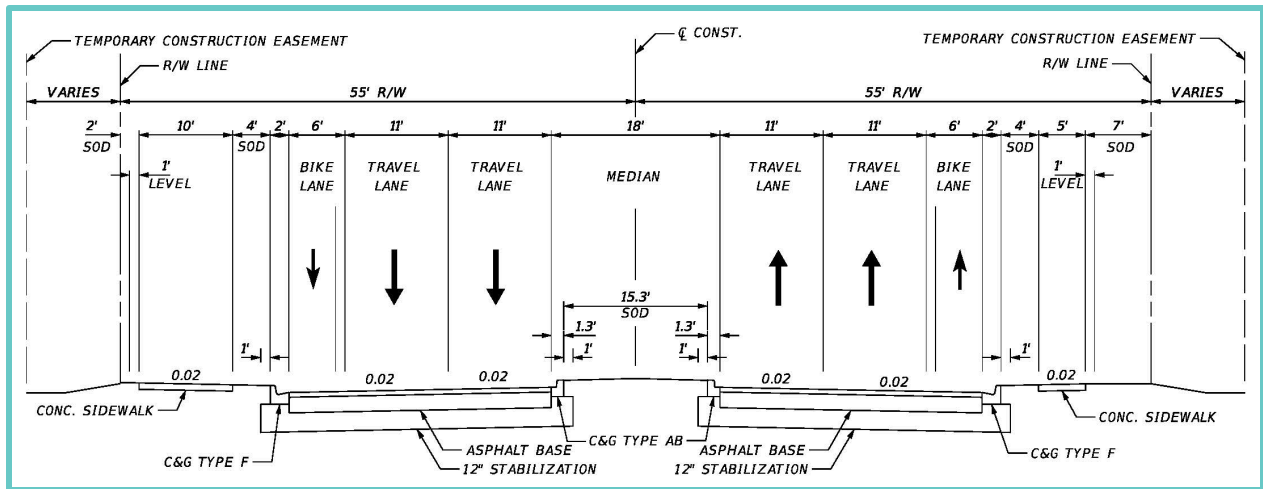


Figure 4-5 | Build Typical Section 3

4.4 Viable Alternatives

Corridor Alternative A and B both have similar impacts. While there are six additional parcel impacts with Alternative A, the overall right of way need is less. Initial assessment of the pond siting alternatives identified that more opportunities exist on the west side of the corridor as well. For these reasons, Alternative A was selected for advancement of the viable alternatives.

4.4.1 Alternative 1

Alternative 1 considers Corridor Alternative A with Build Typical Section 1.

4.4.2 Alternative 2

Alternative 2 considers Corridor Alternative A with Build Typical Section 2.

4.5 Pond Siting

Preliminary pond sizing calculations are based on SWFWMD water quality and quantity requirements and Manatee County stormwater design requirements. Analysis is based on Alternative 2 due to the wider impervious area of the typical section footprint. Six drainage basins were reviewed in the project limits. Each basin evaluated two pond sites and provided a recommended location based on the best available information to date. The full pond siting memo is provided in **Appendix F**.

4.6 Alternatives Evaluation

As both viable alternatives follow the same alignment and have the same right of way footprint, impacts and comparison of the alternatives remained solely with the Build Typical Section attributes (see **Table 4-9**).

Table 4-9 / Alternative Build Typical Section Evaluation

Evaluation Criteria	No-Build	Alternative 1 (Build Typical Section 1)	Alternative 2 (Build Typical Section 2)
Meets Purpose and Need	No	Yes	Yes
Number of Travel Lanes	2	4	4
Median Width (feet)	N/A	22	18
Travel Lane Width (feet)	12	12	12
Multi-Modal Accommodation	Partial	Yes	Yes
Sidewalk Width (Left/Right) (feet)	5* / 0	5 / 5	10 / 5
Bicycle Lane Width (feet)	0	4	7
Buffered Bicycle Lane	N/A	No	Yes

*Not continuous throughout project limits.

4.6.1 Engineering Considerations

Horizontal Alignment

The conceptual horizontal alignment meets the design speed of 40 mph and considers holding the existing easterly right of way as much as feasible. Shifts in the alignment utilize horizontal curves that do not require superelevation and meet a minimum of 400 feet in length. This curvature contributes to a slightly non-linear corridor.

Intersections

The beginning of the alignment considers the recently constructed improvements between SR 70 and 59th Avenue East and minimizes reconstruction. The end of the alignment considers the planned roundabout at SR 64. Along the corridor, the alignment considers the mast arms constructed at the signalized intersections of Rangeland Parkway and 44th Avenue East to avoid the need for reconstruction of the mast arm signal structures.

Other considerations

Where additional right of way is required for right turn lanes, removal of the utility strip between the outside curb and gutter is recommended to place the sidewalk immediately adjacent to the right turn curb and gutter when the additional right of way has potential to impact fencing, pond, etc. The sidewalk is recommended to be

6 feet minimum when adjacent to the curb and gutter. Gravity wall and pedestrian railing may also be required to mitigate drop off hazards adjacent to existing pond areas on properties with partial right of way acquisition.

4.6.2 Environmental Considerations

With both alternatives utilizing Corridor Alternative A, the environmental considerations are primarily neutral. Environmental impacts are anticipated regardless of the Corridor Alternative selection and avoidance was not a primary concern.

4.6.3 Utility Considerations

Lorraine Road widening and drainage improvements will impact both County-owned and private UAOs along the proposed corridor. Due to the proposed typical section improvements, impacts to the underground facilities are unavoidable.

The existing 36-inch water main that runs along the west side of Lorraine Road for the full extent of the corridor is impacted with either Corridor Alternative due to its potential location under future travel lanes or with the proposed stormwater conveyance system. The existing 24-inch reclaim main in the 44th Avenue East area is impacted with either Corridor Alternative for similar reasons. The PRECO power poles that run along the east side of Lorraine Road are potentially salvaged with the predominantly west side widening and will need to be coordinated further.

4.7 Recommended Alternative

The Recommended Alternative is Alternative 2 (Corridor Alternative A with Build Typical Section 2). The selection was based on the improved accommodation of bicycle and pedestrian accommodations, as all other impacts were somewhat equal due to the similarity of the Alternatives. This wider sidewalk will connect into the 10-foot wide sidewalk on the north side of the 44th Avenue East corridor to promote the trail network throughout this section of the County.

5.0 Details of the Recommended Alternative

5.1 Typical Section

The Recommended Typical Section is a four-lane divided curbed roadway with a reduced median and wider sidewalk on the west side. This typical section accommodates vehicular traffic with four 12-foot travel lanes, two lanes in each direction separated by an 18-foot raised median. Bicycle traffic is accommodated by a 7-foot buffered bike lane adjacent to the outside vehicular travel lane. Pedestrian traffic is accommodated by a 10-foot sidewalk on the west side of the roadway and a 5-foot sidewalk on the east side of the roadway. The sidewalks are located within the border of the roadway, offset 4 feet from the back of curb. The required right of way for this typical section is 120 feet. Temporary construction easements are anticipated for driveway connections and harmonization with adjacent property, as required. See **Figure 4-4** and **Appendix A**.

5.2 Horizontal and Vertical Geometry

Between 59th Avenue East and Rangeland Parkway, a series for horizontal deflections without curvature (1 degree or less) are used to minimize impacts and tie to the recent construction at each intersection.

North of the Rangeland Parkway intersection, a series of reversing horizontal curves is introduced after the turn lane development to shift the alignment westward. Approaching 44th Avenue East, a series of reversing horizontal curves is used to shift the alignment eastward back prior to the turn lanes for the intersection. A similar approach is used between 44th Avenue East and the proposed roundabout at SR 64.

Table 5-1 | Preliminary Horizontal Alignment Data

Point of Tangent Intersection	Deflection	Deflection Direction	Degree of Curvature	Curve Length
1	0° 52' 08"	RT	-	-
2	1°	LT	-	-
3	1°	LT	-	-
4	0° 58' 14"	RT	-	-
5	3° 19' 09"	LT	0° 45'	442.5 ft
6	3° 19' 54"	RT	0° 45'	444.2 ft
7	3° 16' 35"	RT	0° 45'	436.8 ft
8	3° 17' 21"	LT	0° 45'	438.5 ft
9	2° 35' 13"	RT	0° 30'	517.4 ft
10	7° 31' 41"	LT	1° 00'	757.8 ft
11	5° 01' 00"	RT	1° 00'	501.7 ft
12	3° 29' 06"	RT	0° 45'	464.6 ft
13	3° 28' 08"	LT	0° 45'	462.5 ft

The vertical geometry will be evaluated during final design when survey is secured. Design parameters should be attainable without significant impact to adjacent property.

5.3 Project Traffic Volumes

Appendix B contains the Traffic Analysis Memo performed for the Study. The proposed traffic volumes are summarized in **Table 5-2**.

Table 5-2 / Design Year (2045) Design Traffic Volume Summary

Limits	59 th Ave East to Rangeland Pkwy	Rangeland Pkwy to 44 th Ave East	44 th Avenue East to SR 64
Characteristic	Value	Value	Value
2045 AADT	30,300 vehicles	25,200 vehicles	17,500 vehicles
Peak-to-Daily Ratio	9.50%	9.50%	9.50%
DHV	2,879 vehicles	2,394 vehicles	1,663 vehicles
Directional Distribution	56.80 %	56.80 %	56.80 %
Peak Directional Volume	1,635 vehicles	1,360 vehicles	944 vehicles
Off-Peak Directional Volume	1,244 vehicles	1,034 vehicles	718 vehicles
LOS D Maximum Service Volume	1,800 vehicles	1,800 vehicles	1,800 vehicles
Peak Directional Volume % of LOS D Maximum Service Volume	91%	76%	52%

5.4 Intersection Concepts

The Recommended Alternative will revise intersection access for Lorraine Road as described below. Where turn lanes are provided, they are assumed to be 285 feet in length, including the 50-foot lane taper. This length was chosen to accommodate a 100-foot queue length and 185 feet for deceleration from 45 mph, for a conservative length. The final turn lane length required will be determined in final design based on turning movement counts.

5.4.1 59th Avenue East / 59th Circle East

This intersection will be potentially signalized with the Lorraine Road project. Left turn lanes will be provided in both directions of Lorraine Road. If warranted, a northbound right turn lane onto 59th Avenue East can be accommodated within the proposed right of way. The existing 5-foot sidewalk on this SE quadrant of the intersection was constructed as part of the SR 70 at Lorraine Road project and is outside of the proposed right of way footprint. A build out section for 59th Avenue East on the east leg of the intersection will include a left turn lane and right turn lane for the signalized intersection.

Pedestrian accommodations will be provided on all four legs of this intersection with the 10-foot sidewalk initiating on the NW quadrant of the intersection. At a minimum, crosswalks will be provided across 59th Circle East and 59th Avenue East. If a signal is warranted at this intersection, crosswalks would also be provided across Lorraine Road.

5.4.2 Rangeland Parkway

This intersection will remain signalized with no impacts to the mast arm foundations. No improvements are required for Rangeland Parkway. Dedicated left turn lanes and right turn lanes will be provided on Lorraine Road, which have been accommodated in the signalization design for this intersection.

Pedestrian accommodations will be provided on all four legs of this intersection. Crosswalks will be provided across all legs. Bicycle lane connectivity will exist with the keyhole lane for right turn lanes and the existing striping on Rangeland Parkway.

5.4.3 44th Avenue East

This intersection will remain signalized with no impacts to the mast arm foundations. No improvements are required for 44th Avenue East. Dedicated left turn lanes and right turn lanes will be provided on Lorraine Road, which have been accommodated in the signalization design for this intersection.

Pedestrian accommodations will be provided on all four legs of this intersection. Crosswalks will be provided across all legs. The 10-foot sidewalk on the west side of Lorraine Road will connect to the 10-foot sidewalk on the north side of 44th Avenue East, providing access to this trail corridor. Bicycle lane connectivity will exist with the keyhole lane for right turn lanes and the existing striping on 44th Avenue East.

5.4.4 Florida Rosemary Drive

This intersection will remain an unsignalized T-intersection. No improvements are recommended for Florida Rosemary Drive. A dedicated left turn lane and a right turn lane will be provided on Lorraine Road to access this side street. The median island on Florida Rosemary Drive is impacted by the widening of Lorraine Road.

Pedestrian accommodations will be provided on all three legs of this intersection. The 10-foot sidewalk on the west side of Lorraine Road will connect to the 5-foot sidewalk on the north side of Florida Rosemary Drive. No crosswalks are anticipated for Lorraine Road, but will be provided across the side street.

5.4.5 SR 64

The FDOT roundabout at SR 64 is proposing gore striping of the two-lane northbound entry for Lorraine Road in the interim condition. With the Recommended Alternative, the inside circulating lane of the roundabout will need to be restriped to accommodate the proposed condition. For the southbound direction, a one-lane exit from the roundabout is proposed by the FDOT project. This single lane will expand to the second southbound lane outside of the roundabout footprint area and FDOT right of way.

Pedestrians and bicyclists are accommodated with the proposed roundabout. The sidewalk on both sides of Lorraine Road will tie into the 10-foot sidewalk at the roundabout. The bicycle lanes will connect using traditional ramp access to this 10-foot sidewalk per FDOT FDM 213 criteria.

5.5 Access Management Plan

Median openings are recommended in addition to the full median openings noted above for the intersecting roadway. **Table 5-3** lists the approximate location, spacing, and type (full/directional) of the proposed median openings.

Location	Type	Control	Spacing	Intersection / Business
Sta. 113+50	Full	Signalized	1,350 ft*	59 th Avenue East
Sta. 132+20	Full	Signalized	1,870 ft	Rangeland Parkway
Sta. 144+90	Directional	Unsignalized	1,270 ft	-
Sta. 154+70	Full	Unsignalized	980 ft	Oasis Church
Sta. 173+00	Directional	Unsignalized	1,830 ft	Mariposa Nursery
Sta. 185+40	Full	Signalized	1,240 ft	44 th Avenue East
Sta. 209+90	Full	Unsignalized	2,450 ft	JH Diesel
Sta. 226+40	Full	Unsignalized	1,650 ft	Evangel Baptist Church
Sta. 232+60	Directional	Unsignalized	620 ft	-
Sta. 239+80	Full	Unsignalized	720 ft	Florida Rosemary Drive
Sta. 243+90	Directional	Unsignalized	410 ft	Bayside Church
Sta. 252+40	Directional	Unsignalized	850 ft	Hide-Away Storage
Sta. 258+60	Full	Roundabout	620 ft	SR 64

*from SR 70 signalized intersection, median opening for business access Sta. 105+00

Table 5-3 | Recommended Median Openings

5.6 Bicycle and Pedestrian Accommodations

Bicycles will be accommodated by a 7-foot buffered bike lane adjacent to the outside travel lane within the curbed roadway. Keyhole lanes will be provided for right turn lanes at intersections.

Pedestrians will be accommodated by a 10-foot sidewalk set four feet from back of curb on the west side and a 5-foot sidewalk set four feet from the back of curb on the east side. The 10-foot sidewalk will connect to the 10-foot sidewalk along the north side of 44th Avenue East. Sidewalk along each side of Lorraine Road will connect to intersection sidewalks from adjacent properties and intersecting streets with sidewalk.

5.7 Right-of-Way Requirements

The standard right of way width required is 120 feet total width to accommodate the four-lane divided roadway. Additional right of way is required where right turn lanes are proposed and for off-site ponds and floodplain mitigation areas. See Concept Plans in **Appendix A** for locations.

The entrance sign located on the west side of Lorraine, where right of way acquisition is proposed, is impacted by the proposed construction. In the median of Florida Rosemary Drive, the monument entrance for the Savanna at Lakewood Ranch subdivision is impacted due to the need to modify the median to accommodate the pedestrian crosswalk. If the southbound right turn lane is not provided, the crosswalk could move eastward and potentially salvage this median entrance sign.

5.8 Lighting

Corridor lighting for Lorraine Road can be accommodated on either side of the roadway corridor, barring PRECO impacts and OSHA offsets. The divided median allows for the potential for median lighting. The proposed medians are 15.3 feet between vertical face of curbs and Manatee County has previously permitted the use of median lighting with similar maintained widths.

Corridor lighting exists on Rangeland Parkway and 44th Avenue East. The FDOT roundabout project at SR 64 will illuminate the roundabout using standard techniques.

The County does not currently have formalized standard lighting. Recent construction projects have tried to set a standard that includes GE Evolve LED fixtures, 40-foot-tall mounting heights, and arm lengths that vary between 8-feet, 12-feet, and 15-feet depending on their usage and location. Intersection lighting standards shall follow the latest FDM guidance at the time of design.

5.9 Utilities

The Lorraine Road Recommended Alternative is anticipated to have impacts to County-owned and private utilities. Full impacts will be determined during the design phase based on survey and final roadway and drainage design.

5.9.1 Manatee County Potable Water Mains

The Lorraine Road Recommended Alternative will extend the asphalt limits over the existing 36-inch PVC water main on the west side of the corridor and would result in the need to relocate due to the pipe material. The SR 64 roundabout project will result in a UWHCA with Manatee County Utilities to relocate mains within the roundabout footprint.

Other crossing locations may be impacted by roadway and drainage improvements and will need further review during the design phase.

5.9.2 Manatee County Wastewater Mains

The existing 24-inch force main that crosses Lorraine Road on the north side of 44th Avenue East has the potential to remain in place. This main will need further review during the design phase to ensure its disposition.

5.9.3 Manatee County Information Technology

The County Information Technology Department has intended to move the ECFR conduit to the west side right of way line wherever possible during repair and relocation efforts on Lorraine Road. Due to the existing right of way variation, the facility will need to be relocated with the Recommended Alternative. Access to proposed improvements along the south side of Rangeland Parkway were set with a crossing and pull box on the SE quadrant of the intersection footprint and should remain in place.

The SR 64 roundabout project will result in a UWHCA with Manatee County Information Technology to relocate the conduit system within the roundabout footprint.

5.9.4 Manatee County ATMS

The ATMS facilities currently being constructed as part of the Rangeland Parkway and 44th Avenue East signalization projects will need to be relocated with the Recommended Alternative. This is due to the constraints of the existing right of way between the two intersections. There is an existing splice box on the NW quadrant of the 59th Circle East intersection that could be utilized with proposed signalization of that intersection.

5.9.5 Private Utility Facilities

Coordination with private UAOs will be required during the design phase of Lorraine Road.

Power

PRECO overhead distribution lines run along the east side of Lorraine Road and will require coordination due to the extent of the Recommended Alternative.

Reclaimed Water

The Braden River Utilities 24-inch DIP reclaimed water main that parallels the east side of Lorraine Road from 44th Ave East, north approximately 3,400 feet, will be impacted by the Lorraine Road widening and will require relocation if not permitted to remain under pavement. The crossing locations may be impacted by roadway and drainage improvements and will need further review during the design phase.

Communication

The AT&T 2-inch BFO conduit running along the east side of Lorraine Road may be located beyond the extents of the Recommended Alternative pavement limits. Spectrum lines are located on the power poles and will require coordination with PRECO. MCI is located at the south side of 59th Avenue East and may not be impacted by the Recommended Alternative. Frontier may also have fiber optic cables located within the proposed corridor. They have not responded with locations of their facilities.

Natural Gas

TECO owns and operates a natural gas main within the Lorraine Road proposed corridor. However, they have not responded with locations and sizes of their facilities.

5.10 Preliminary Drainage Analysis

Six wet detention ponds are recommended for the project. Based on preliminary reviews, all recommended alternatives have lower risks to wetlands, contamination, utilities, wildlife, and cultural resources.

Alternative Pond 1W is recommended in Basin 1. It is estimated as a 2.46-acre partial acquisition of Parcel 579900579, including a 2.21-acre pond site and 0.25-acre site for floodplain mitigation. Alternative Pond 2E1 is recommended in Basin 2. It is estimated as a 6.24-acre joint-use pond opportunity, by merging two existing permitted ponds serving Rangeland Parkway to the east of Lorraine Road. The two existing ponds are nestled within Parcel 581910169. Alternative Pond 3W is the recommendation in Basin 3. It is a 4.27-acre partial acquisition of Parcel 579900809, which is a frontage parcel for Lorraine Road. This acquisition contains a 2.97-acre pond site and 1.30-acre floodplain mitigation site. Alternative Pond 4W2 is recommended in Basin 4. It is estimated as a 2.98-acre total acquisition of Parcel 577210107, which involves one active residence. Alternative Pond 5W2 is recommended in Basin 5. It is estimated as a 3.13-acre partial acquisition of the 9.98-acre Parcel 57660001. The parcel is undeveloped but joint use pond opportunities are available if future development proceeds. Alternative Pond 6W1 is recommended in Basin 6. It is estimated as a 1.58-acre partial acquisition of the 4.46-acre Parcel 576900104. The parcel is undeveloped but joint use pond opportunities are available if future development proceeds.

5.11 Floodplain Analysis

The Recommended Alternative may have minor areas of floodplain impact at the Wolf Slough Tributary because of cross drain widening. The estimated impacts are 0.10-acres within Wolf Slough Tributary and can be mitigated with Alternative Pond 1W. Minor areas of floodplain impact may occur at the Mill Creek Tributary 1 because of cross drain widening. The estimated impacts are 1.30-acres within Mill Creek Tributary 1 and can be mitigated with Alternative Pond 3W.

5.12 Structures

Of the three (3) structures identified in the Study area, only the Concrete Box Culvert (NB2055) can remain. This 100 LF double 7-foot by 7-foot concrete box culvert can be extended to the east for the proposed northbound right turn lane onto Rangeland Parkway.

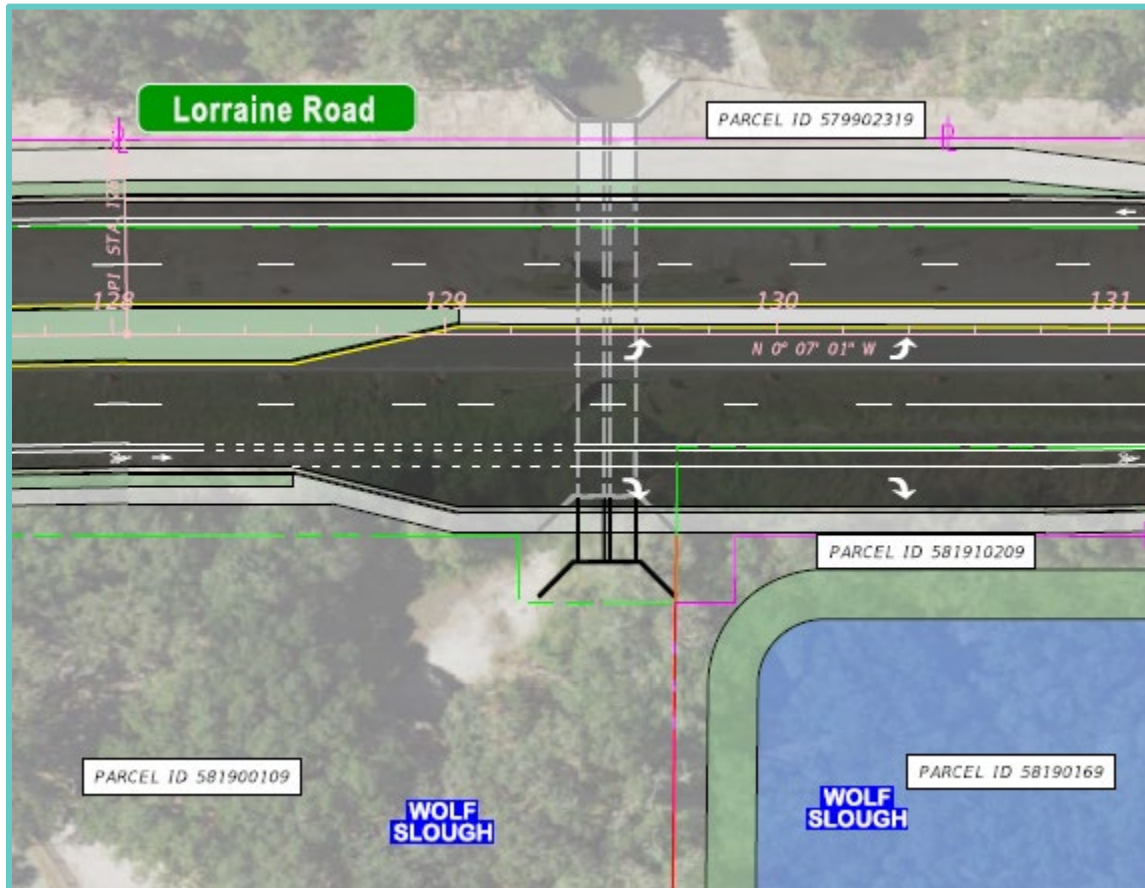


Figure 5-1 | Concrete Box Culvert NB2055 Extension

The two bridges – Bridge 134045 and NB2009 were both designated as functionally obsolete and require replacement with the Recommended Alternative.

5.13 Cost Estimates

5.13.1 Construction Cost Estimate Assumptions

The construction cost estimate for the Recommended Alternative is based on the following assumptions:

- Clearing and Grubbing based on full width of right of way and cost includes removal of concrete on the corridor.
- Earthwork estimated based a depth of two feet over the cleared area and includes excavation and embankment. Pond earthwork is included in the earthwork estimate.
- Aside from 25 feet of milling and resurfacing where proposed construction ties to existing, the pavement design was assumed to be comprised of 12-inch Type B Stabilization, Optional Base Group 9 (10 inches), 3-inch Superpave Asphalt Concrete, Traffic C, PG 76-22 with 1.5-inch

Asphalt Concrete Friction Course, Traffic C, PG 76-22. Milling assumed at 1.5-inch with replacement of friction course.

- 1,000 feet of gravity wall (5-feet tall) with aluminum pipe guiderail assumed for unknown conditions which may require its use, due to right of way constraints.
- Curb inlet spacing assumed at 300 feet.
- Back of sidewalk inlets assumed every 600 feet to address offsite drainage.
- Storm drain main trunk line estimated at 36-inch diameter for length of project.
- Storm drain lateral pipes estimated at 18-inch diameter based on 300 feet spacing.
- Traffic Signal construction is based on a lump sum price of \$500,000 per intersection. Adjustments to existing signals are based on a lump sum price of \$150,000 per intersection.
- Light poles estimated based on 200 feet spacing, staggered on the left and right sides of the roadway.
- Structural costs are based on a unit price of \$150/SF.
- Mobilization estimated based on 10% of project subtotal.
- Maintenance of Traffic estimated based on 15% of project subtotal.
- To account for items not estimated and other project unknowns, a contingency of 25% was applied to the sum of the project subtotal plus mobilization and maintenance of traffic.
- Utility relocation construction costs are not included.
- Wetland mitigation costs are not included.

5.13.2 Construction Cost Estimate

The Recommended Alternative construction cost estimate is \$31,920,000. The estimate is summarized in **Table 5-4**. Detailed information is provided in **Appendix I**.

Table 5-4 | Recommended Alternative Construction Cost Estimate

Component	Cost Estimate
Roadway and Drainage	\$ 16,593,000
Signing and Pavement Marking	\$ 180,000
Signalization	\$ 800,000
Lighting	\$ 1,632,000
Structures	\$ 1,055,000
Mobilization	\$ 2,026,000
Maintenance of Traffic	\$ 3,039,000
Project Unknowns	\$ 6,595,000
CONSTRUCTION COST TOTAL	\$ 31,920,000

5.13.3 Right of Way Cost Estimate

There are fifty-nine (59) parcels impacted by the Recommended Alternative and preliminary cost estimation was determined at a cursory level for the Study. The Recommended Alternative right of way cost estimate is \$3,700,000. The estimate is summarized in **Table 5-5**. Detailed parcel identification is provided in **Appendix I**.

Table 5-5 / Recommended Alternative Right of Way Cost Estimate

Component	Cost Estimate
Roadway Partial Takes	\$ 1,100,000
Pond Partial Takes	\$ 1,800,000
Roadway and Pond Full Takes	\$ 800,000
RIGHT OF WAY COST TOTAL	\$ 3,700,000

6.0 Summary of Permits and Mitigation

6.1 Stormwater

A pre-application meeting was completed with Southwest Florida Water Management District (SWFWMD) on October 7, 2021 (see **Appendix H**). Prior on-site / off-site permit activity within the Study area includes:

- Environmental Resource Permit (ERP) 3052.270 (Rangeland Parkway from Lorraine Road to Uihlein Road)
- ERP 33170.019 (44th Avenue Phase IV)

Anticipated permit requirements include the following:

- An ERP from SWFWMD per Florida Administrative Code (FAC) 62-330
- Florida Department of Environmental Protection (FDEP) State 404 Program per FAC 62-331
- A National Pollutant Discharge Elimination System (NPDES) permit from the Environmental Protection Agency (EPA) per the Clean Water Act.

6.2 Natural Resources

6.2.1 Anticipated Permits

The Lorraine Road project would require permitting with two state of Florida agencies, including Southwest Florida Water Management District (SWFWMD) and the Florida Department of Environmental Protection (FDEP) Southwest District.

A pre-application meeting was completed with SWFWMD on October 7, 2021, including an Environmental Discussion. See Pre-Application Meeting Notes in **Appendix H**. SWFWMD required that the limits of jurisdictional wetlands and surface waters be provided and that appropriate mitigation for impacts be provided using the Uniform Mitigation Assessment Method (UMAM), including the use of available mitigation banks within the Manatee River Environmental Resource Permit (ERP) Basin. The Applicant must demonstrate elimination and reduction of wetland impacts and use appropriate wetland setbacks. Hydroperiods in wetlands must be maintained and seasonal highwater levels determined at pond locations. A title determination is required from FDEP to confirm if state-owned sovereign submerged lands are present, often associated with named waterways and waterbodies.

In January 2021, the state of Florida assumed the federal Clean Water Act Section 404 Permit program for non-tidally influenced wetlands and waters. The Lorraine Road project would require a Section 404 permit from FDEP. A pre-application meeting was not held with FDEP. In addition, due to impacts to wetlands and other surface waters, the project will require a new Individual Statewide Environmental Resource Permit (ERP) pursuant to 62-330 F.A.C. The following agency permitting actions are anticipated:

- FDEP Section 404 Permit – Individual Permit or General Permit, depending on the extent of wetland and water impacts, 0.5 acres of impact being the threshold.
- FDEP National Pollutant Discharge Elimination System, Stormwater Discharge from Large and Small Construction Activities (62-621.300 F.A.C.). This permit is to be obtained by the contractor.
- SWFWMD Statewide ERP – Individual ERP with the application review fee determined by project work area and extent of wetland impacts.

A second tier of agency involvement includes FWC and USFWS as commenting agencies on the respective permit applications for listed and protected species. Coordination and possible consultation with these agencies would be required to construct the Lorraine Road project.

6.2.2 Wildlife

To protect listed wildlife, wildlife habitat, and plants, Manatee County will conduct wildlife surveys of the road corridor and pond sites during permitting and then prior to construction for the presence of protected wildlife species including plants. Manatee County will abide by standard resource protection measures in addition to the following specific commitments:

- If required, the County will use the USFWS Draft **Florida Grasshopper Sparrow** Survey Protocol (June 2004) for conducting surveys.
- If the crested caracara is discovered nesting within the vicinity of the project, the County will keep construction activities 1,500 feet from a **crested caracara** nest to minimize impacts, particularly during nest building, incubation, and nestling stages.
- The County will adhere to the most current version of USFWS *Standard Protection Measures for the Eastern Indigo Snake* (2013) during construction.
- The County will survey for **bald eagle** nests during permitting and design. If a bald eagle nest is identified within 660 feet of the project prior to or during construction, the County will coordinate with the USFWS and the FWC in accordance with the BGEPA and MBTA and will adhere to the USFWS Bald Eagle Management Guidelines.
- The County will conduct osprey nest surveys during the permitting phase of the proposed project. If an osprey nest is identified, the County will coordinate with the USFWS and/or the FWC, depending on the activity status of the nest.
- The County will perform pre-construction surveys for nesting **Florida sandhill cranes** per the FWC species guidelines (2016) to ensure active nests and flightless young are protected.
- If required, the County will perform **southeastern American kestrel** surveys for breeding and active nest cavities during permitting and pre-construction.
- The County will perform preliminary **gopher tortoise** surveys during permitting and formal gopher tortoise surveys during pre-construction in areas deemed suitable habitat in accordance with the FWC *Gopher Tortoise Permitting Guidelines*, and will secure an FWC Gopher Tortoise Relocation Permit, if gopher tortoise burrows are found.
- The County will survey **wading bird** nesting habitat within 330 feet of the project area during permitting. If a wading bird nest is detected, additional surveys may be recommended to determine if an active breeding site is present.
- The County will perform pre-construction surveys for **least tern** nests and young and for multi-year construction projects. Surveys can be conducted prior to land clearing and earthmoving to ensure nesting birds are not present.
- If **protected plants** are discovered during pre-construction surveys, the County will initiate coordination with the FDACS.

6.2.3 Wetlands and Other Surface Waters

To protect wetland and water resources before, during, and after construction, Manatee County will abide by state and federal permit requirements and water quality protection measures particularly including the following commitments:

- The County will implement provisions to avoid and minimize wetland impacts during design, permitting, and construction.

- The County will use the UMAM to evaluate each wetland impact area to quantify the functional loss based on location and landscape, water environment, and vegetation conditions.
- The County will mitigate for wetland impacts pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344.
- The County will use erosion control measures and Best Management Practices during construction to avoid and minimize direct, indirect, and temporary impacts to habitat and water quality.

6.3 Cultural Resources

Approximately 0.65 miles of the length of the corridor study area has not been previously surveyed. Of the unsurveyed area, approximately 580 feet is undisturbed. The undisturbed area also crosses an unnamed tributary of Mill Creek, which indicates a higher probability for undiscovered archaeological material. Additionally, archaeological Site 8MA00036 crosses the project area. However, there is little information recorded about the site, and it has not been evaluated for inclusion in the NRHP. An archaeological survey of the undisturbed portion of the corridor study area and a revisit to Site 8MA00036 is recommended. Given the presence of previously unrecorded historic-age architectural resources in the study area, an architectural resources survey may be necessary, depending on the final project design and potential impacts to historic-age architectural resources.

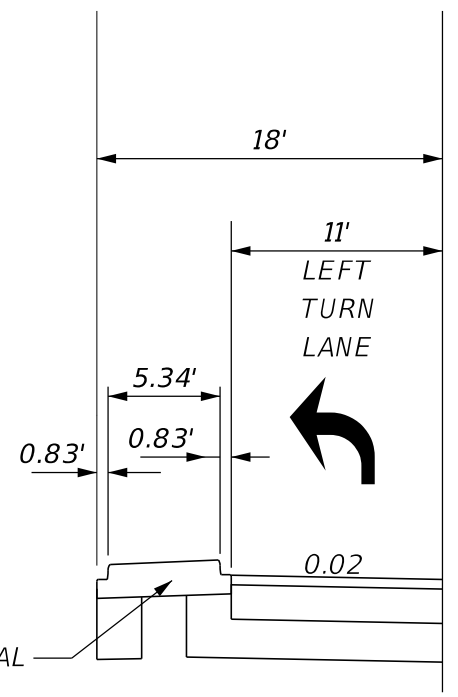
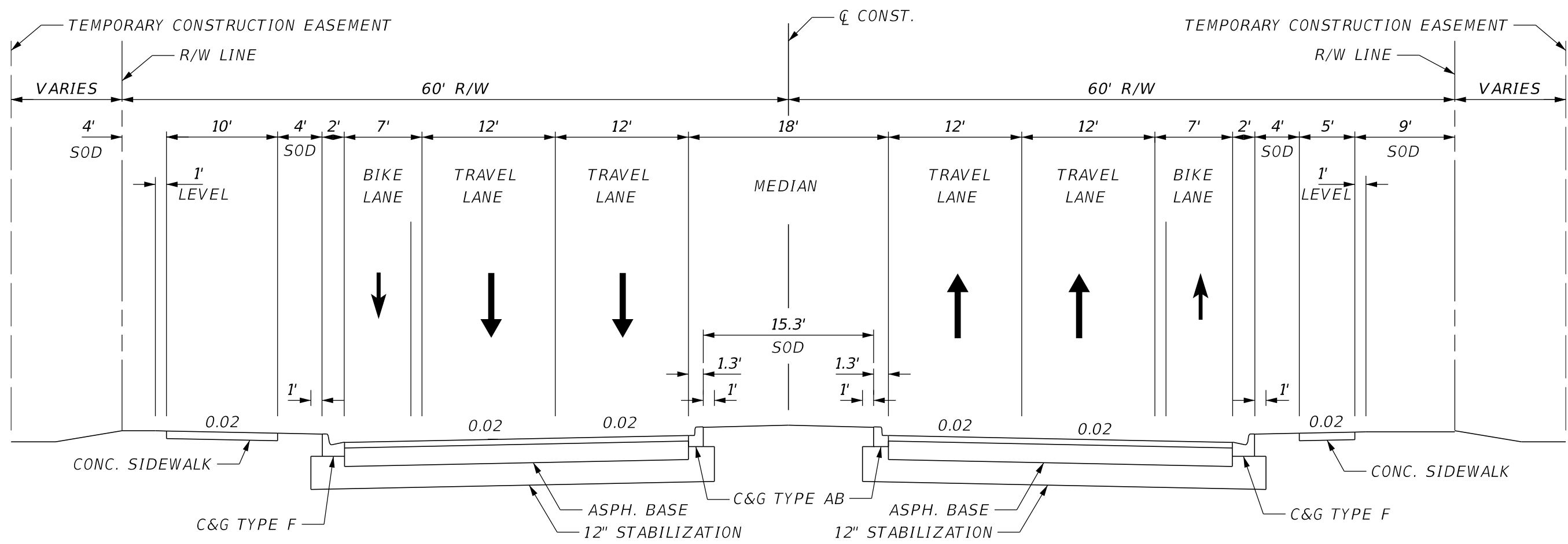
If prehistoric or historic artifacts, are encountered at any time within the project area, construction activities involving subsurface disturbance in the vicinity of the discovery will cease. The Florida Department of State, Division of Historical Resources, Compliance Review Section will be contacted. The subsurface construction activities will not resume without verbal and/or written authorization. In the event that unmarked human remains are encountered during construction activities, all work will stop immediately, and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

6.4 Potential Contamination

For those locations with a risk rating of "Medium", field screening or a soil management plan may be needed depending on the locations of construction and intrusive activities proposed for the study area. These sites have been determined to have potential contaminants, which may impact the proposed construction. A soil and groundwater sampling plan may be needed for each site. The sampling plan should provide sufficient detail as to the number of soil and groundwater samples to be obtained and the specific analytical tests to be performed. A site location sketch for each facility showing all proposed boring locations and groundwater monitoring wells should also be included in the sampling plan.


Appendices

Appendix A – Concept Plans

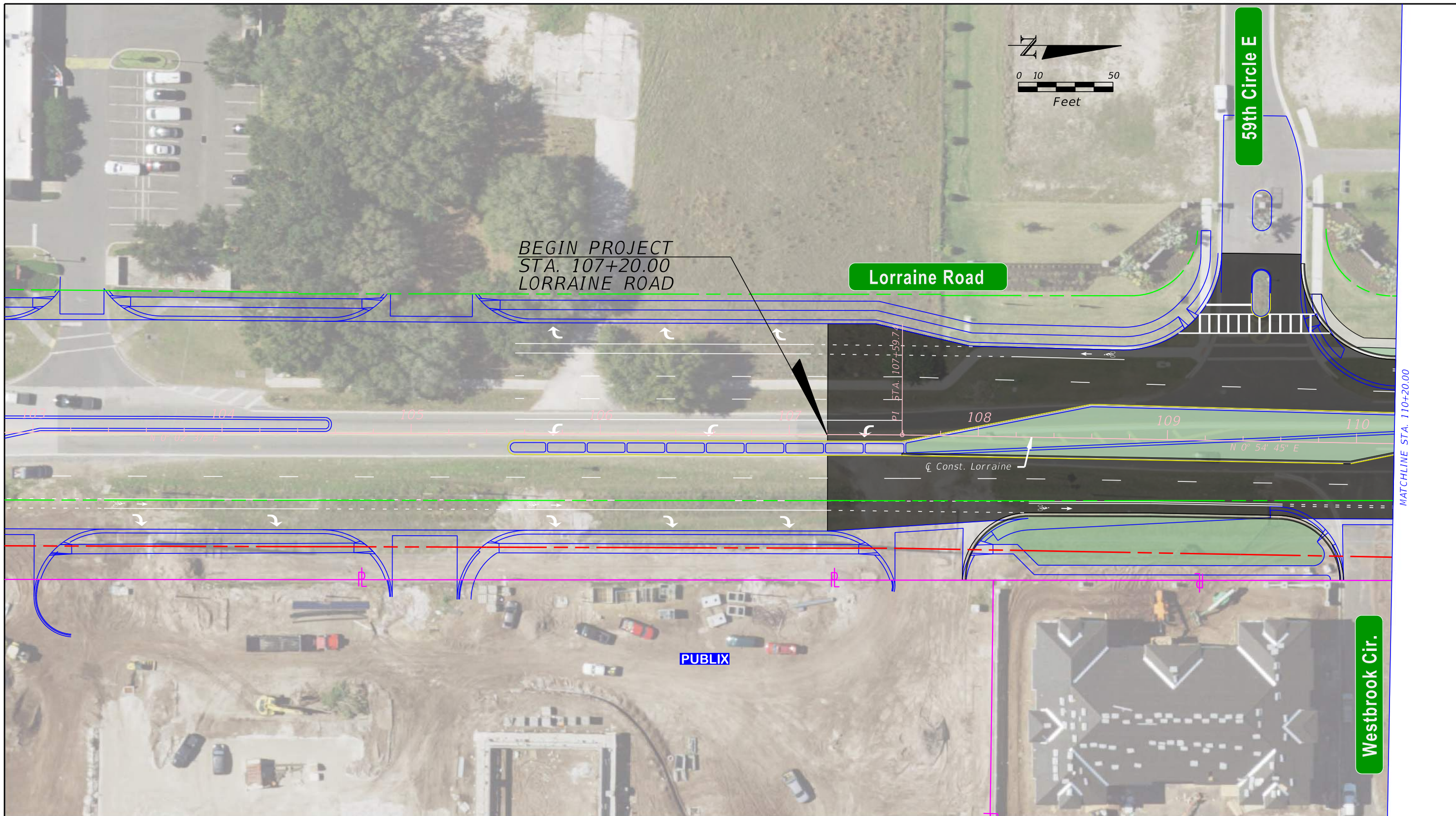


NOT TO SCALE

BUILD TYPICAL SECTION 2

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No.	REVISIONS	DATE	BY											

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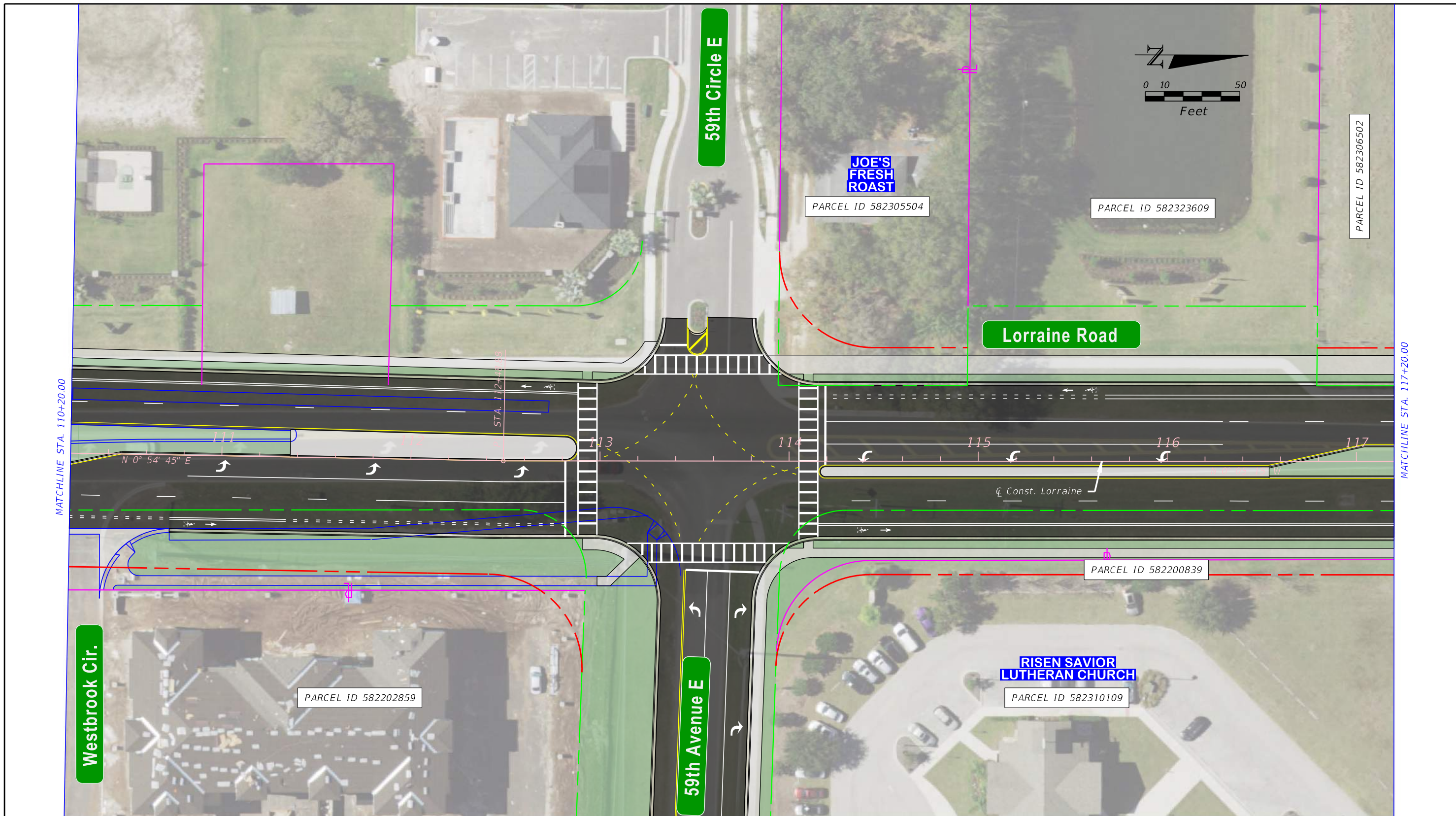
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- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

		SCALE AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 12/2021	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JASON L. STARR	RECOMMENDED ALTERNATIVE	SHEET NO. 2
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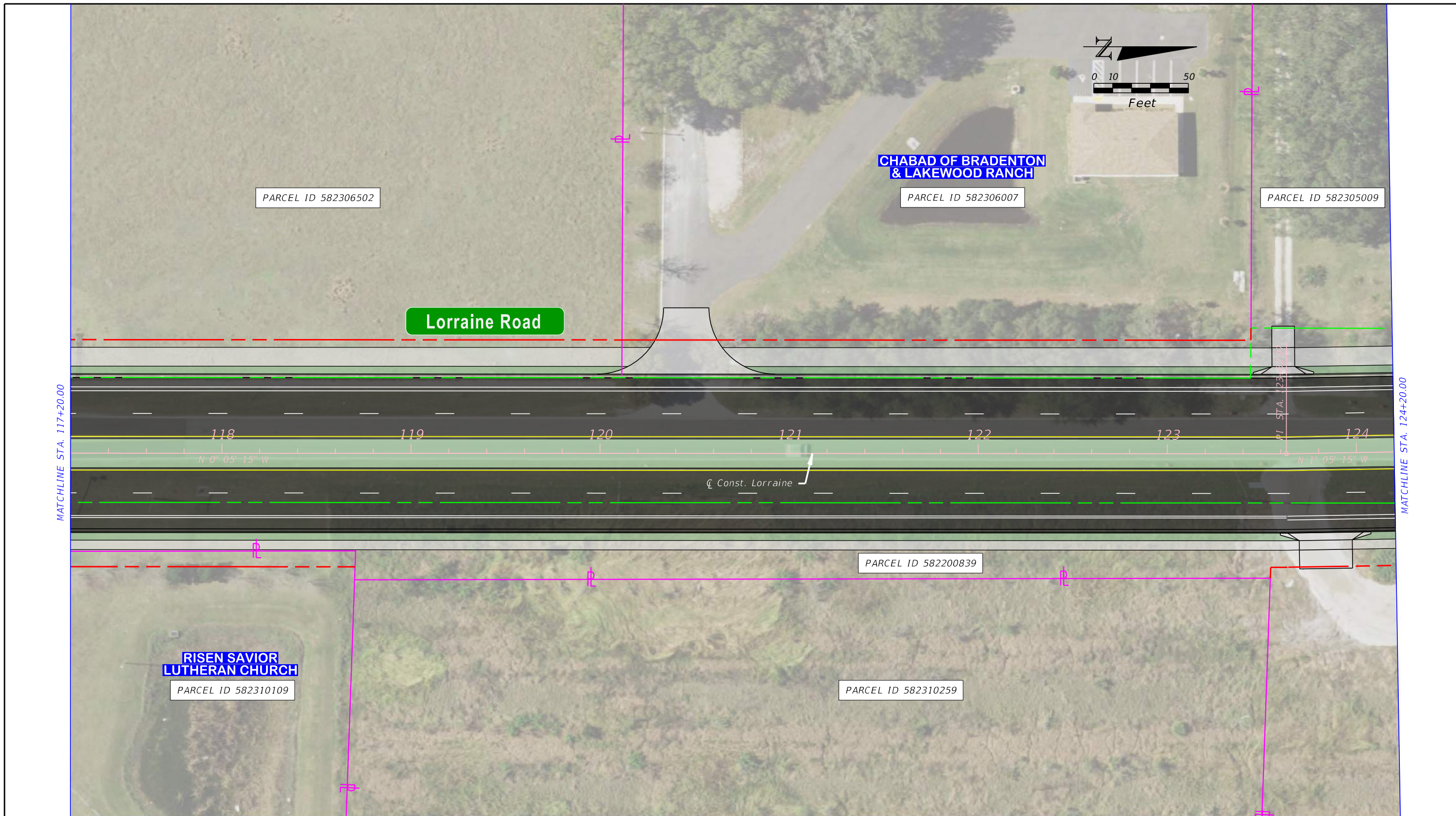
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- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

		SCALE AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 12/2021	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JASON L. STARR	RECOMMENDED ALTERNATIVE	SHEET NO.
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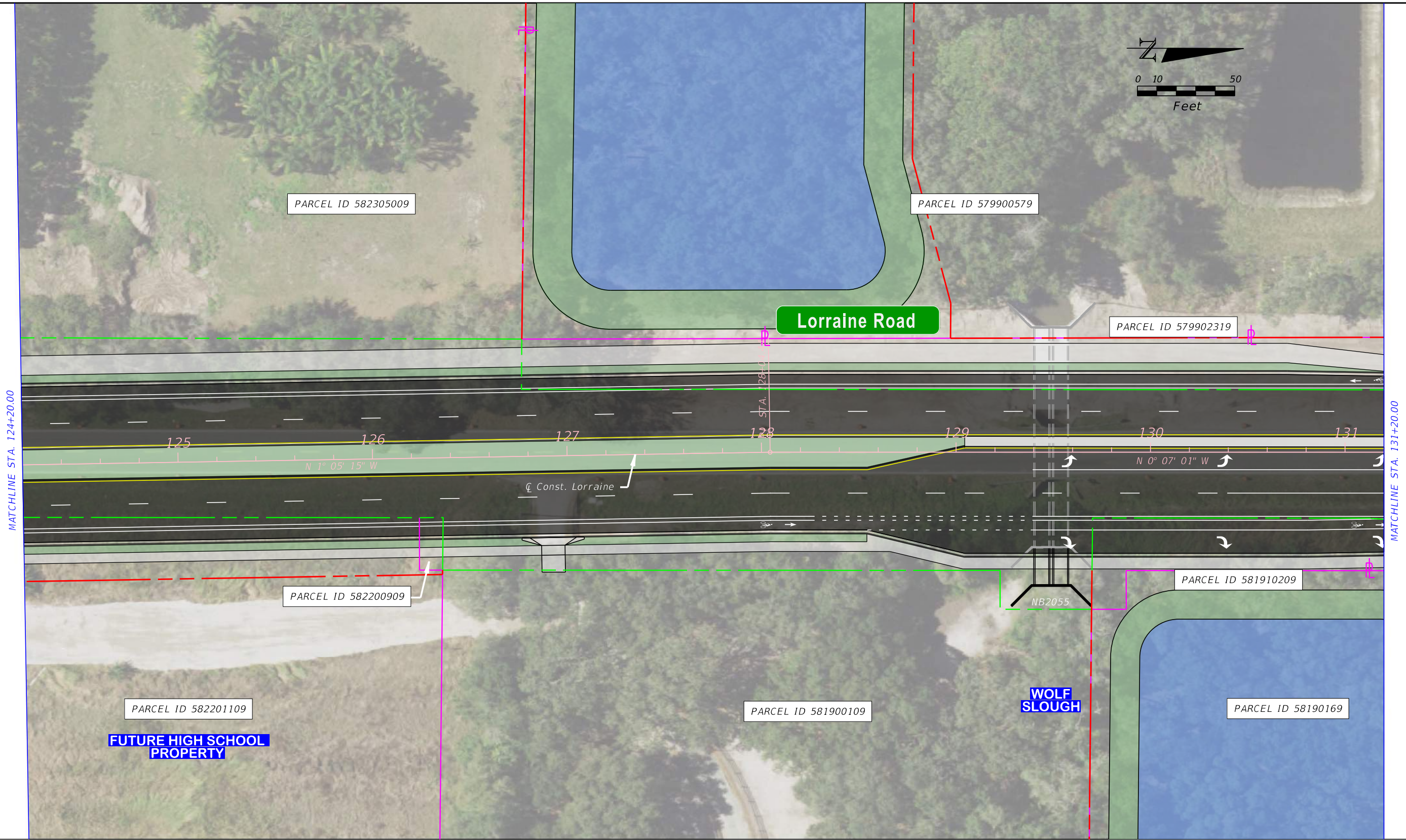
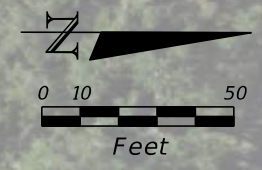
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- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

		SCALE	AS NOTED	HDR ENGINEERING, INC.	DATE	12/2021	DESIGN ENGINEER	JASON L. STARR		SHEET NO.
		DESIGNED BY	KMP	2601 CATTLEMEN ROAD, SUITE 400	PROJECT NO.	6107660	FL. LICENSE NO.	70171	RECOMMENDED ALTERNATIVE	4
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12/14/2021

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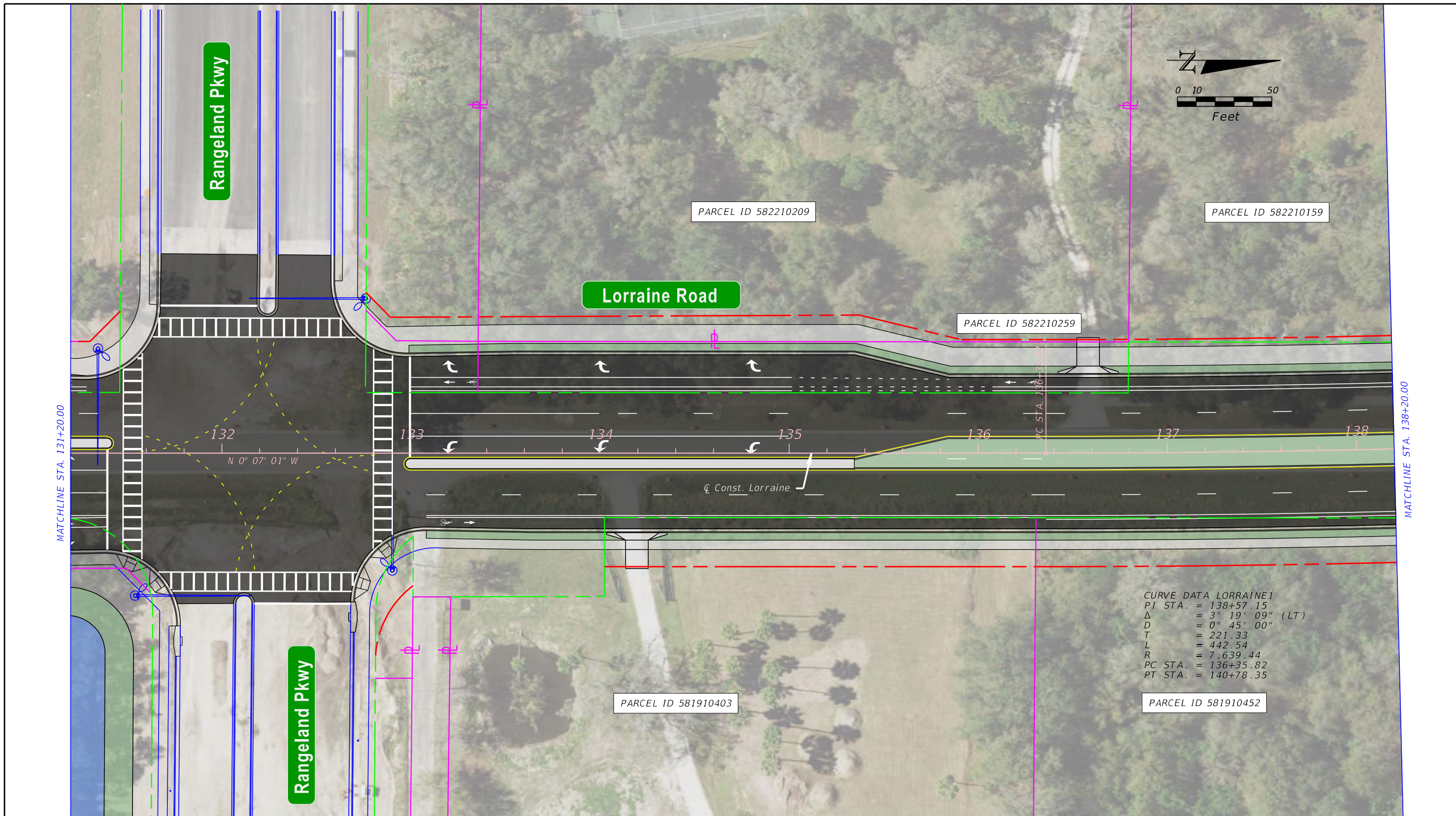


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- EXISTING PARCEL LINES
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- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

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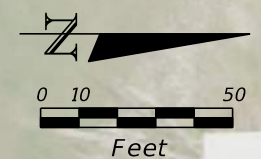
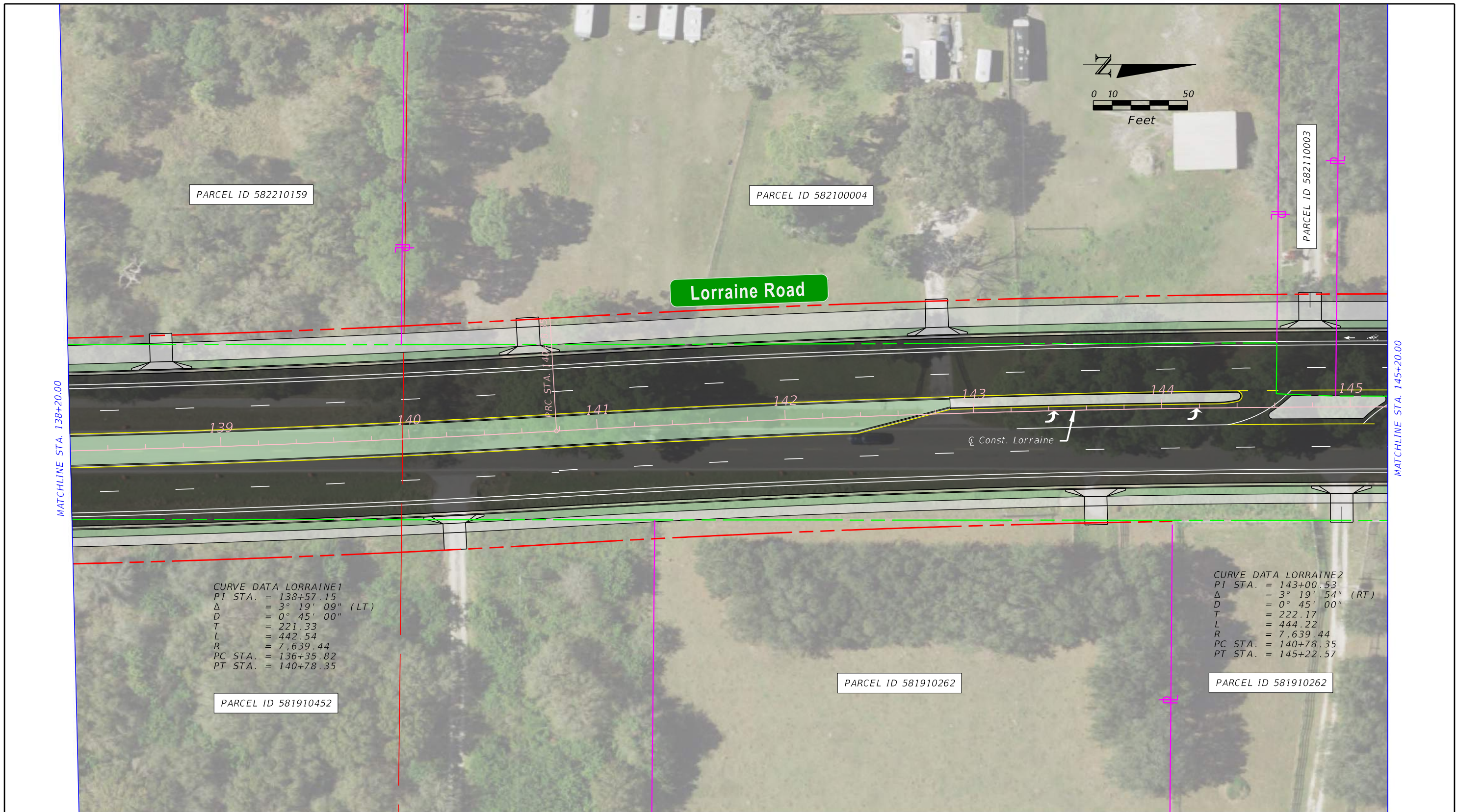
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LEGEND

- PROPOSED ASPHALT (ROADWAY)
- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)

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PARCEL ID 582100004

PARCEL ID 582110003

Lorraine Road

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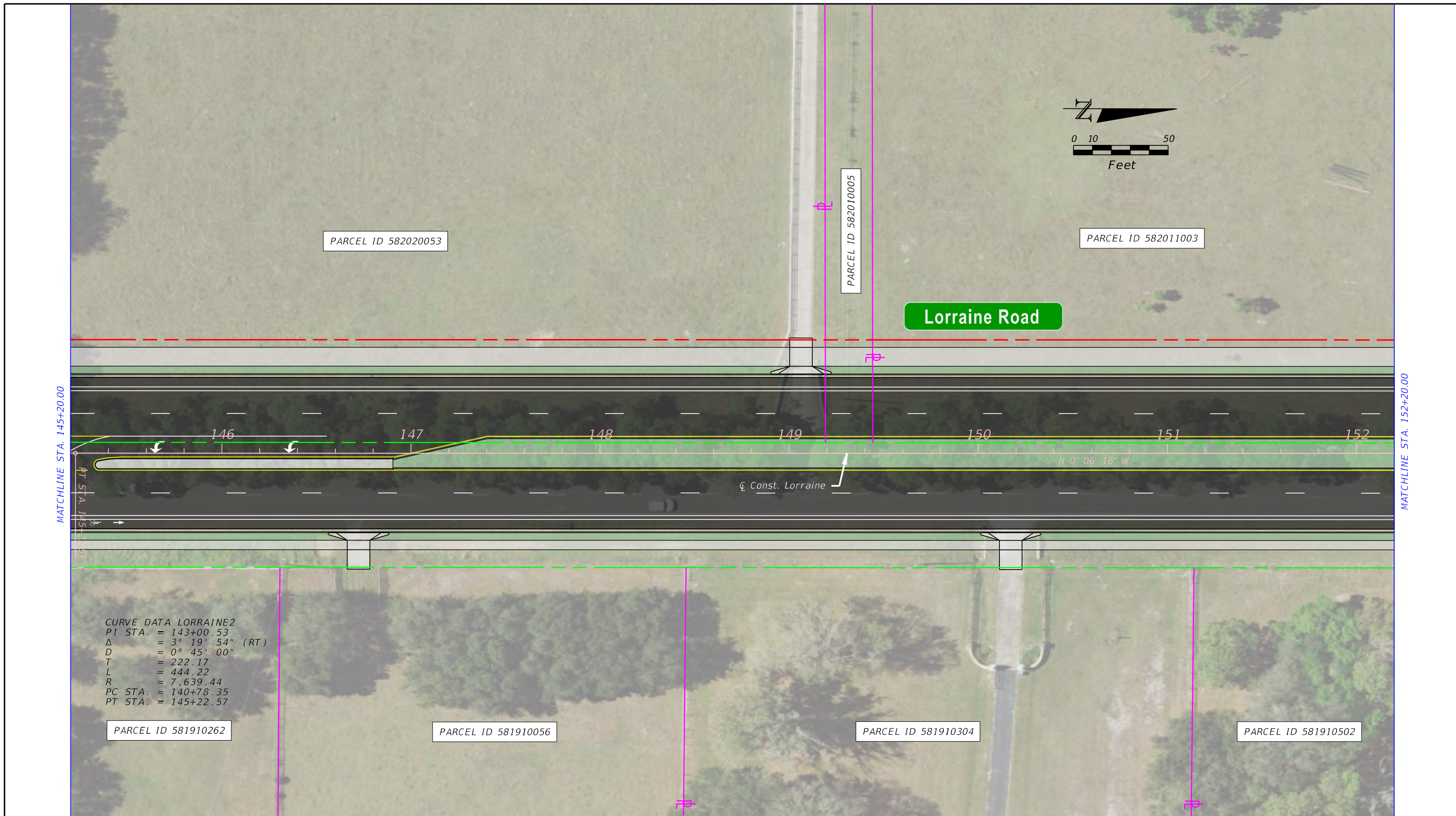
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- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS


		SCALE AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 12/2021	MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JASON L. STARR	RECOMMENDED ALTERNATIVE	SHEET NO. 7
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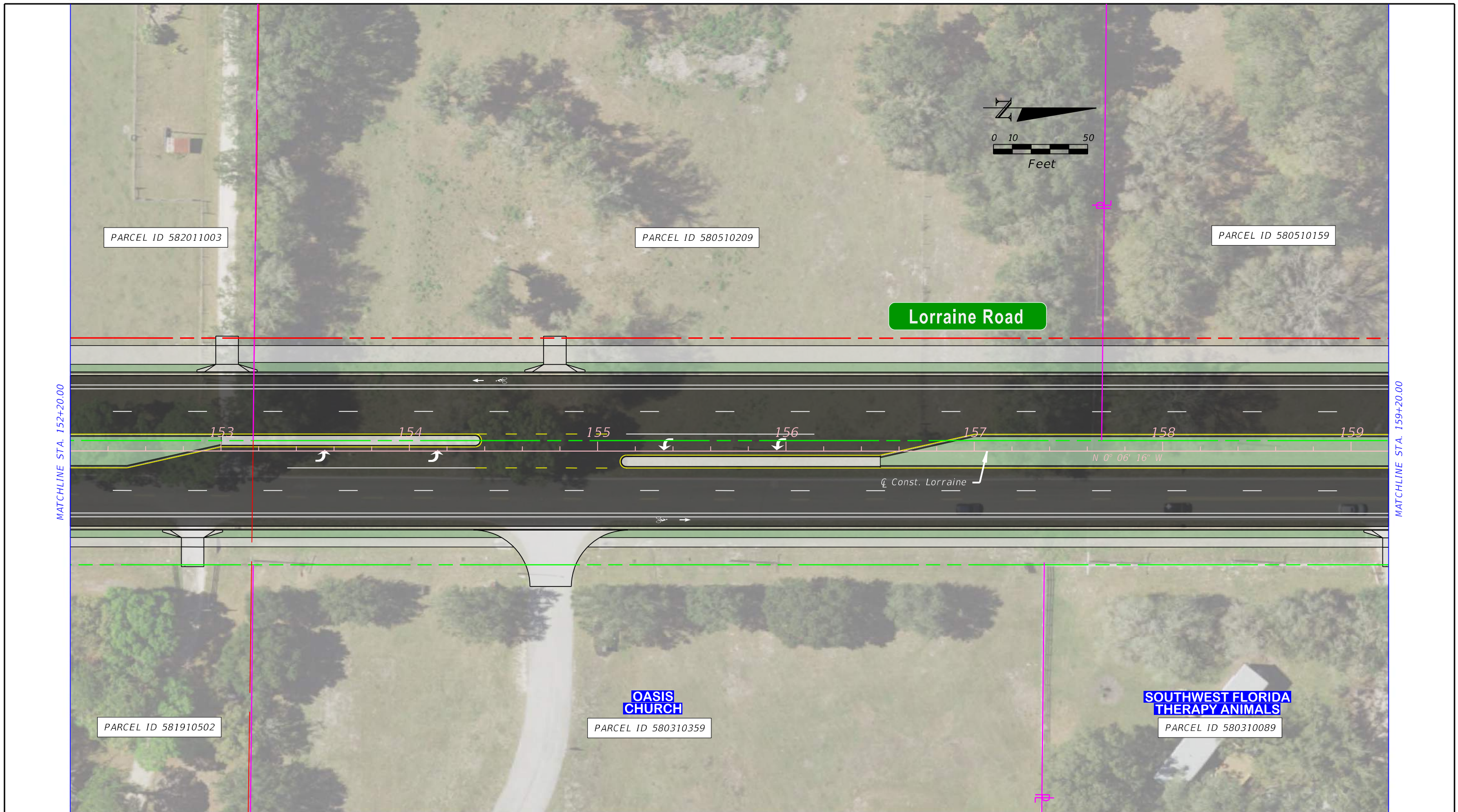


LEGEND

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-  PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
-  PROPOSED POND SITE
-  EXISTING RIGHT-OF-WAY
-  RECENT CONSTRUCTION BY OTHERS

		SCALE AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 12/2021	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JASON L. STARR	RECOMMENDED ALTERNATIVE	SHEET NO. 8
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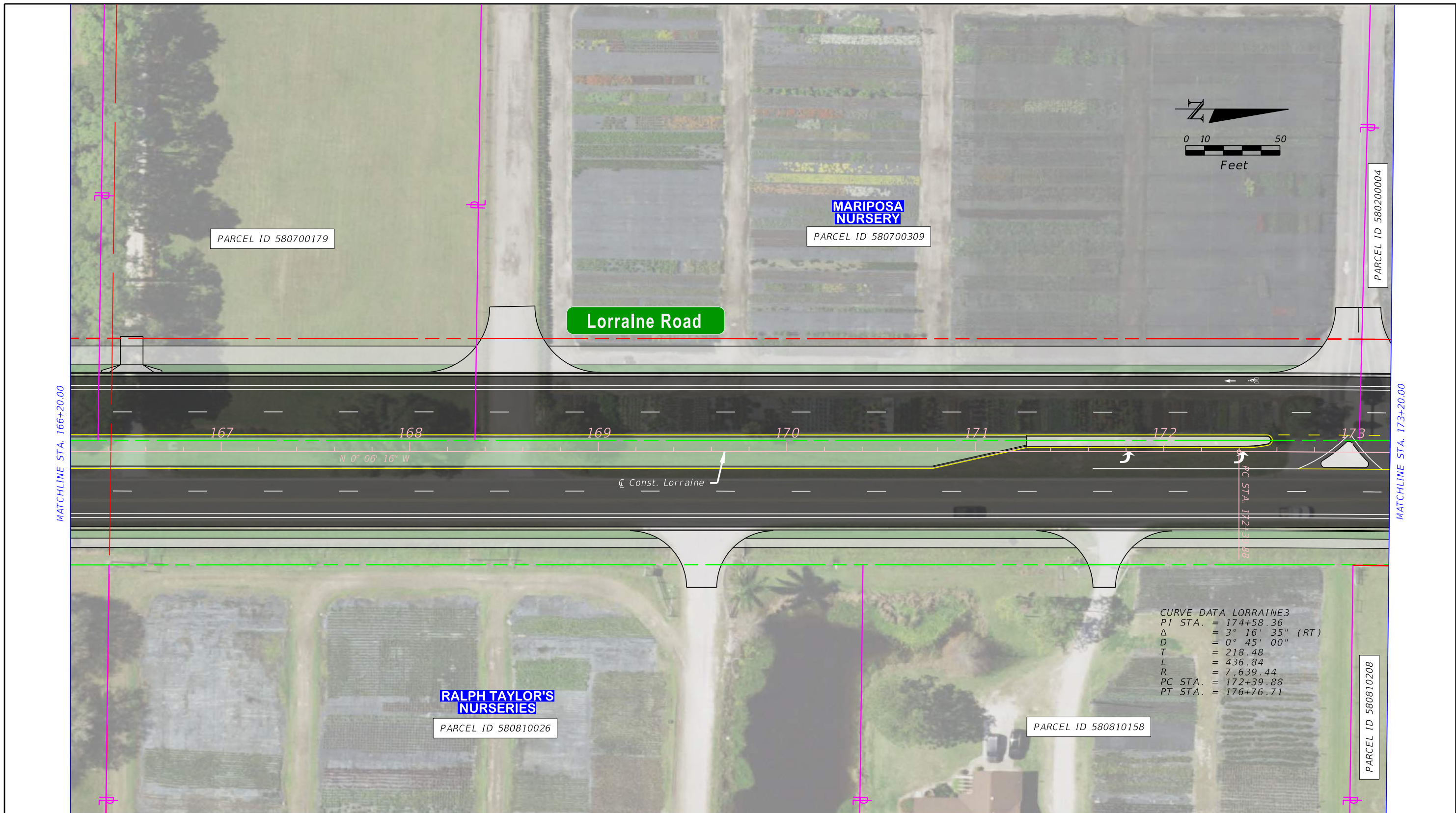


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- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

					SCALE AS NOTED DESIGNED BY KMP DRAWN BY RCS CHECKED BY JLS	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 12/2021 PROJECT NO. 6107660	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JASON L. STARR FL. LICENSE NO. 70171	<p style="font-size: 1.2em; font-weight: bold;">RECOMMENDED ALTERNATIVE</p>	SHEET NO. 9
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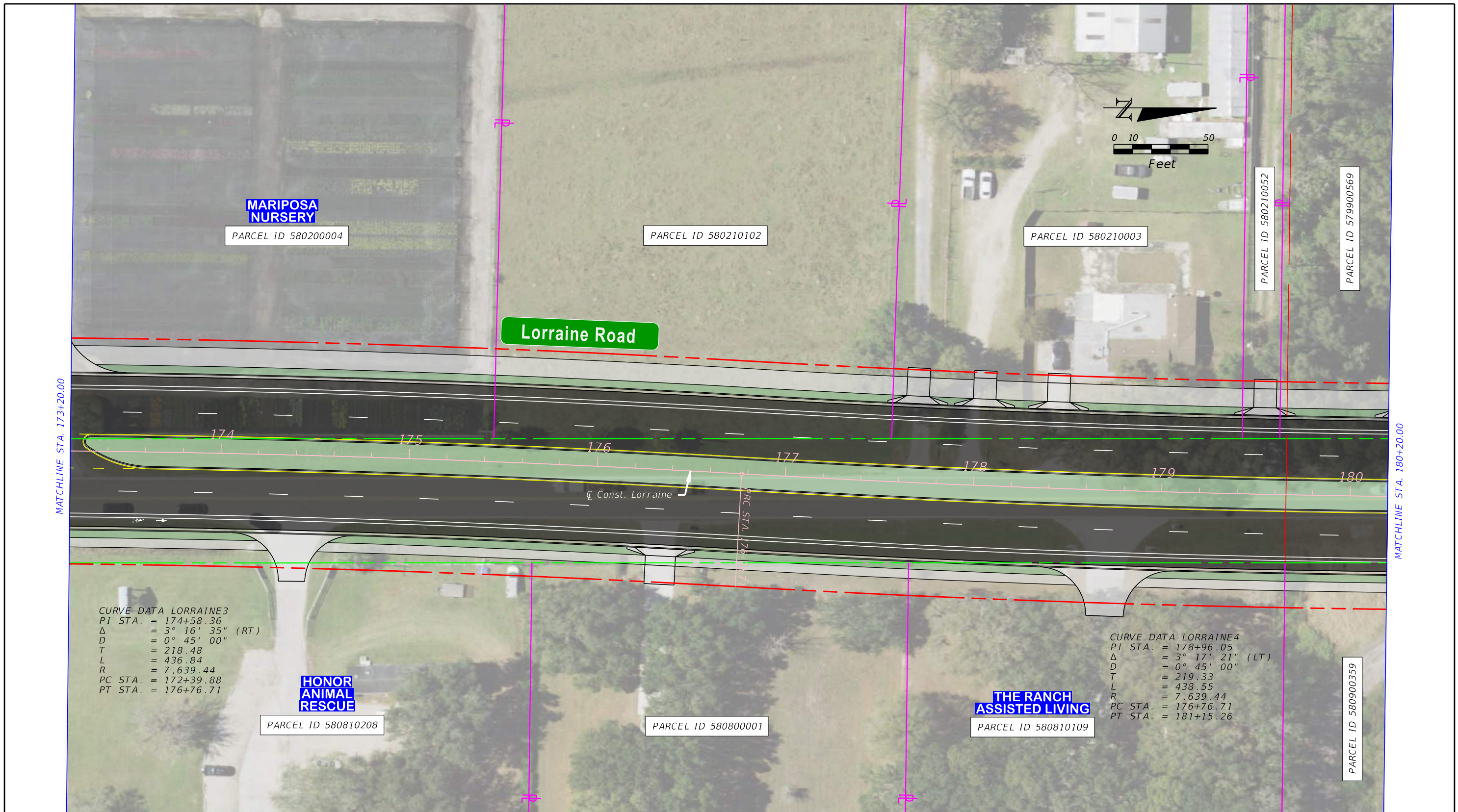
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 PT STA. = 176+76.71

LEGEND

- PROPOSED ASPHALT (ROADWAY)
- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

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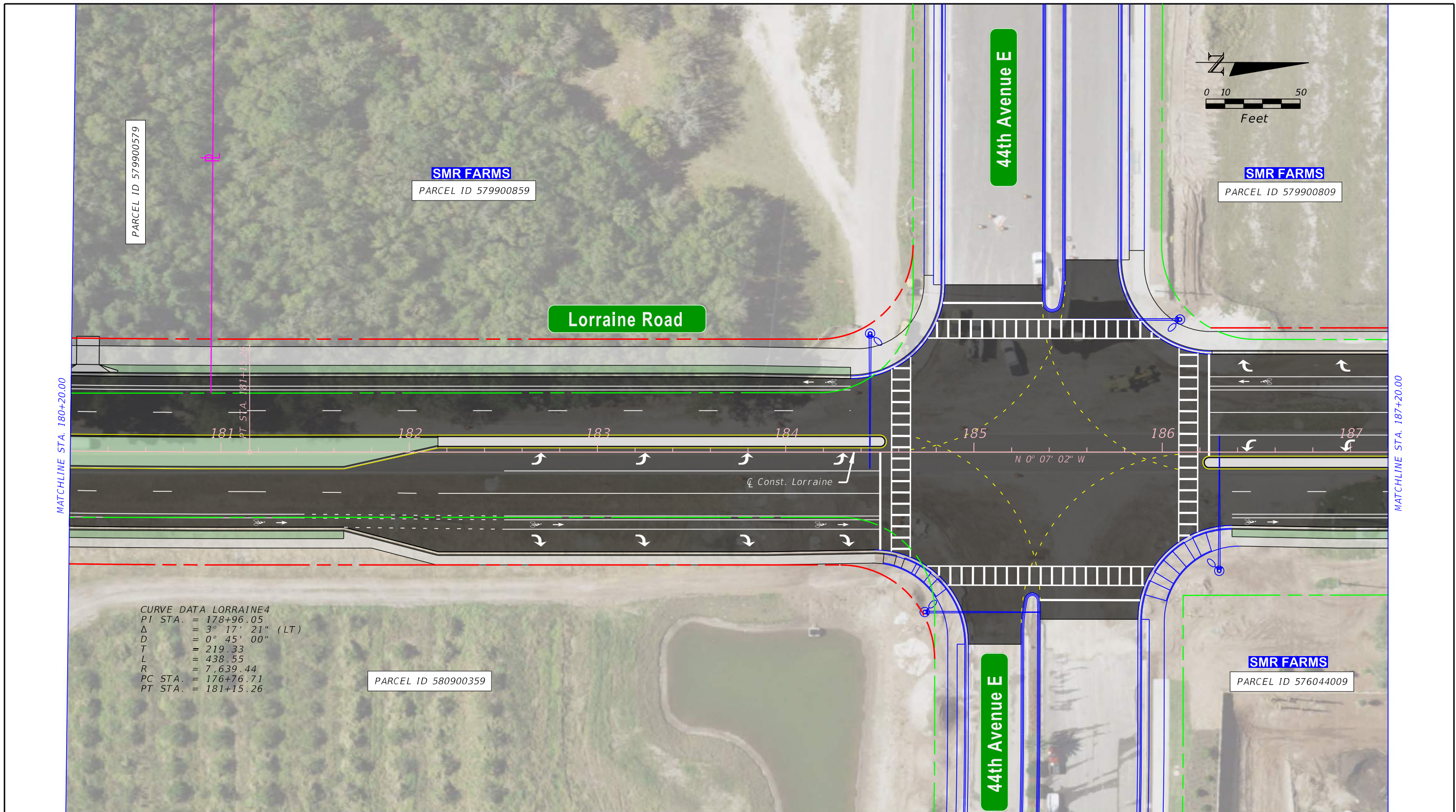
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LEGEND

- PROPOSED ASPHALT (ROADWAY)
- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)

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No.	REVISIONS	DATE	BY	JLS				

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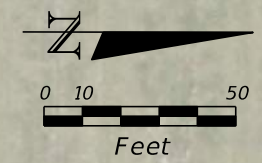
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 PT STA. = 181+15.26

LEGEND

- PROPOSED ASPHALT (ROADWAY)
- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

		SCALE AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 12/2021	MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JASON L. STARR	RECOMMENDED ALTERNATIVE	SHEET NO.
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No.	REVISIONS	DATE	BY	3:46:40 PM	12/14/2021	PW:\		

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SMR FARMS
PARCEL ID 579900809

Lorraine Road

SMR FARMS
PARCEL ID 576044009

MATCHLINE STA. 187+20.00

MATCHLINE STA. 194+20.00

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 PC STA. = 192+74.95
 PT STA. = 200+27.75

LEGEND

- PROPOSED ASPHALT (ROADWAY)
- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

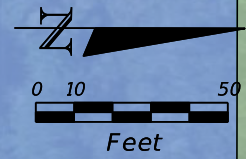
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No.	REVISIONS	DATE	BY	JLS			

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SMR FARMS
PARCEL ID 579900809

Lorraine Road

MATCHLINE STA. 201+20.00

MATCHLINE STA. 194+20.00

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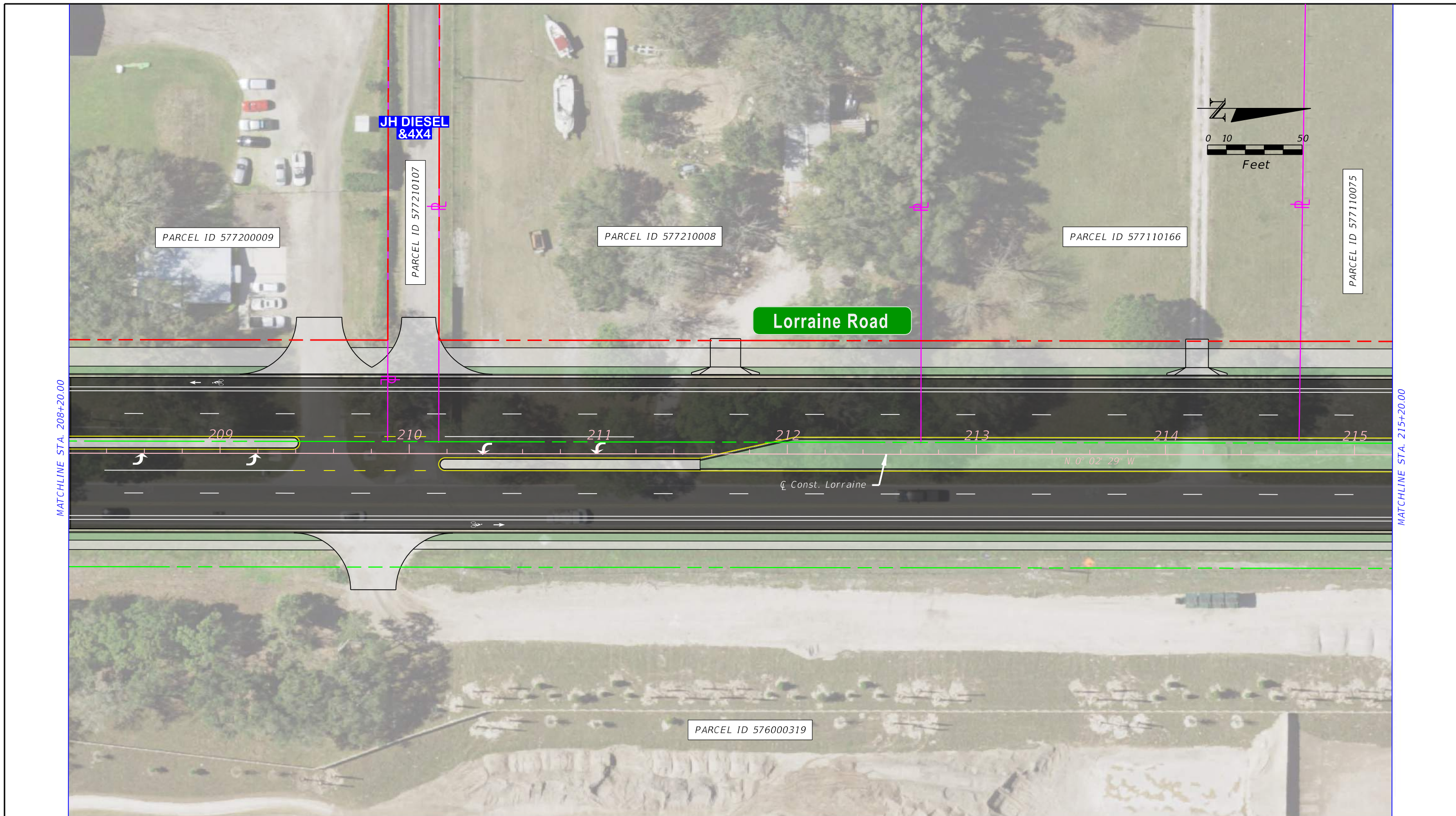
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- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

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LEGEND

- PROPOSED ASPHALT (ROADWAY)
- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

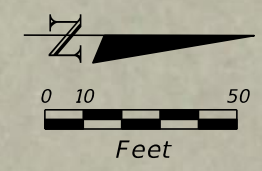
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No.	REVISIONS	DATE	BY	CHECKED BY	JLS					

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12/14/2021

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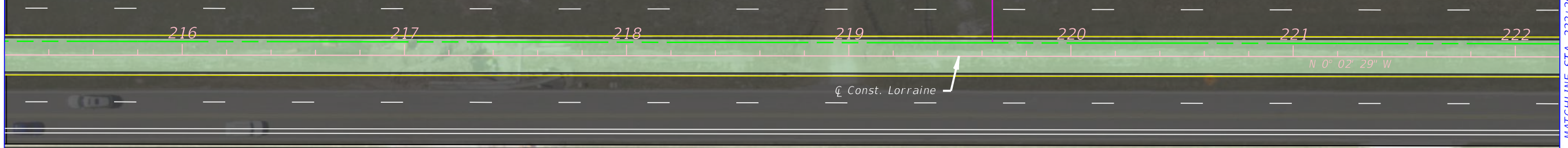
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Lorraine Road

MATCHLINE STA. 215+20.00

MATCHLINE STA. 222+20.00



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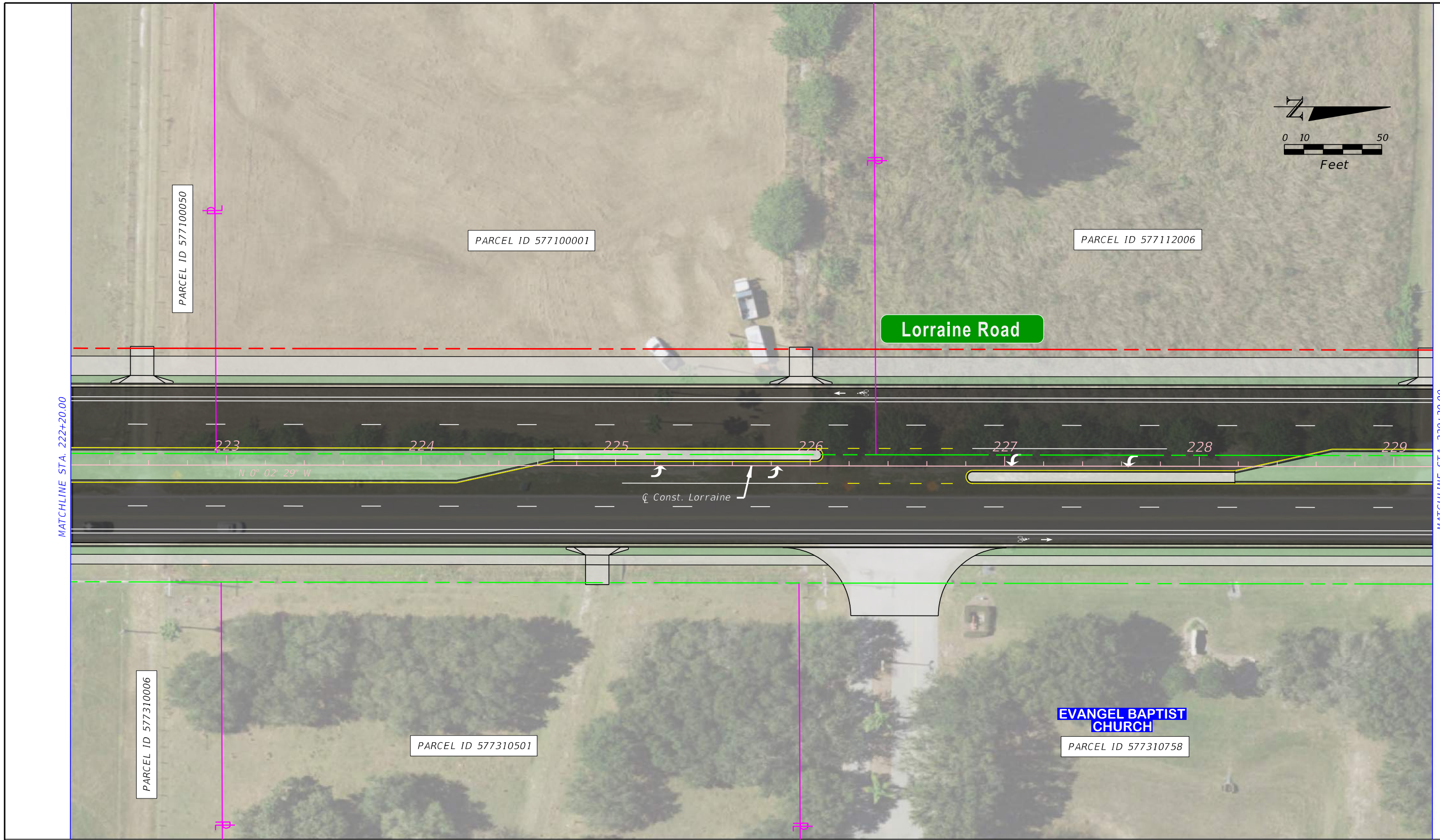
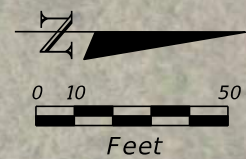
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- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

					SCALE AS NOTED DESIGNED BY KMP DRAWN BY RCS CHECKED BY JLS	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 12/2021 PROJECT NO. 6107660	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JASON L. STARR FL. LICENSE NO. 70171	<p style="font-size: 24px; font-weight: bold; margin: 0;">RECOMMENDED ALTERNATIVE</p>	SHEET NO. 18
No.	REVISIONS	DATE	BY	JLS	3:47:10 PM 12/14/2021 PW:\						

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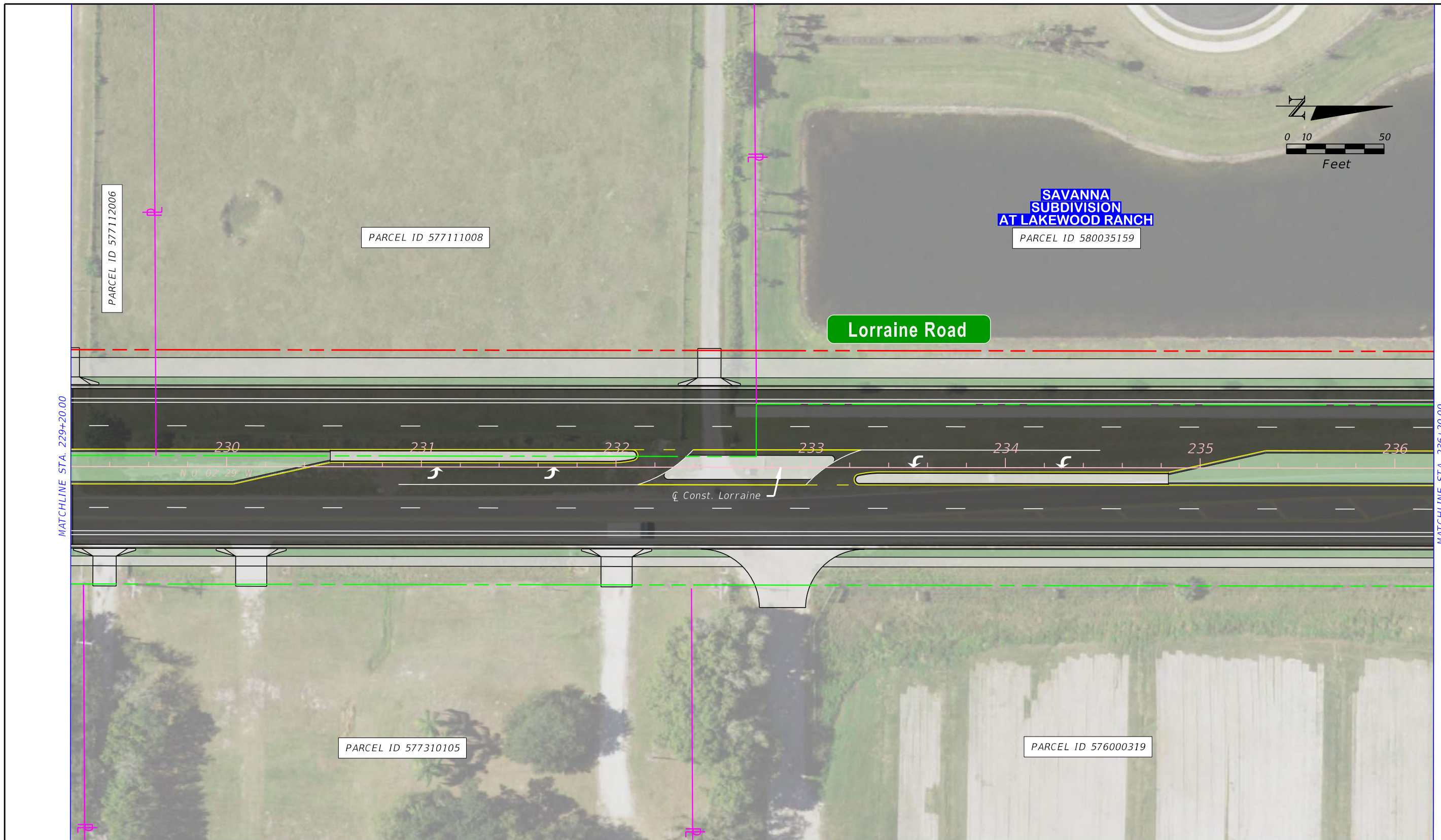


LEGEND

- PROPOSED ASPHALT (ROADWAY)
- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

					SCALE AS NOTED DESIGNED BY KMP DRAWN BY RCS CHECKED BY JLS	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 12/2021 PROJECT NO. 6107660	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JASON L. STARR FL. LICENSE NO. 70171	<p style="font-size: 24px; font-weight: bold; margin: 0;">RECOMMENDED ALTERNATIVE</p>	SHEET NO. 19
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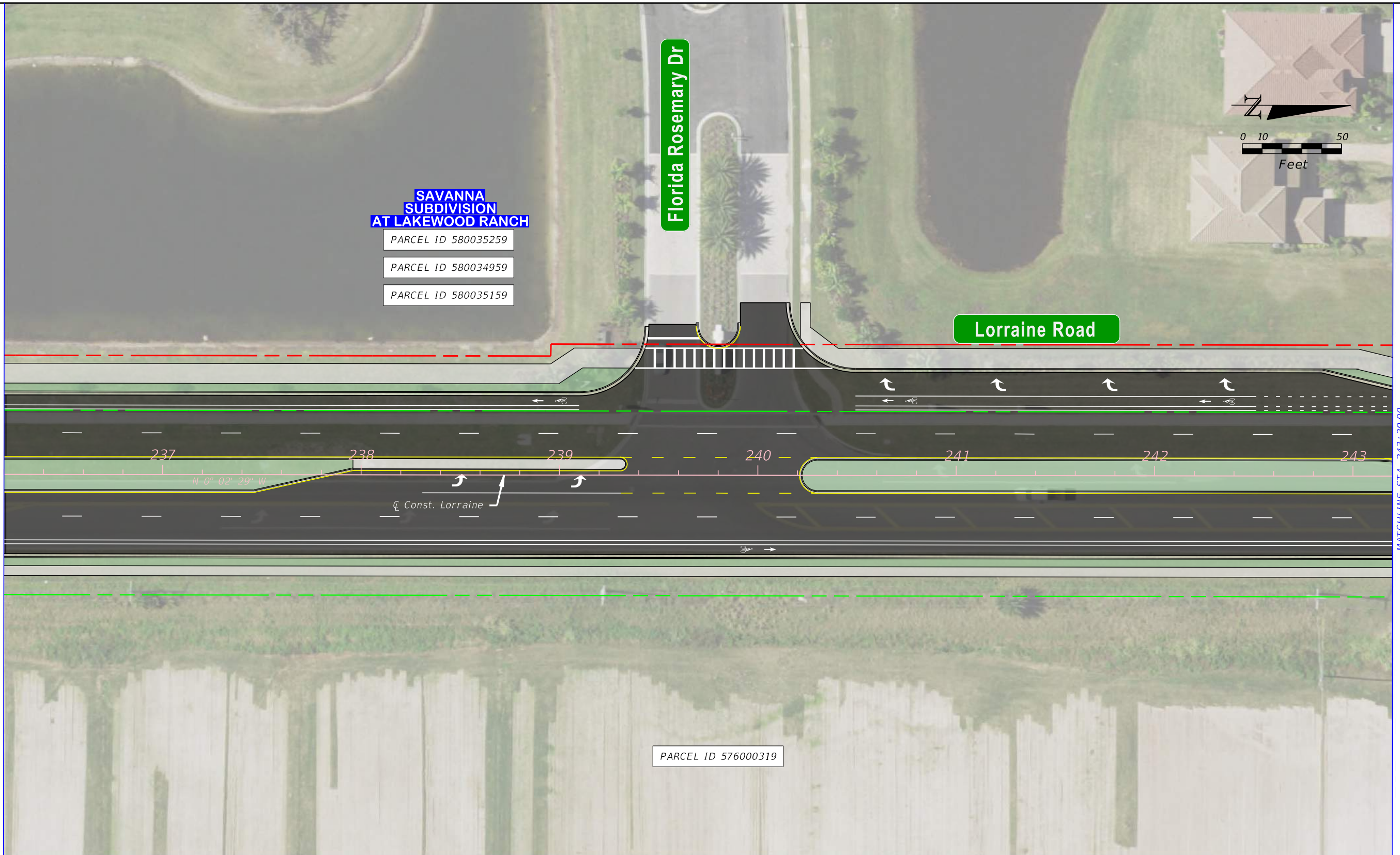


LEGEND

- PROPOSED ASPHALT (ROADWAY)
- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

		SCALE	AS NOTED	HDR ENGINEERING, INC.	DATE	12/2021	DESIGN ENGINEER	JASON L. STARR	RECOMMENDED ALTERNATIVE	SHEET NO.
		DESIGNED BY	KMP	2601 CATTLEMEN ROAD, SUITE 400	PROJECT NO.	6107660	FL. LICENSE NO.	70171		20
		DRAWN BY	RCS	SARASOTA, FLORIDA 34232						
No.	REVISIONS	DATE	BY	JLS	3:47:21 PM	12/14/2021	PW:\			

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MATCHLINE STA. 236+20.00

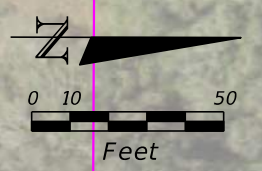
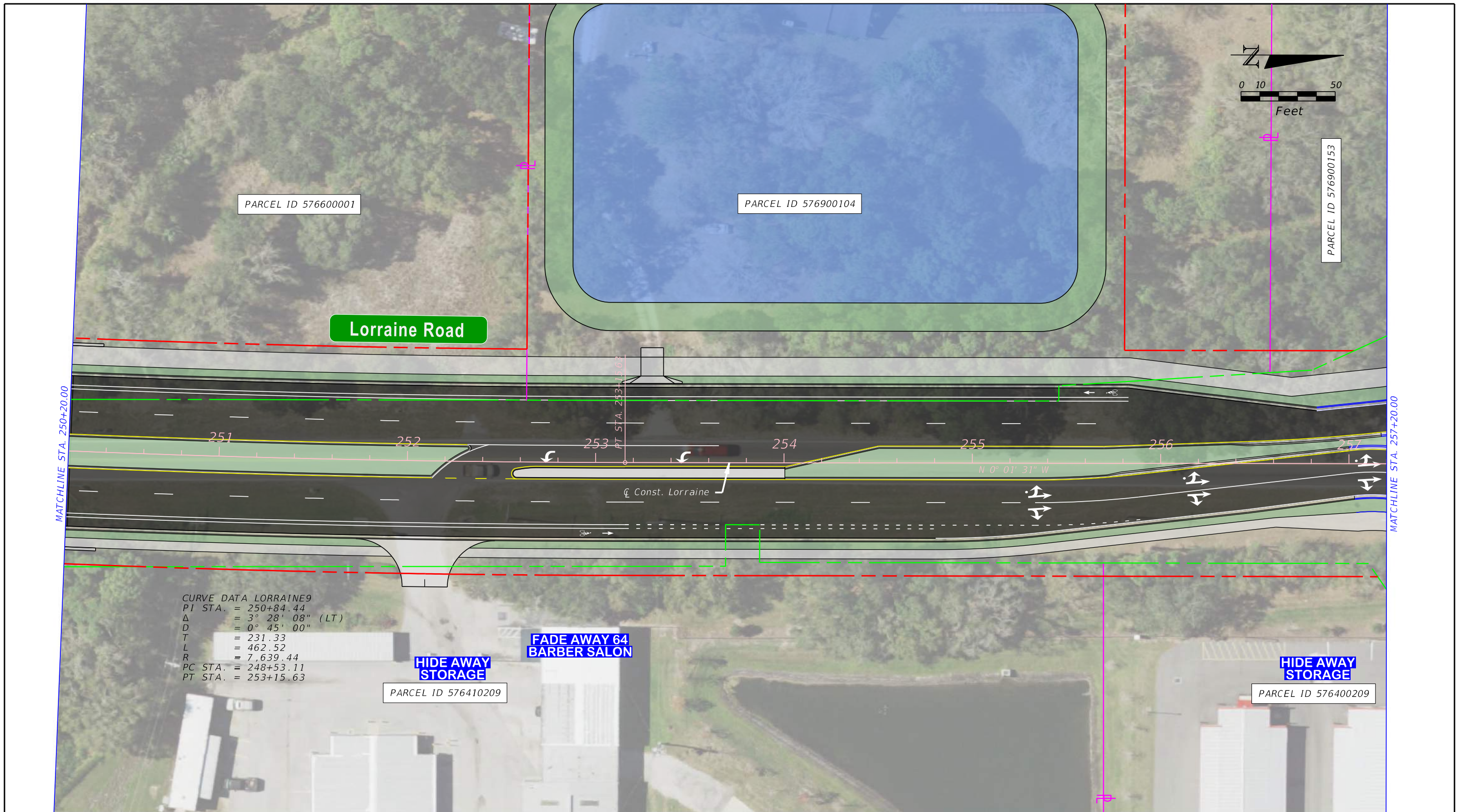
MATCHLINE STA. 243+20.00

LEGEND

- PROPOSED ASPHALT (ROADWAY)
- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS

				SCALE AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 12/2021	MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JASON L. STARR	RECOMMENDED ALTERNATIVE	SHEET NO. 21
						PROJECT NO. 6107660		FL. LICENSE NO. 70171		
No.	REVISIONS	DATE	BY	JLS		3:47:27 PM	12/14/2021	PW:\		

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CURVE DATA LORRAINE9
 PI STA. = 250+84.44
 Δ = 3° 28' 08" (LT)
 D = 0° 45' 00"
 T = 231.33
 L = 462.52
 R = 7,639.44
 PC STA. = 248+53.11
 PT STA. = 253+15.63

LEGEND

- PROPOSED ASPHALT (ROADWAY)
- PROPOSED GRASS
- EXISTING PARCEL LINES
- PROPOSED RIGHT-OF-WAY
- PROPOSED POND SITE
- EXISTING RIGHT-OF-WAY
- RECENT CONSTRUCTION BY OTHERS
- PROPOSED CONCRETE (SIDEWALK, CURB AND GUTTER)

	SCALE AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 12/2021		DESIGN ENGINEER JASON L. STARR	RECOMMENDED ALTERNATIVE	SHEET NO. 23
	DESIGNED BY KMP		PROJECT NO. 6107660	MANATEE COUNTY PUBLIC WORKS	FL. LICENSE NO. 70171		
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Appendix B – Design Traffic Memo

Memorandum

Date: 10/12/2021

Project: Manatee County Corridor Studies

To: Eric Shroyer, Manatee County Public Works Project Manager
Darin Rice, Manatee County Public Works Project Engineer

From: Jason Starr, PE, HDR Project Manager
Tarek Lotfy Kamal, EI, HDR Transportation EIT

Subject: Lorraine Road Corridor Study – Traffic Analysis Memorandum

1.0 Introduction/Purpose of Memorandum

The purpose of this memorandum is to document the corridor analysis results for the Lorraine Road corridor in Manatee County. For this capacity analysis the Lorraine Road corridor between 59th Avenue East and SR 64 is analyzed as three different segments: from 59th Avenue East to Rangeland Parkway, from Rangeland Parkway to 44th Avenue E Parkway and from 44th Avenue E to SR 64. The Lorraine Road corridor segment between Rangeland Parkway and 44th Avenue E was identified as the corresponding segment to the Manatee County Count station 11-26 segment.

Existing year (2021) traffic volumes for the Lorraine Road corridor segment between Rangeland Parkway and 44th Avenue E were developed utilizing the Manatee County 2019 historical Annual Average Daily Traffic (AADT) volumes, shown in **Appendix A**. Volume characteristics were developed using the Florida Department of Transportation (FDOT) Florida Traffic Online (FTO) traffic counts data, shown in **Appendix A**. No Build and Build alternatives’ design year (2045) volumes for the Lorraine Road corridor segment between Rangeland Parkway and 44th Avenue E were projected using a 6.32% growth rate, based on the 10-year historic growth rates.

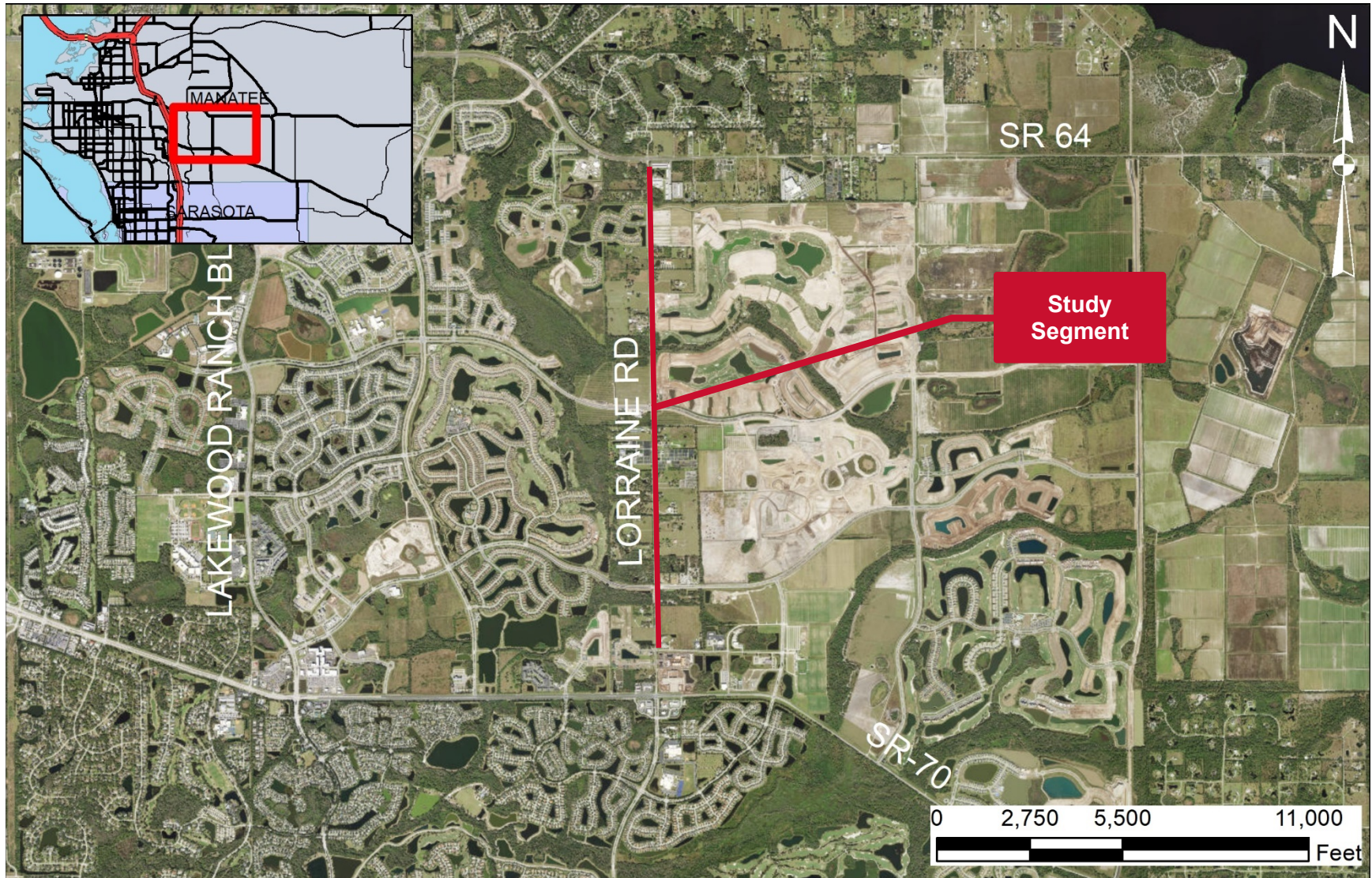
The existing year (2021) and design year (2045) volumes along the Lorraine Road Corridor segments from 59th Avenue East to Rangeland Parkway and from 44th Avenue E to SR 64 were estimated utilizing the Concurrency Link Data sheet summary that was provided by the Manatee County, shown in **Appendix C**. The volumes were estimated as per Manatee County guidance, and AADT volumes were rounded to the nearest 100 vehicles.

The Existing configuration (2-Lane Roadway), the No Build configuration (2-Lane Roadway) and the Build concept (4-Lane Roadway) were analyzed for capacity using the 2020 FDOT Quality/Level of Service (QLOS) Handbook.

2.0 Existing Conditions

The purpose of this section is to summarize the existing geometric and capacity conditions along the Lorraine Road corridor between 59th Avenue East and SR 64. The determination of current capacity along Lorraine Road provides a baseline condition to assess the need for improvements to the roadway. The project is located in Manatee County, Florida, as illustrated in **Figure 1**.

Figure 1 | Vicinity Map



2.1 Roadway Characteristics

Within the study area the Lorraine Road corridor is Major Collector roadway with a posted speed of 50 miles per hour (mph). Lorraine Road is a 2-way undivided roadway between 59th Avenue East and SR 64. There are no dedicated bike lanes along the northbound or southbound approaches of the roadway.

2.2 Crash Analysis

The most recent five years of crash data for the study area of Lorraine Road between 59th Avenue East and SR 64. Crash data was obtained from the Signal 4 (S4) Analytics database between years 2016 and 2020. In total, there were 49 reported crashes in the five-year period. One (1) fatal, two (2) incapacitating, two (2) non-incapacitating injury, and eight (8) possible injury crashes were reported during this timeframe. 18 (37%) were rear end crashes, 8 (16%) were off road, and 4 (8%) were sideswipes. One (1) crash involved alcohol, none of the crashes involved drugs and three (3) crashes involved an animal.

The results are summarized in the tables below. **Table 1** shows the crashes that occurred in a given year by the type of crash. **Table 2** shows the crashes by the highest severity of incident that resulted by year. The fatal crash involved a bicyclist, under dark not lighting conditions.

Table 1 | Crashes by Year and Type

Year	Rear End	Off Road	Sideswipe	Animal	Angle	Left Turn	Bicycle	Head On	Right Turn	Rollover	Other	Unknown	Total
2016	1	0	1	0	0	0	0	0	0	0	1	0	3
2017	5	2	1	0	0	0	0	1	0	0	3	0	12
2018	4	0	1	1	0	0	1	0	0	1	3	0	11
2019	4	1	1	1	0	1	0	0	0	0	0	1	9
2020	4	5	0	1	2	0	0	0	1	0	1	0	14
Total	18	8	4	3	2	1	1	1	1	1	8	1	49

Table 2 | Crashes by Year and Severity

Year	Fatal	Incapacitating Injury	Non-Incapacitating Injury	Possible Injury	No Injury	Total
2016	0	0	0	1	2	3
2017	0	0	1	1	10	12
2018	1	1	0	1	8	11
2019	0	0	0	2	7	9
2020	0	1	1	3	9	14
Total	1	2	2	8	36	49

The crash rate for Lorraine Road between 59th Avenue East and SR 64 was estimated and compared to statewide crash rates for similar facility types. The segment crash rate is estimated by dividing the number of crashes by the Million Vehicle Miles Traveled (MVMT). The MVMT is calculated by multiplying the AADT by the segment length by the number of days in the analysis (365 days per year), then finally dividing by one million. Per Manatee County Traffic Counts, the AADT of Lorraine Road for 2019 is 8,771. As shown in **Table 3** the average crash rate for the segment is 1.117, which is less than statewide crash rates for similar facility types. The critical crash rate for the segment was also calculated and is 2.170; the segment crash rate is lower than the critical crash rate.

Table 3 | Crash Rates

Average Crash Rate per Million Vehicles	
Lorraine Road from 59th Avenue East to SR 64	
Lorraine Road AADT	8,771
Segment Length	2.74
Number of Years	5
MVMT	43.86
Number of Reported Crashes	49
Segment Crash Rate	1.117
FDOT Statewide Average Segment Crash Rate*	1.823
Critical Crash Rate	2.170

*Note: The Average Crash Rate for Suburban Segments 2-3 Lane 2-Way Undivided

2.3 Traffic Data Collection

Turning movement counts were not collected for the intersections along the corridor for this study. Historical traffic data obtained from the FDOT 2020 FTO database and historical traffic data and the Concurrency Link Data sheet summary provided by Manatee County were used as the basis for the capacity analysis. Historical AADT data from the year 2020 was not used due to COVID-19 causing abnormal traffic patterns.

2.4 Traffic Parameters

Traffic parameters, including the design-hour factor (K), design-hour directional distribution factor (D), and design-hour truck percentage (DHT), were determined based on the 2019 historical traffic data obtained from the FDOT 2020 FTO database. Historical traffic data can be found in **Appendix A**.

The design hour traffic factors utilized for the study area are as follows:

K – Factor = 9.50%

D – Factor = 56.80%

T – Factor = 8.70%

3.0 Growth Rates

The growth rates were determined by comparing the Manatee County population projections, the historic traffic trends, the travel demand from the District 1 Regional Planning Model (D1RPM), and the socioeconomic (SE) data from the D1RPM.

3.1 BEBR Growth Trends

Historical population data obtained from the University of Florida Bureau of Economic and Business Research (BEBR) was used to analyze growth rates that may be applicable in developing future traffic projections. As shown in **Table 4**, Manatee County had a population of about 398,500 in 2020. **Table 4** shows the low, medium, and high population estimates for 2025, 2035, and 2045, along with the corresponding growth rates from 2020 to each future year. The low, medium, and high population growth rates for 2045 range from 0.51% to 2.56%.

Table 4 | BEBR Population Growth Rates – Manatee County

Projection Range	2020 Population	2025		2035		2045	
		Population	Growth	Population	Growth	Population	Growth
Low	398,505	401,400	0.15%	431,900	0.56%	449,200	0.51%
Medium	398,505	437,600	1.96%	498,000	1.66%	544,400	1.46%
High	398,505	470,200	3.60%	566,100	2.80%	653,700	2.56%

3.2 Historic Count Trends

A historical count trends analysis was performed using count data provided by Manatee County. Historical AADT volumes were input into the FDOT Trend worksheet to calculate trend growth rates through the design year (2045).

Historical AADT data from the year 2020 was not used due to COVID-19 causing abnormal traffic patterns. The historical growth rates will be used to grow the 2019 AADT values to the existing year (2021) for existing conditions analyses. The trends analysis method relies on historical traffic counts and does not consider future traffic pattern changes due to new traffic generators or network improvements. Manatee County historical counts and trend worksheets can be found in **Appendix A**.

3.3 D1RPMv2.0

The D1RPMv2.0 was utilized to calculate model growth rates based on the anticipated future roadway network and planned developments through design year (2045). Socioeconomic (SE) data provided by Manatee County was used to update the future year (2045) ZDATA to reflect planned development within the county, and both No Build and Build scenarios were modeled for the study corridor.

Model AADT volumes for the future year 2045 were compared to those of the model's validated base year (2015) to calculate the implied growth rate on the study corridor. The D1RPMv2.0 SE data was reviewed for both the model's validated base year (2015) and the future year (2045) to assess socioeconomic growth in the project area. D1RPMv2.0 plots and growth rate calculations can be found in **Appendix B**.

3.4 Determined Growth Rates

An existing growth rate of 7.28% was used to forecast the existing year (2021) traffic volumes from the 2019 Manatee County traffic volume counts. For this short-term projection the growth rate was based on the 5-year historical traffic trend growth rate from station 11-26.

A No Build growth rate of 6.32% was used to forecast the design year (2045) traffic volumes for the No Build 2-lane roadway scenario, based on the 10-year historical traffic trend growth rate from station 11-26.

A Build growth rate of 6.32% was used to forecast the design year (2045) traffic volumes for the No Build 2-lane roadway scenario, based on the 10-year historical traffic trend growth rate from station 11-26.

There are three segments being analyzed along the Lorraine Road Corridor: from 59th Avenue East to Rangeland Parkway, from Rangeland Parkway to 44th Avenue E Parkway and from 44th Avenue E to SR 64. The Lorraine Road Corridor Segment between Rangeland Parkway and 44th Avenue E was identified as the corresponding segment to the Manatee County Count station 11-26 segment.

Table 5 shows the growth rate comparison and the determined growth rates for the Lorraine Road corridor.

Table 5 | Determined Growth Rate

Source	Calculated Growth Rate
Limits	From Rangeland Parkway to 44th Avenue E
Historical Traffic (5 Years) - Station 11-26	7.28%
Historical Traffic (10 Years) - Station 11-26	6.32%
BEBR - Low	0.51%
BEBR - Medium	1.46%
BEBR - High	2.56%
D1RPMv2.0 - No Build	0.05%
D1RPMv2.0 - Build	0.32%
D1RPMv2.0 - Project Area SE Data	16.6%
Proposed Growth Rate	Existing 7.28% No Build 6.32% Build 6.32%

4.0 Existing Year (2021) Volume Development

For the Lorraine Road Corridor Segment between Rangeland Parkway and 44th Avenue E the Manatee County 2019 historical AADT volumes were utilized to develop the existing year (2021) AADT volumes using a 7.28% growth rate. The volumes along the Lorraine Road Corridor segments from 59th Avenue East to Rangeland Parkway and from 44th Avenue E to SR 64 were estimated utilizing the Concurrency Link Data sheet summary that was provided by the Manatee County. The volumes were estimated as per Manatee County guidance, AADT volumes were rounded to the nearest 100 vehicles. The Concurrency Link Data sheet summary that was provided, and the developed segment factors used to estimate the volumes is shown in **Table 6**. The Concurrency Link Data sheet summary that was provided by the Manatee County is shown in **Appendix C**.

Table 6 | Concurrency Link Data Projected Weekday ADT Estimates for Lorraine Road Corridor

Segment Limits	Approximate Projected Weekday ADT Based on Concurrency Link Data	Segment Factor
From SR 70 to Rangeland Parkway	18,740	1.201
From Rangeland Parkway to 44th Avenue E	15,610	1.000
From 44th Avenue E to SR 64	10,830	0.694

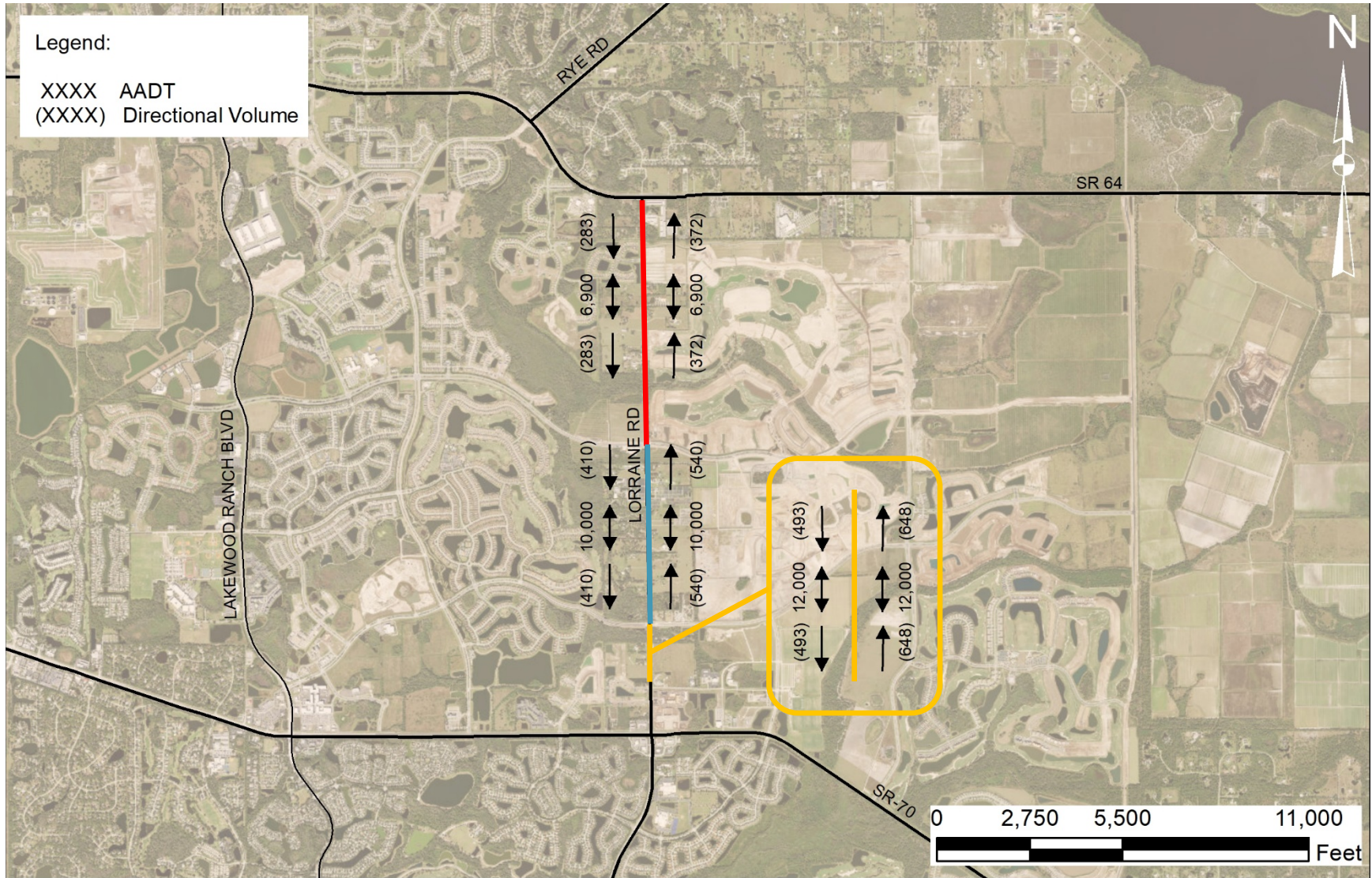
Existing year (2021) roadway AADT volumes and design hour directional volumes are shown in **Figure 2**. **Table 7** shows the existing year (2021) design traffic volumes characteristics along the Lorraine Road corridor between 59th Avenue East and SR 64. The K-Factor (Peak-To-Daily Ratio) was used to calculate the Design-Hour Volume (DHV) and the D-Factor (Directional Distribution) was used to calculate the directional volumes

Table 7 | Existing Year (2021) Design Traffic Volume Characteristics

Corridor	Lorraine Road		
	From 59th Avenue East to Rangeland Parkway	From Rangeland Parkway to 44th Avenue E	From 44th Avenue E to SR 64
2019 AADT	10,500*	8,771	6,100*
2021 AADT	12,000*	10,000	6,900*
Peak -To- Daily Ratio	9.50%	9.50%	9.50%
DHV	1,140	950	656
Directional Distribution	56.80%	56.80%	56.80%
Peak Directional Volume	648	540	372
Off Peak Directional Volume	493	410	283

**Estimated using the Concurrency Link Data Segment Factors as per guidance from Manatee County, rounded to the nearest 100 vehicles.*

Figure 2 | Existing AADT and Design Hour Directional Volumes



5.0 Existing Year (2021) Level of Service Analysis

Generalized Service Volume Tables (GSVT), found in the FDOT Quality/LOS Handbook 2020, were used to perform a corridor capacity analysis. The developed existing year (2021) traffic volumes were compared to the LOS D maximum service volumes found in the GSVTs to determine the volume/LOS D maximum service volume percentage. GSVT Table 7 was used to compare the peak hour directional volumes to the LOS D maximum peak hour directional volumes. **Table 8** provides the capacity analysis for the existing year (2021) peak hour directional volumes along the Lorraine Road corridor. For existing year (2021) under existing conditions, all three segments of the Lorraine Road corridor operate under the peak hour directional LOS D maximum service volume.

Under existing conditions, the corridor segment between 59th Avenue East and Rangeland Parkway operates at 82% of the peak hour directional LOS D Maximum Service volume. The corridor segment between Rangeland Parkway and 44th Avenue E operates at 68% of the peak hour directional LOS D Maximum Service volume. The corridor segment between 44th Avenue E and SR 64 operates at 47% of the peak hour directional LOS D Maximum Service volume.

Table 8 | Existing Year (2021) LOS D Capacity Analysis

Lorraine Road			
Attribute	Volume	Peak Hour Directional LOS D Maximum Service Volume	
		1 Lane	
Segment	From 59th Avenue East to Rangeland Parkway		
Peak Directional Volume	648	792*	82%
Segment	From Rangeland Parkway to 44th Avenue E		
Peak Directional Volume	540	792*	68%
Segment	From 44th Avenue E to SR 64		
Peak Directional Volume	372	792*	47%

*Adjusted for non-state roads, reduced by 10%

6.0 Design Alternatives and Assumptions

Two design alternatives were assessed for the design year (2045). The first alternative is a No Build alternative which assumes that the existing configuration (2-lane roadway) is maintained for Lorraine Road between 59th Avenue East and SR 64. The second alternative is the Build alternative which assumes Lorraine Road is widened from a 2-lane roadway to a 4-lane roadway between 59th Avenue East and SR 64. The Build alternative is anticipated to increase the capacity of Lorraine Road for the planned and approved developments in the area. Additionally, the widening would provide Manatee County with a consistent roadway cross section that will match the number of lanes along Lorraine Road south of 59th Avenue East.

7.0 Design Year (2045) Volume Development

The existing year (2021) AADT volumes were used to forecast the design year (2045) AADT volumes for the No Build and Build alternatives using a 6.32% growth rate for the Lorraine Road corridor segment between Rangeland Parkway and 44th Avenue E. The volumes along the Lorraine Road Corridor segments from 59th Avenue East to Rangeland Parkway and from 44th Avenue E to SR 64 were estimated utilizing the Concurrency Link Data sheet summary that was provided by the Manatee County. The volumes were estimated as per Manatee County guidance, AADT volumes were rounded to the nearest 100 vehicles.

The No Build alternative design year (2045) roadway AADT volumes and design hour directional volumes are shown in **Figure 3**. Build alternative design year (2045) roadway AADT volumes and design hour directional volumes are shown in **Figure 4**. **Table 9** and **Table 10** show the design year (2045) design traffic volume characteristics along the Lorraine Road corridor between 59th Avenue East and SR 64 for the No Build and the Build alternatives, respectively. The K-Factor (Peak -To- Daily Ratio) was used to calculate the Design-Hour Volume (DHV) and the D-factor (Directional Distribution) was used to calculate the directional volumes.

Table 9 | Design Year (2045) No Build Design Traffic Volume Characteristics

Corridor	Lorraine Road		
	From 59th Avenue East to Rangeland Parkway	From Rangeland Parkway to 44th Avenue E	From 44th Avenue E to SR 64
2021 AADT	12,000*	10,000	6,900*
2045 AADT	30,300*	25,200	17,500*
Peak -To- Daily Ratio	9.50%	9.50%	9.50%
DHV	2,879	2,394	1,663
Directional Distribution	56.80%	56.80%	56.80%
Peak Directional Volume	1,635	1,360	944
Off Peak Directional Volume	1,244	1,034	718

**Estimated using the Concurrency Link Data Segment Factors as per guidance from Manatee County, rounded to the nearest 100 vehicles.*

Table 10 | Design Year (2045) Build Design Traffic Volume Characteristics

Corridor	Lorraine Road		
	From 59th Avenue East to Rangeland Parkway	From Rangeland Parkway to 44th Avenue E	From 44th Avenue E to SR 64
2021 AADT	10,500*	8,771	6,100*
2045 AADT	30,300*	25,200	17,500*
Peak -To- Daily Ratio	9.50%	9.50%	9.50%
DHV	2,879	2,394	1,663
Directional Distribution	56.80%	56.80%	56.80%
Peak Directional Volume	1,635	1,360	944
Off Peak Directional Volume	1,244	1,034	718

**Estimated using the Concurrency Link Data Segment Factors as per guidance from Manatee County, rounded to the nearest 100 vehicles.*

Figure 3 | No Build Design AADT and Design Hour Directional Volumes

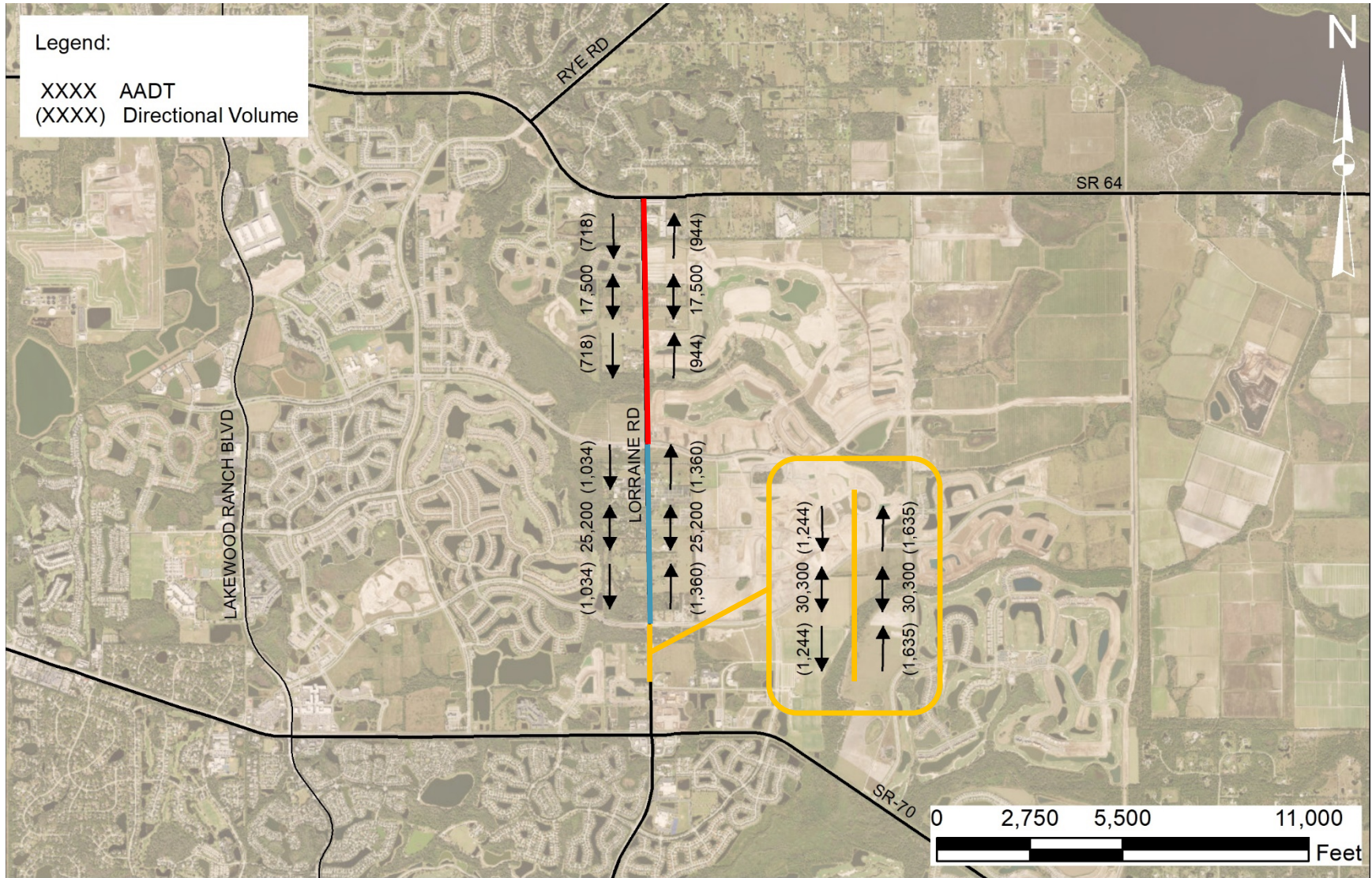
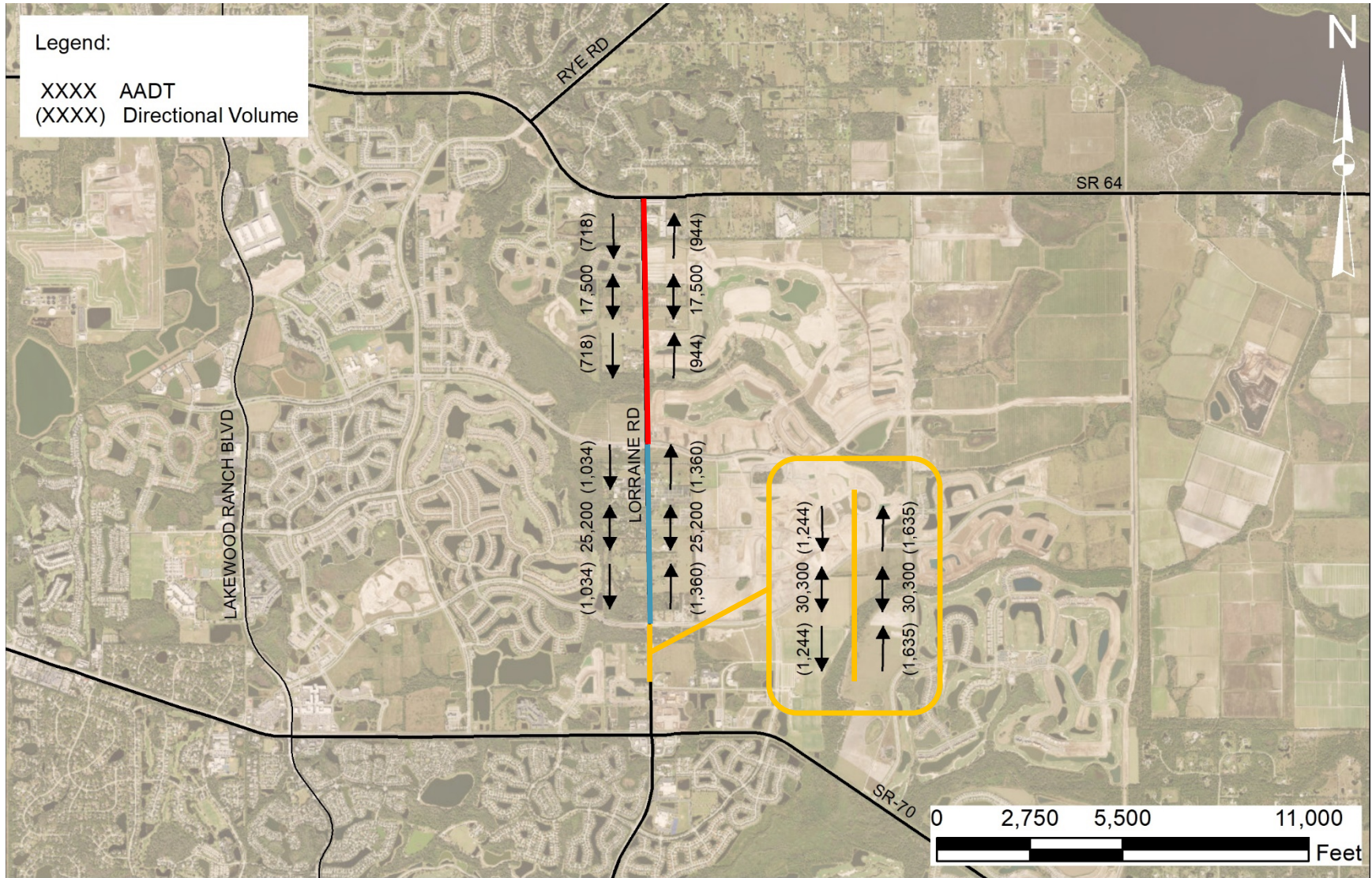


Figure 4 | Build Design AADT and Design Hour Directional Volumes



8.0 Design Year (2045) Level of Service Analysis

Generalized Service Volume Tables (GSVT), found in the FDOT Quality/LOS Handbook 2020, were used to perform a corridor capacity analysis. The developed design year (2045) traffic volumes were compared to the LOS D maximum service volumes found in the GSVTs to determine the volume/LOS D maximum service volume percentage. GSVT Table 7 was used to compare the peak hour directional volumes to the LOS D maximum peak hour directional volumes. **Table 11** and **Table 12** provide the capacity analysis for the design year (2045) peak hour directional volumes along the Lorraine Road corridor for the No Build alternative and the Build alternative, respectively. For design year (2045) under the No Build alternative, all three segments of the corridor are expected to operate over the peak hour directional LOS D maximum service volume, while under the Build alternative, all three segments of the corridor are expected to operate under the peak hour directional LOS D maximum service volume.

Under No Build alternative, the corridor segment between 59th Avenue East and Rangeland Parkway operates at 206% of the peak hour directional LOS D Maximum Service volume. The corridor segment between Rangeland Parkway and 44th Avenue E operates at 172% of the peak hour directional LOS D Maximum Service volume. The corridor segment between 44th Avenue E and SR 64 operates at 119% of the peak hour directional LOS D Maximum Service volume.

Under Build alternative, the corridor segment between 59th Avenue East and Rangeland Parkway operates at 91% of the peak hour directional LOS D Maximum Service volume. The corridor segment between Rangeland Parkway and 44th Avenue E operates at 76% of the peak hour directional LOS D Maximum Service volume. The corridor segment between 44th Avenue E and SR 64 operates at 52% of the peak hour directional LOS D Maximum Service volume.

The Build alternative offers significant improvements to the capacity of Lorraine Road between 59th Avenue East and SR 64. For all three segments of the corridor the No Build alternative is expected to operate over the peak hour directional LOS D maximum service volume, while the Build alternative is expected to operate at LOS D or better for the peak hour directional.

Under the No Build alternative, the Lorraine Road corridor segment between 59th Avenue East and Rangeland Parkway is expected to exceed the LOS D maximum service volume by 106%, while the corridor segment between Rangeland Parkway and 44th Avenue E is expected to exceed the LOS D maximum service volume by 72% and the corridor segment between 44th Avenue E and SR 64 is expected to exceed the LOS D maximum service volume by 19%.

Under the Build alternative, the Lorraine Road corridor segment between 59th Avenue East and Rangeland Parkway is expected to operate 9% below the LOS D maximum service volume, while the corridor segment between Rangeland Parkway and 44th Avenue E is expected to operate 24% below the LOS D maximum service volume and the corridor segment between 44th Avenue E and SR 64 is expected to operate 48% below the LOS D maximum service volume.

Table 11 | Design Year (2045) No Build LOS D Capacity Analysis

Lorraine Road			
Attribute	Volume	Peak Hour Directional LOS D Maximum Service Volume	
		1 Lane	
Segment	From 59th Avenue East to Rangeland Parkway		
Peak Directional Volume	1,635	792*	206%
Segment	From Rangeland Parkway to 44th Avenue E		
Peak Directional Volume	1,360	792*	172%
Segment	From 44th Avenue E to SR 64		
Peak Directional Volume	944	792*	119%

*Adjusted for non-state roads, reduced by 10%

Table 12 | Design Year (2045) Build LOS D Capacity Analysis

Lorraine Road			
Attribute	Volume	Peak Hour Directional LOS D Maximum Service Volume	
		2 Lane	
Segment	From 59th Avenue East to Rangeland Parkway		
Peak Directional Volume	1,635	1,800*	91%
Segment	From Rangeland Parkway to 44th Avenue E		
Peak Directional Volume	1,360	1,800*	76%
Segment	From 44th Avenue E to SR 64		
Peak Directional Volume	944	1,800*	52%

*Adjusted for non-state roads, reduced by 10%

9.0 Summary and Conclusion

The results of the capacity analysis show that for the existing year (2021) under existing conditions all three segments of the Lorraine Road corridor operate under the peak hour directional LOS D maximum service volume. For design year (2045) under the No Build alternative, all three segments of the corridor are expected to operate over the peak hour directional LOS D maximum service volume, while under the Build alternative, all three segments of the corridor are expected to operate under the peak hour directional LOS D maximum service volume.

The Build alternative offers significant improvements to the capacity of Lorraine Road between 59th Avenue East and SR 64. For all three segments of the corridor the No Build alternative is expected to operate over the peak hour directional LOS D maximum service volume, while the Build alternative is expected to operate at LOS D or better for the peak hour directional.

Under the No Build alternative, the Lorraine Road corridor segment between 59th Avenue East and Rangeland Parkway is expected to exceed the LOS D maximum service volume by 106%, while the corridor segment between Rangeland Parkway and 44th Avenue E is expected to exceed the LOS D maximum service volume by 72% and the corridor segment between 44th Avenue E and SR 64 is expected to exceed the LOS D maximum service volume by 19%.

Under the Build alternative, the Lorraine Road corridor segment between 59th Avenue East and Rangeland Parkway is expected to operate 9% below the LOS D maximum service volume, while the corridor segment between Rangeland Parkway and 44th Avenue E is expected to operate 24% below the LOS D maximum service volume and the corridor segment between 44th Avenue E and SR 64 is expected to operate 48% below the LOS D maximum service volume.

Appendix A
Historical Data and Trends Analysis

Count Stat Count Stations

OBJECTID 6886

SHAPE Point

STATION_ 11-26

ROUTE_N Lorraine Rd.

DIR At

DIST Null

CROSS_R Bridge # 134045

C86 805

C87 779

C88 830

C89 1153

C90 835

C91 1129

C92 396

C93 1146

C94 1253

C95 1367

C96 1656

C97 1704

C98 1577

C99 1775

C2000 1646

C2001 1728

C2002 1954

C2003 2410

C2004 3360

C2005 3389

C2006 5864

C2007 3654

C2008 3939

C2009 4437

C2010 4609

C2011 4642

C2012 4352

C2013 5177

C2014 5807

C2015 6165

C2016 7335

C2017 8325

C2018 8886

C2019 8771

C2020 8669

C2021 Null

C2022 Null

C2023 Null

C2024 Null

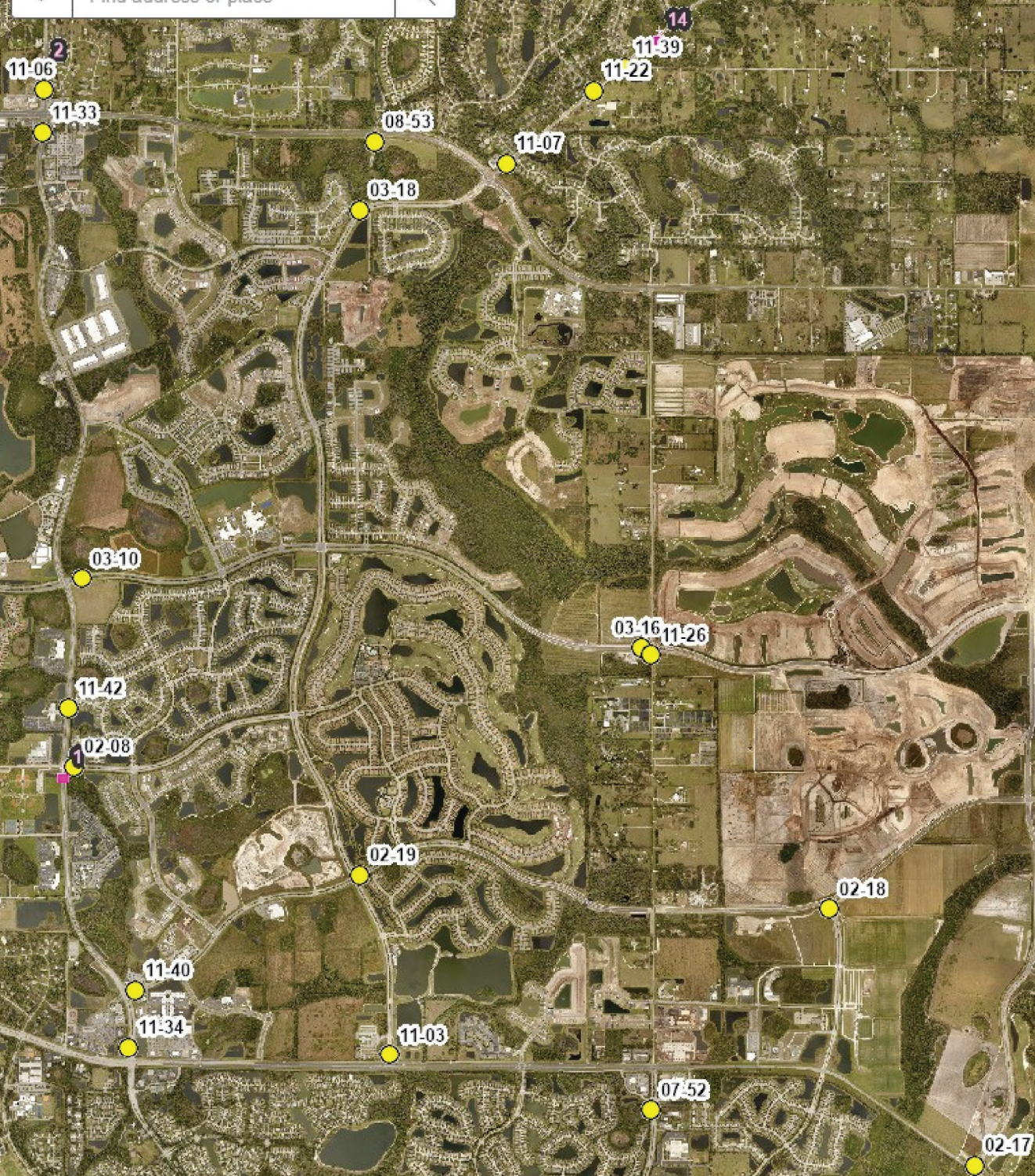
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EDITOR N/ MOLMSTEAD

LASTUPD. 3/31/2021 8:05:00 AM

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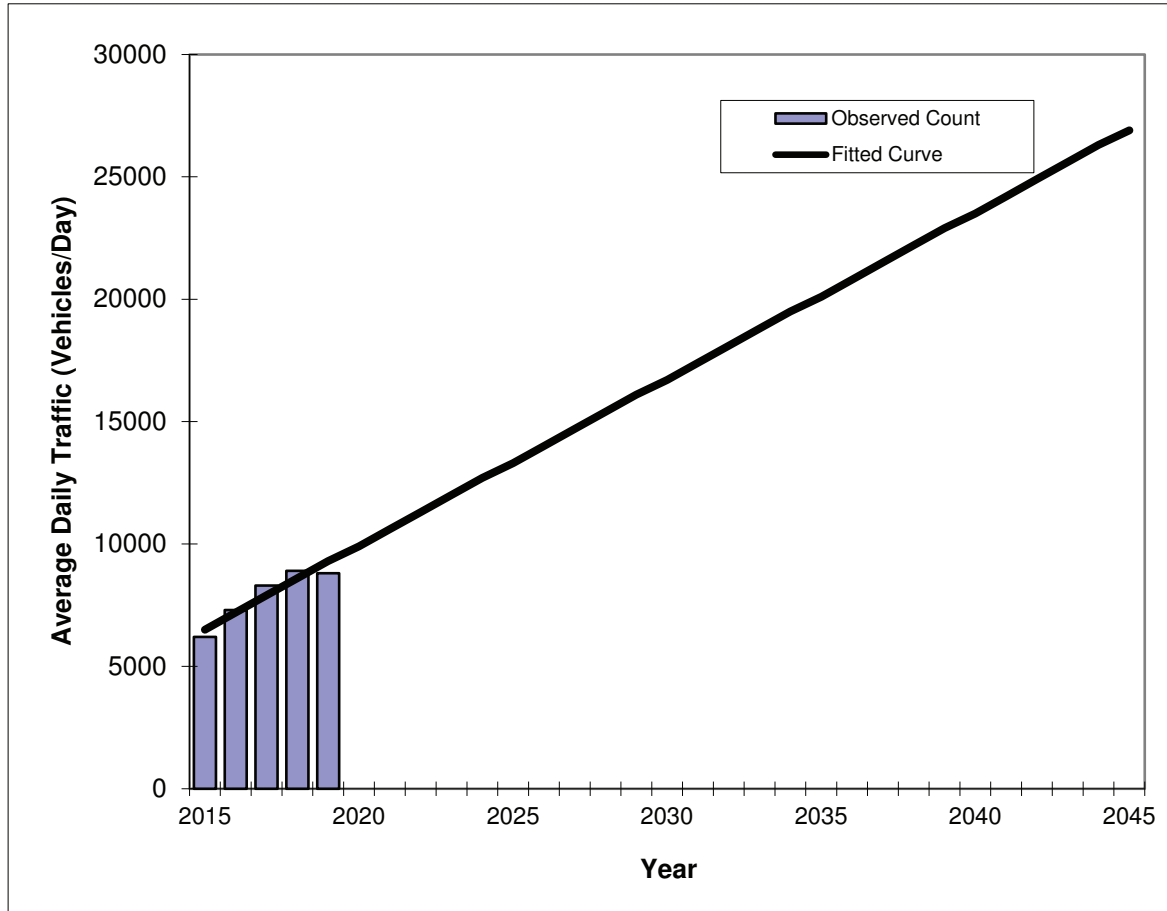
CREATION Null



Traffic Trends - V03.a LORRAINE ROAD --

FIN#	1234
Location	1

County:	Manatee (13)
Station #:	07-52
Highway:	LORRAINE ROAD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2015	6200	6500
2016	7300	7200
2017	8300	7900
2018	8900	8600
2019	8800	9300
2025 Opening Year Trend		
2025	N/A	13300
2035 Mid-Year Trend		
2035	N/A	20100
2045 Design Year Trend		
2045	N/A	26900
TRANPLAN Forecasts/Trends		

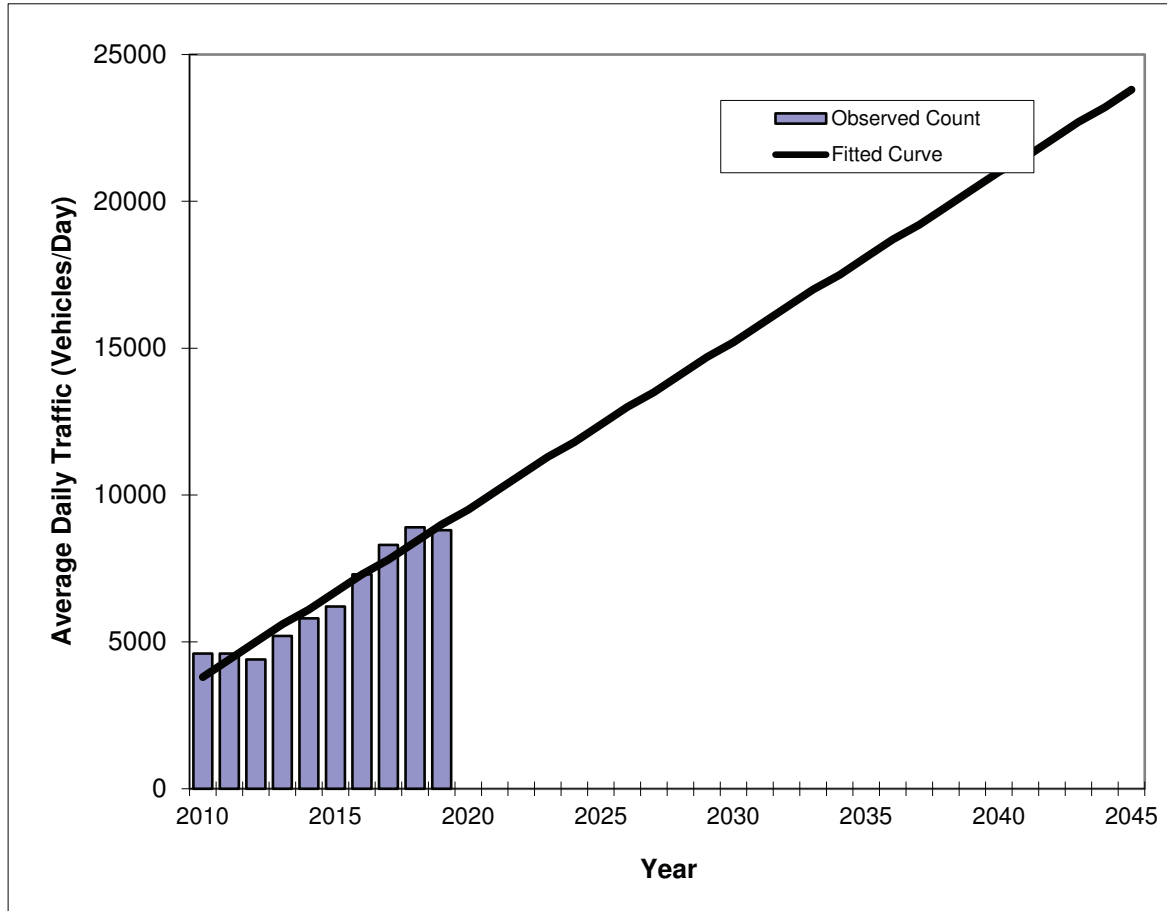
** Annual Trend Increase:	680
Trend R-squared:	88.58%
Trend Annual Historic Growth Rate:	10.77%
Trend Growth Rate (2019 to Design Year):	7.28%
Printed:	8-Sep-21
Straight Line Growth Option	

*Axle-Adjusted

Traffic Trends - V03.a LORRAINE ROAD --

FIN#	1234
Location	1

County:	Manatee (13)
Station #:	07-52
Highway:	LORRAINE ROAD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2010	4600	3800
2011	4600	4400
2012	4400	5000
2013	5200	5600
2014	5800	6100
2015	6200	6700
2016	7300	7300
2017	8300	7800
2018	8900	8400
2019	8800	9000
2025 Opening Year Trend		
2025	N/A	12400
2035 Mid-Year Trend		
2035	N/A	18100
2045 Design Year Trend		
2045	N/A	23800
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	570
Trend R-squared:	93.33%
Trend Annual Historic Growth Rate:	15.20%
Trend Growth Rate (2019 to Design Year):	6.32%
Printed:	8-Sep-21
Straight Line Growth Option	

*Axle-Adjusted

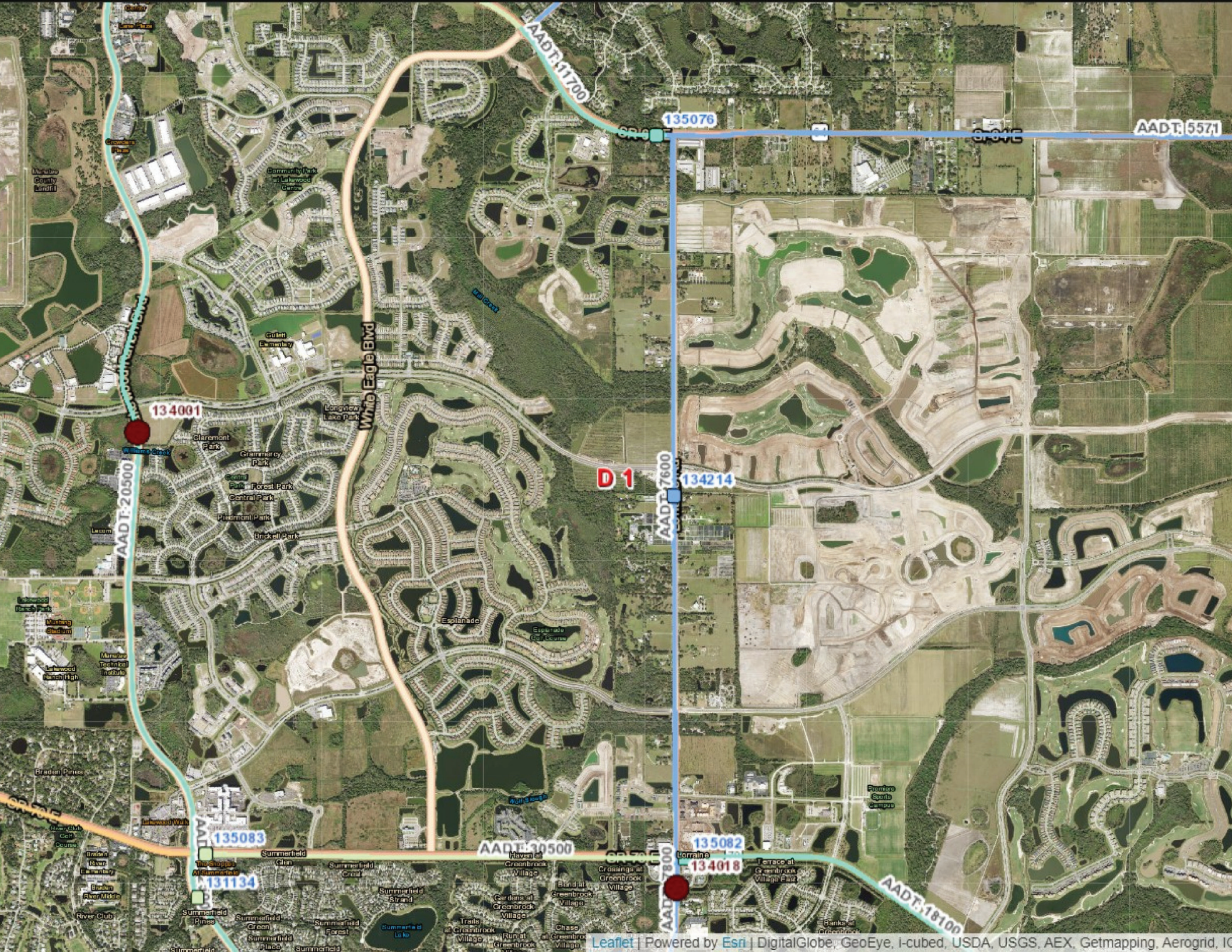
FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2020 HISTORICAL AADT REPORT

COUNTY: 13 - MANATEE

SITE: 4214 - LORRAINE RD, N OF SR 70

YEAR	AADT	DIRECTION 1		DIRECTION 2		*K FACTOR	D FACTOR	T FACTOR
----	-----	-----		-----		-----	-----	-----
2020	7600 C	N	3800	S	3800	9.50	56.30	8.70
2019	7600 F	N	3700	S	3900	9.50	56.80	8.70
2018	7600 C	N	3700	S	3900	9.50	55.80	9.50
2017	6500 S	N	3300	S	3200	9.50	56.50	8.50
2016	6300 F	N	3200	S	3100	9.50	55.90	9.40
2015	6100 C	N	3100	S	3000	9.50	55.90	7.90
2014	4600 S					9.50	55.10	8.20
2013	4500 F		0		0	9.50	55.10	9.10
2012	4400 C	N	0	S	0	9.50	54.60	8.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
 S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
 V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
 *K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES



134001

AADT: 20500

135076

AADT: 5571

White Eagle Blvd

D 1

134214

AADT: 7600

135083

AADT: 30500

135082

134018

AADT: 7600

AADT: 18100

County: 13
 Station: 4214
 Description: LORRAINE RD, N OF SR 70
 Start Date: 02/12/2020
 Start Time: 0000

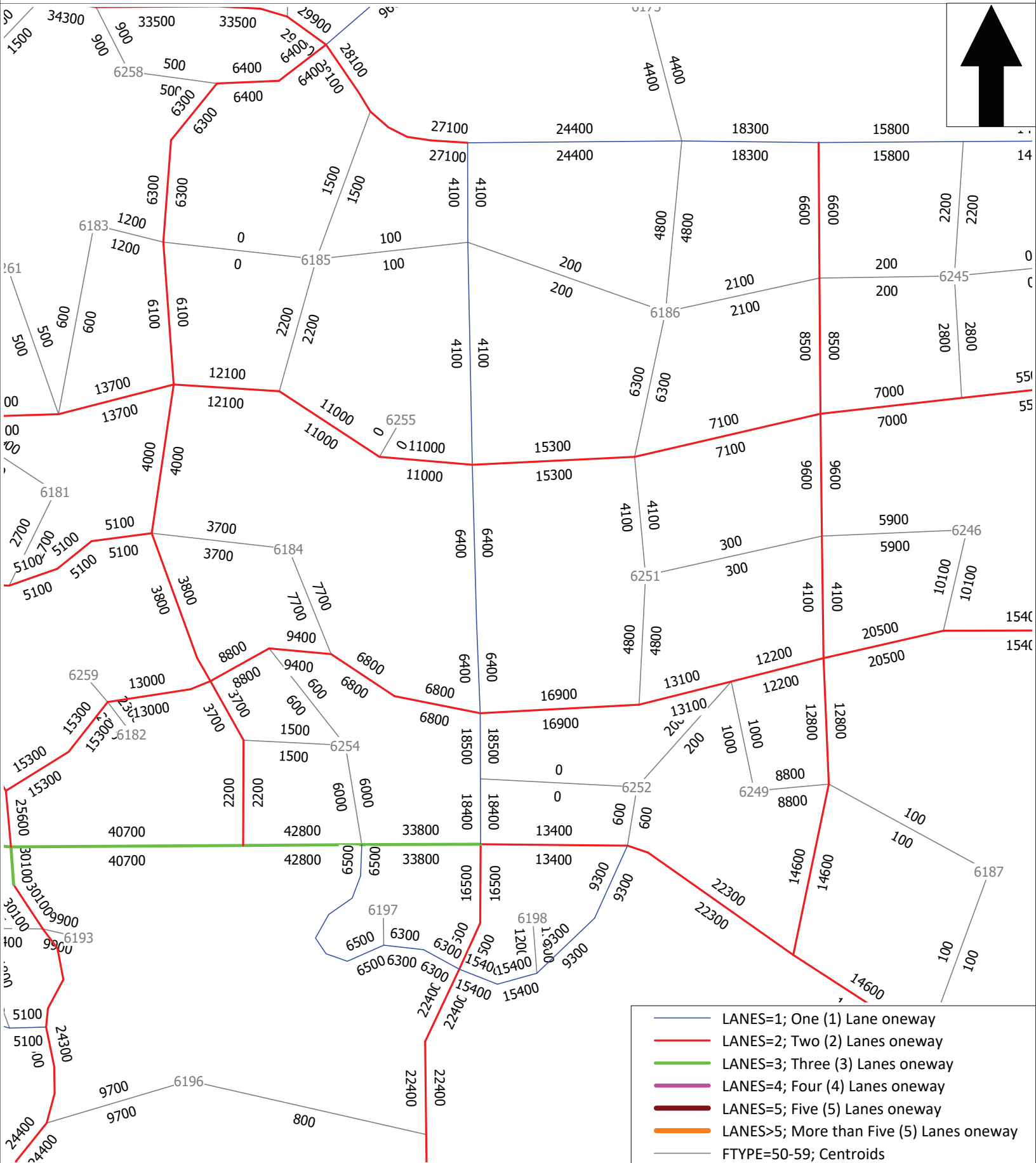
Time	Direction: N					Direction: S					Combined	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	Total	
0000	2	5	0	2	9	2	3	6	2	13	22	
0100	2	0	4	1	7	2	2	2	1	7	14	
0200	1	1	3	0	5	0	1	0	1	2	7	
0300	0	2	2	3	7	0	1	5	0	6	13	
0400	3	3	5	13	24	0	6	2	4	12	36	
0500	10	12	29	30	81	5	6	12	22	45	126	
0600	35	72	98	156	361	21	33	38	75	167	528	
0700	152	194	140	154	640	50	46	57	67	220	860	
0800	84	117	137	133	471	100	81	74	69	324	795	
0900	94	106	93	88	381	71	82	65	57	275	656	
1000	74	114	74	65	327	49	60	61	67	237	564	
1100	72	59	62	92	285	59	70	70	61	260	545	
1200	69	56	85	70	280	68	75	75	56	274	554	
1300	48	63	53	71	235	70	77	58	67	272	507	
1400	42	57	81	49	229	65	83	74	67	289	518	
1500	66	77	73	72	288	97	89	125	123	434	722	
1600	69	83	74	88	314	98	121	121	127	467	781	
1700	77	74	83	71	305	127	162	154	166	609	914	
1800	57	49	47	40	193	106	102	94	55	357	550	
1900	48	30	29	32	139	59	55	50	47	211	350	
2000	29	28	34	16	107	51	42	41	29	163	270	
2100	16	24	17	5	62	29	23	25	6	83	145	
2200	6	3	2	3	14	14	12	10	14	50	64	
2300	7	4	0	3	14	4	2	7	4	17	31	
24-Hour Totals:	4778					4794					9572	

Peak Volume Information

	Direction: N		Direction: S		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	645	642	800	324	645	870
P.M.	1615	322	1700	609	1700	914
Daily	645	642	1700	609	1700	914

Appendix B
D1RPMv2.0

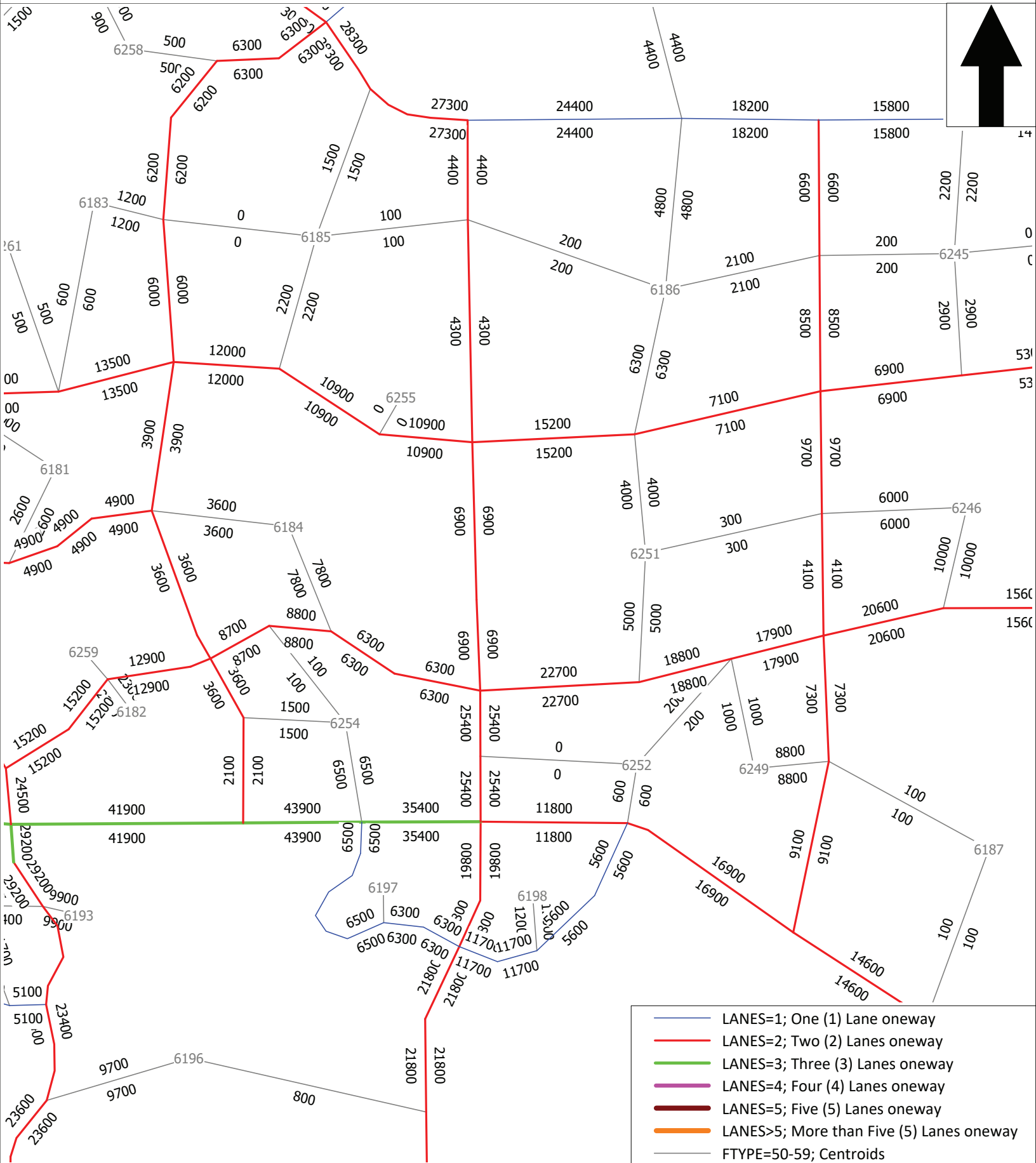
D1RPMv2.0



Horizon Year 2045 AADT (Duplicate Posts)

2045 Updated Cost Feasible

D1RPMv2.0



Horizon Year 2045 AADT (Duplicate Posts)

2045 Lorraine Road Build 4-Lanes

Corridor	D1RPMv2.0 2015 AADT	D1RPMv2.0 2045 UCF AADT	D1RPMv2.0 2045 BLO AADT	D1RPMv2.0 - No Build Growth Rate	D1RPMv2.0 - Build Growth Rate
Lorraine Road	6,300	6,400	6,900	0.05%	0.32%

Lorraine Road Immediate Project Area

D1RPMv2.0 2015 Base Model

ZONE	SFDU	MFDU	RESDPOP	WORKERS	IND_EMP	COMM_EMP	SERV_EMP	TOT_EMP	HMDU	SCHOOL	UNIVERSITY
6185	202	2	637	326	0	0	2	2	0	0	0
6186	24	1	63	33	120	9	71	200	0	0	0
6252	1	0	1	0	0	0	41	41	0	0	0

D1RPMv2.0 2045 Cost Feasible Model

ZONE	SFDU	MFDU	RESDPOP	WORKERS	IND_EMP	COMM_EMP	SERV_EMP	TOT_EMP	HMDU	SCHOOL	UNIVERSITY
6185	225	57	783	451	65	62	180	307	0	0	0
6186	1774	47	3242	2386	185	26	71	282	0	0	0
6252	121	0	213	61	0	0	41	41	0	0	0

D1RPMv2.0 2015 Base Model to 2045 Cost Feasible Model Linear Growth

ZONE	SFDU	MFDU	RESDPOP	WORKERS	IND_EMP	COMM_EMP	SERV_EMP	TOT_EMP	HMDU	SCHOOL	UNIVERSITY
6185	0.38%	91.67%	0.76%	1.28%	0.00%	0.00%	296.67%	508.33%	0.00%	0.00%	0.00%
6186	243.06%	153.33%	168.20%	237.68%	1.81%	6.30%	0.00%	1.37%	0.00%	0.00%	0.00%
6252	400.00%	0.00%	706.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Type Growth	27.80%	112.22%	16.82%	23.57%	3.61%	29.26%	5.20%	5.31%	0.00%	0.00%	0.00%
Overall Area Growth	16.60%										

Lorraine Road Expanded Project Area

D1RPMv2.0 2015 Base Model

ZONE	SFDU	MFDU	RESDPOP	WORKERS	IND_EMP	COMM_EMP	SERV_EMP	TOT_EMP	HMDU	SCHOOL	UNIVERSITY
6175	383	9	1065	549	72	16	25	113	0	0	0
6185	202	2	637	326	0	0	2	2	0	0	0
6186	24	1	63	33	120	9	71	200	0	0	0
6255	0	0	0	0	0	0	0	0	0	0	0
6184	737	71	2711	1390	4	5	47	56	0	0	0
6251	10	2	26	13	5	3	7	15	0	0	0
6252	1	0	1	0	0	0	41	41	0	0	0
6255	0	0	0	0	0	0	0	0	0	0	0
6197	1011	0	2979	1537	0	34	38	72	0	0	0
6198	714	266	2416	1245	8	0	270	278	0	1911	0

D1RPMv2.0 2045 Cost Feasible Model

ZONE	SFDU	MFDU	RESDPOP	WORKERS	IND_EMP	COMM_EMP	SERV_EMP	TOT_EMP	HMDU	SCHOOL	UNIVERSITY
6175	411	19	1164	602	77	33	101	211	0	0	0
6185	225	57	783	451	65	62	180	307	0	0	0
6186	1774	47	3242	2386	185	26	71	282	0	0	0
6255	1	0	3	1	1	1	2	4	0	0	0
6184	791	214	3122	1729	48	47	157	252	0	0	0
6251	1130	294	2525	1595	5	3	7	15	0	0	0
6252	121	0	213	61	0	0	41	41	0	0	0
6255	1	0	3	1	1	1	2	4	0	0	0
6197	1085	159	3486	1891	32	46	115	193	0	0	0
6198	766	447	2955	1541	52	60	290	402	0	2326	0

D1RPMv2.0 2015 Base Model to 2045 Cost Feasible Model Linear Growth

ZONE	SFDU	MFDU	RESDPOP	WORKERS	IND_EMP	COMM_EMP	SERV_EMP	TOT_EMP	HMDU	SCHOOL	UNIVERSITY
6175	0.24%	3.70%	0.31%	0.32%	0.23%	3.54%	10.13%	2.89%	0.00%	0.00%	0.00%
6185	0.38%	91.67%	0.76%	1.28%	0.00%	0.00%	296.67%	508.33%	0.00%	0.00%	0.00%
6186	243.06%	153.33%	168.20%	237.68%	1.81%	6.30%	0.00%	1.37%	0.00%	0.00%	0.00%
6255	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6184	0.24%	6.71%	0.51%	0.81%	36.67%	28.00%	7.80%	11.67%	0.00%	0.00%	0.00%
6251	373.33%	486.67%	320.38%	405.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6252	400.00%	0.00%	706.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6255	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6197	0.24%	0.00%	0.57%	0.77%	0.00%	1.18%	6.75%	5.60%	0.00%	0.00%	0.00%
6198	0.24%	2.27%	0.74%	0.79%	18.33%	0.00%	2.25%	1.49%	0.00%	0.72%	0.00%
Total Type Growth	3.49%	8.41%	2.56%	3.38%	4.10%	10.55%	3.09%	4.01%	0.00%	0.72%	0.00%
Overall Area Growth	2.92%										

Appendix C
Concurrency Link Data



Public Works Department
 Transportation Planning Division
 1022 26th Avenue East
 Bradenton, FL 34208
 Phone: (941) 708-7450
www.mymanatee.org

September 1, 2021

Jason L. Starr, P.E.
 HDR
 2601 Cattlemen Road, Suite 400
 Sarasota, FL 34232-6233

Manatee County Corridor Studies - Growth Rates Memo Review Comments V2

Dear Mr. Starr,

Manatee County Transportation Planning Division staff reviewed the growth rate determination memo dated 8/24/2021 and offer the following comments:

1. Projected 2045 AADT for Lorraine Road seem to be underestimated. Existing AADT seem to be close to the projected AADT for 2045. Lorraine Road, which runs N-S parallel to LWR Blvd across Manatee County and Sarasota County, is expected to carry regional traffic as well. Therefore, the proposed growth rate of 1% is underestimating the traffic growth potential along this corridor.
2. Appendix (page 26) D1RPM 2045 Lorraine Road 4-Lanes build scenario shows AADT as 6,900. The existing AADT within the Lorraine Road study limits is higher than the projected AADT.
3. If there is significant variability in the expected growth rate along the corridor, propose growth rates per segment.
4. Based on concurrency link sheet, the projected weekday ADT (this is a high-level estimate, and it is mean to give a frame of reference) for Lorraine Road are:

Segment Limits	Approximate projected weekday ADT based on concurrency link sheet
Lorraine Road from SR 64 to 44 th Avenue	10,830
Lorraine Road from 44 th Avenue E to Rangeland Parkway	15,610
Lorraine Road from Rangeland Parkway to SR 70	18,740

5. Lena Road has two count station (06-05 and 08-51), which can provide additional data point to make the trend line more robust.
6. Upper Manatee River Road – The projected volumes (and proposed growth rates) are consistent with reserved trips in the study segment.

Data from Manatee County traffic count stations have been attached to augment the trend analysis as requested. Traffic counts for the year 2020 should be discarded due to COVID related traffic suppression.

Sincerely,



Merih Wahid
Transportation Systems Engineer
Manatee County Public Works Department
Transportation Planning Division

CC: Eric Shroyer
Darin Rice

Appendix C – Natural Resources Assessment Memo

Natural Resources Assessment Technical Memorandum

Lorraine Road

Project Development and Corridor Study Report

October 2021



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Executive Summary

Manatee County conducted a Project Development and Corridor Study (Study) to develop alternatives along Lorraine Road for reducing congestion, improving safety and operational performance, and addressing future transportation needs. The project limits extend from 59th Avenue East to State Road (SR) 64, providing additional capacity between SR 70 and SR 64 in Bradenton, Manatee County, Florida. This Natural Resources Assessment Technical Memorandum was prepared to support the Study through the evaluation of **Protected Species and Habitat, Wetlands and Other Surface Waters, and Essential Fish Habitat**. This Technical Memorandum documents the results of the corridor assessment in order to support decisions associated with the proposed project as it relates to natural resources potentially present in the corridor study area.

Manatee County will use the results of the Study to evaluate alternatives to avoid or minimize impacts to environmental sensitive areas, including wetlands, critical wildlife habitats, and listed species.

The natural resources assessment was performed using as guidance Part 2, Chapter 16 Protected Species and Habitat and Chapter 9 Wetlands and Other Surface Waters of the Florida Department of Transportation (FDOT) PD&E Manual (July 1, 2020). However, this assessment is not considered a full Natural Resources Evaluation (NRE) as defined in the FDOT PD&E Manual. In addition, the natural resources assessment did not evaluate proposed stormwater management facilities outside of the corridor study area, such as potential pond locations, if any.

Protected Species and Habitat

The project was evaluated for potential impacts to federal and State of Florida (state) endangered or threatened species of fish, wildlife, and plants (listed species) and habitat of such species that has been designated as critical habitat under Section 7(a) of the Endangered Species Act (ESA) of 1973, as amended. Protected species were also reviewed for their potential to occur within the corridor study area.

Federal Protected Wildlife and Critical Habitat

Five federal listed species protected by the U.S. Department of Interior Fish and Wildlife Service (USFWS) potentially occur within the corridor study area. The proposed project would be expected to result in the effect determinations provided in **Table E-1** for federal listed species. Migratory birds and their habitat, including the non-listed but federally protected bald eagle and osprey were also present in this region and included in **Table E-1**. However, this list may need to be refined based on the project alternative selected to proceed. USFWS designated critical habitat, as defined by Congress 50 CFR §17.94, was not present within the corridor study area. Therefore, the proposed project would not result in the *destruction or adverse modification of critical habitat*.

Table E-1: Project Effect Determinations for Federal Listed and Protected Wildlife

Scientific Name	Common Name	Status	Project Effect Determination
Federal Listed Wildlife			
<i>Ammodramus savannarum floridanus</i>	Florida grasshopper sparrow	Endangered	No effect
<i>Caracara cheriway</i>	Crested caracara	Threatened	No effect
<i>Drymarchon corais couperi</i>	Eastern indigo snake	Threatened	May affect, not likely to adversely affect
<i>Mycteria americana</i>	Wood stork	Threatened	May affect, not likely to adversely affect
<i>Aphelocoma coerulescens</i>	Florida scrub jay	Threatened	No effect
Federal Protected Wildlife			
<i>Haliaeetus leucocephalus</i>	Bald eagle	BGEPA* MBTA**	No effect
<i>Pandion haliaetus</i>	Osprey	MBTA**	No effect

*Bald & Golden Eagle Protection Act and Migratory Bird Treaty Act. **Migratory Bird Treaty Act

State Protected Wildlife

Nine state listed wildlife managed by the Florida Fish and Wildlife Conservation Commission (FWC) could potentially occur within the corridor study area. The proposed project would be expected to result in the effect determinations provided in **Table E-2** for state listed species. However, this list may need to be refined based on the project alternative selected to proceed.

Table E-2: Project Effect Determinations for State Listed Wildlife

Scientific Name	Common Name	Status	Project Effect Determination
<i>Antigone canadensis pratensis</i>	Florida sandhill crane	Threatened	No effect anticipated
<i>Athene cunicularia floridana</i>	Florida burrowing owl	Threatened	No effect anticipated
<i>Falco sparverius paulus</i>	Southeastern American kestrel	Threatened	No effect anticipated
<i>Gopherus polyphemus</i>	Gopher tortoise	Threatened	No adverse effect anticipated
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	Threatened	No effect anticipated
Wading Birds			
<i>Egretta caerulea</i>	Little blue heron	Threatened	No effect anticipated
<i>Egretta tricolor</i>	Tricolored heron	Threatened	No effect anticipated
<i>Platalea ajaja</i>	Rosette spoonbill	Threatened	No effect anticipated
Nesting Shorebirds			
<i>Sternula antillarum</i>	Least Tern	Threatened	No effect anticipated

Federal and State Protected Plants

There were eight state listed plants and one federal listed plant protected by the Florida Department of Agricultural and Consumer Services (FDACS) that have the potential to occur within the corridor study area, including five endangered and three threatened. These listed plant species are shown in **Table E-3**. None were observed during preliminary field surveys. However, this list may need to be refined based on the project alternative selected to proceed. Due to their low likelihood of occurrence, there is **no effect anticipated** to these federal and state listed plant species.

Table E-3: Project Effect Determinations for Federal and State Listed Plants

Scientific Name	Common Name	Status	Project Effect Determination
<i>Calopogon multiflorus</i>	Many-flowered Grass-pink	State Threatened	No effect anticipated
<i>Centrosema arenicola</i>	Sand Butterfly Pea	State Endangered	No effect anticipated
<i>Chrysopsis floridana</i>	Florida Goldenaster	Federal/State Endangered	No effect anticipated
<i>Lechea cernua</i>	Nodding Pinweed	State Threatened	No effect anticipated
<i>Matelea floridana</i>	Florida Spiny-pod	State Endangered	No effect anticipated
<i>Nemastylis floridana</i>	Celestial Lily	State Endangered	No effect anticipated
<i>Panicum abscissum</i>	Cutthroat Grass	State Threatened	No effect anticipated
<i>Rhynchospora megaplumosa</i>	Large-plumed Beaksedge	State Endangered	No effect anticipated

Wetlands and Other Surface Waters

Wetlands and other surface waters were identified within the corridor study area. The primary wetland types in the study area included stream and lake swamps, wetland forested mixed, and freshwater marshes. Generally, all wetland systems identified were in moderate to poor condition, having incurred drainage by ditching, watershed conversions to farmland, and/or nearby development. Vegetation communities within the wetlands have also been degraded by agricultural activities, tree harvesting, and nuisance and exotic species growth.

Surface waters were present mostly associated with the three water channels that cross Lorraine Road at the north, central, and south areas of the project. These drainages were historically natural and associated with wetlands draining from east to west across the road corridor.

A total of six wetlands and six surface waters were identified within the corridor study area. During evaluation of the road alignment alternatives, potential impacts to wetlands and surface waters would be identified and quantified. Direct impacts would include permanent and temporary impacts and would be quantified and tabulated for the state and federal permit applications.

Essential Fish Habitat

Essential fish habitat does not occur within the corridor study area; therefore, an Essential Fish Habitat (EFH) Assessment was not required.

1.0 Introduction

Manatee County conducted a Project Development and Corridor Study (Study) to develop alternatives along Lorraine Road for reducing congestion, improving safety and operational performance, and addressing future transportation needs. This Natural Resources Assessment Technical Memorandum was prepared to support the Study through the evaluation of **Protected Species and Habitat, Wetlands and Other Surface Waters, and Essential Fish Habitat**. This Technical Memorandum documents the results of the corridor assessment to support decisions associated with the proposed modifications to Lorraine Road as it relates to natural resources potentially present in the corridor study area.

Manatee County will use the results of the Study to evaluate alternatives to avoid or minimize impacts to environmental sensitive areas, including wetlands, critical wildlife habitats, and listed species.

The purpose of this natural resources assessment is to demonstrate due diligence in accordance with federal and state regulations and to begin conformance with the requirements of Title 23 of the Code of Federal Regulations (CFR) Part 771 and applicable federal and state laws, including the National Environmental Policy Act (NEPA). The natural resources assessment was performed using as guidance Part 2, Chapter 16 Protected Species and Habitat and Chapter 9 Wetlands and Other Surface Waters of the Florida Department of Transportation (FDOT) PD&E Manual (July 1, 2020). However, this assessment is not considered a full Natural Resources Evaluation (NRE) as defined in the FDOT PD&E Manual. In addition, the natural resources assessment did not evaluate proposed stormwater management facilities outside of the corridor study area, such as potential pond locations, if any.

1.1 Project Description

Manatee County proposes the widening of Lorraine Road from two- to four-lanes from north of State Road (SR) 70, at 59th Avenue East, to SR 64, a distance of 2.75 miles. The project limits extend from 59th Avenue East to SR 64, providing additional capacity between SR 70 and SR 64 in Bradenton, Manatee County, Florida, as shown in **Figure 1-1**. The County is performing a full range of engineering and environmental studies within the study corridor to support the evaluation of project alternatives and develop a preliminary design.

The project lies in south-central Manatee County within the Braden River and Manatee River watersheds

Figure 1-2 shows the study area on the United States Geologic Survey (USGS), 7.5 Minute "Lorraine, Florida" (2021) Quadrangle topographic map with an aerial photograph base. For this project, the study area includes a 500-foot buffer, east and west of the existing road centerline (i.e., project limits), totaling a 1,000-foot-wide study corridor. All resources discussed herein fall within this study area.

1.2 Purpose and Need

The primary purpose of the Lorraine Road improvements is to provide congestion relief by providing additional capacity between SR 70 and SR 64. Located between the Manatee River and SR70, additional capacity along Lorraine Road would provide relief to existing major north-south corridors, such as Interstate 75 (I-75) and Lakewood Ranch Boulevard. The project would also connect to four-lane east-west corridors 44th Avenue East and Rangeland Parkway.



Figure 1-1: Project Location



Figure 1-2: Study Area

2.0 Existing Conditions

2.1 Land Use

The land use in this part of Manatee County has been characterized by agriculture for decades, including vegetable farms, citrus groves, and cattle pastures. The 1954 U.S. Census of Agriculture reported the aggregated land in farms as 309,000 acres, or 69 percent of all county land (USDA 1958). This area of Manatee County is coastal lowlands, comprised mostly of nearly level plains that have undergone little or no dissection since successive sea level withdrawals in the Pleistocene epoch (Ice Age) (USDA 1983). Aerial imagery from the University of Florida Digital Library Collection was reviewed, including photography from 1940, 1957, and 1970, for recent land use conditions and environmental features. The historic aerial photography confirms Lorraine Road was present in 1940 with several home sites and associated farmlands.

The Southwest Florida Water Management District (SWFWMD) Land Use Land Cover data (2017) and 2020 aerial imagery were reviewed for existing land uses within the study area. Land use was categorized using the FDOT Florida Land Use, Cover and Forms Classification System (FLUCFCS) (FDOT, 1999). Site reviews were performed to confirm current conditions and recent changes in land use and land cover types, particularly for this rapidly changing corridor. Natural areas were evaluated for habitat type, quality, and any degradations evident.

Overall, the dominant existing land uses within the Lorraine Road study area and their FLUCFCS codes (#) consisted of Low- and Medium-Density Residential (FLUCFS 110 and 120), including older homes and new communities, and Golf Course (FLUCFS 182), totaling approximately 53.1 percent of the study area. **Table 2-1** summarizes the land use classifications within the study area, and **Figure 2-1** is a map of the land use within the study area.

Table 2-1: SWFWMD Land Use Land Cover Summary for the Study Area

¹ SWFWMD Land Use Land Cover Code	FLUCFCS Description	Acres within Study Area	Percent within Study Area
110	Low Density, <2 dwelling units/acre	125.2	35.7%
120	Medium Density, 2>5 dwelling units/acre	18.7	5.3%
140	Commercial and Services	13.0	3.7%
150	Industrial	5.4	1.5%
170	Institutional	11.7	3.3%
182	Gulf Courses	42.4	12.1%
210	Cropland and Pastureland	14.1	4.0%
220	Tree Crops	5.4	1.5%
240	Nurseries and Vineyards	22.4	6.4%
260	Other Open Lands (Rural)	20.7	5.9%
434	Upland Mixed - Coniferous / Hardwood	25.1	7.2%
510	Streams and Waterways	1.2	0.3%
524	Lakes	0.6	0.2%
530	Reservoirs	9.1	2.6%
560	Slough Waters	0.5	0.1%
615	Stream and Lake Swamps (bottomland)	4.7	1.3%
630	Wetland Forested Mixed	5.7	1.6%
641	Freshwater Marshes	0.7	0.2%
644	Emergent Aquatic Vegetation	0.1	0.3%
810	Transportation	24.0	6.8%
Total Area of Interest		350.7	100%

¹ SWFWMD: Southwest Florida Water Management District (2017, edited), using the *Florida Land Use, Cover and Forms Classification System* (FLUCFCS) FDOT (1999)

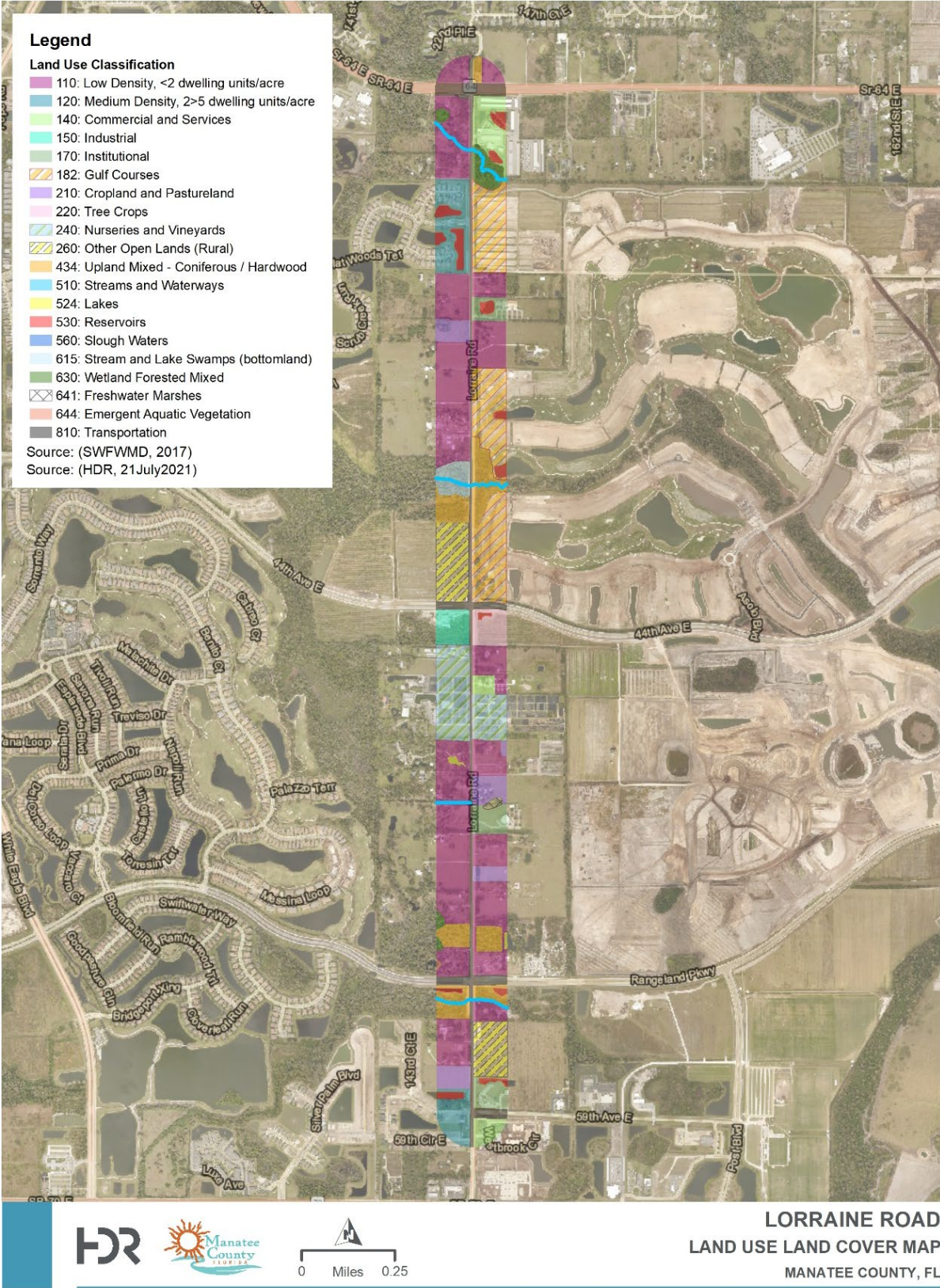


Figure 2-1: Land Use and Land Cover for the Lorraine Road Study Area

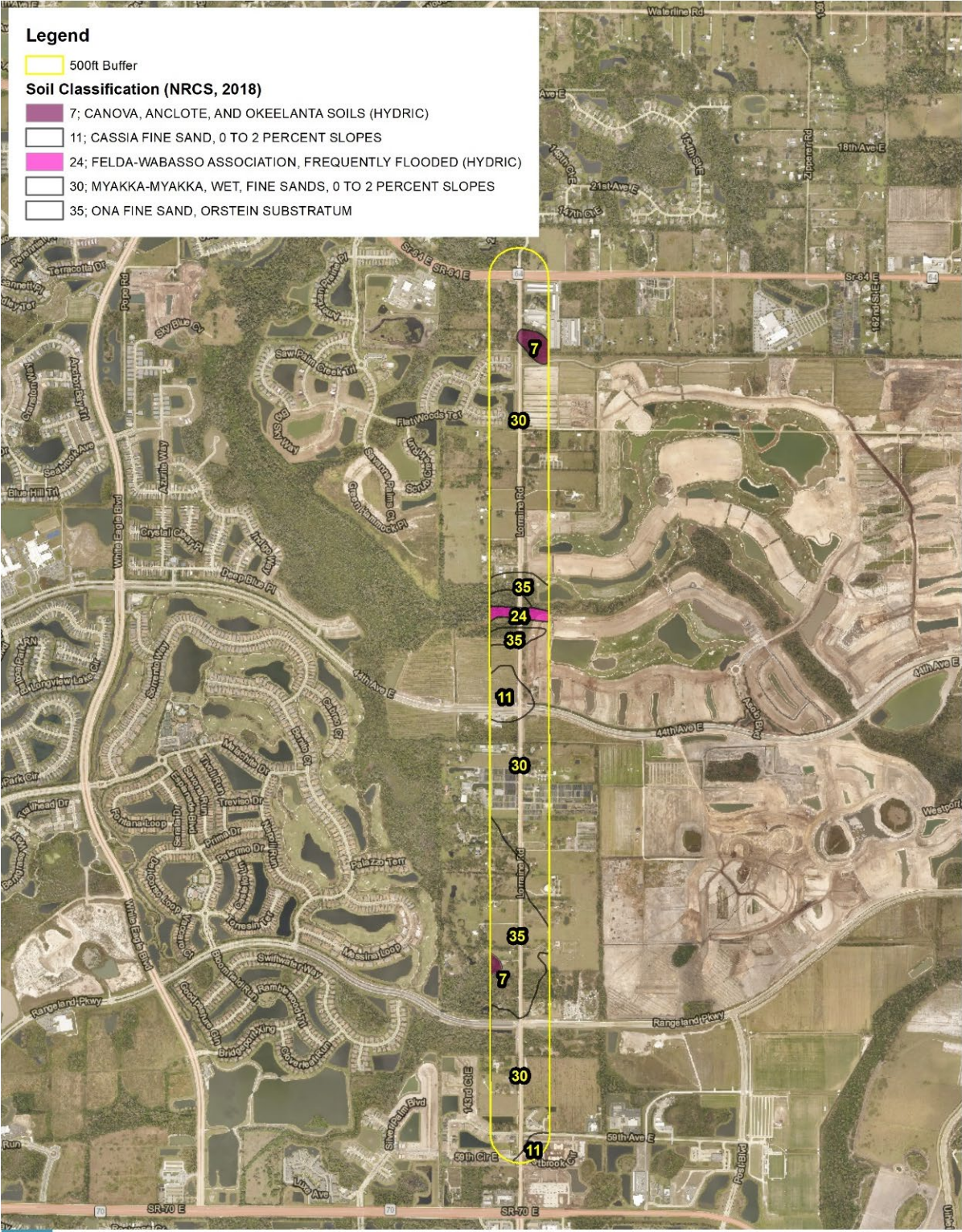
2.2 Soils

The United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Soil Survey of Manatee County, Florida dated May 1983 and the Web Soil Survey (2021) (**Appendix A**) were reviewed for near surface soil data. Based on the NRCS soil geodatabase, the study area includes five soil mapping units. The general soil types are listed in **Table 2-2** with their corresponding NRCS map unit number, hydric classification, drainage class, and their coverage in acres and percent cover within the study area. **Figure 2-2** shows soil types within the study area on an aerial image, including their hydric or non-hydric status.

Soils were predominantly non-hydric, including Myakka-Myakka, Wet, Fine Sands, 0 to 2 Percent Slopes with a depth to water table of about 6 to 18 inches, which covered 74 percent of the study corridor. There were two hydric soils, including the Canova, Anclote, and Okeelanta soils, with a depth to water table of 0 inches, and Felda-Wabasso association, frequently flooded, with a depth to water table of 0 to 12 inches. Each of these soils covered less than 2 percent of the study corridor. **Table 2-2** lists the soil types, drainage classes, and percent area mapped within the study area.

Table 2-2: NRCS Soil Survey of Manatee County, Florida Summary for the Study Area

Map Unit	NRCS Map Unit Name	Hydric	Drainage Class	Acres Within Study Area	Percent of Study Area
7	Canova, Anclote, and Okeelanta Soils	Yes	Very Poorly Drained	5.8	1.7%
11	Cassia Fine Sand, 0 to 2 Percent Slopes	No	Somewhat Poorly Drained	16.3	4.7%
24	Felda-Wabasso Association, Frequently Flooded	Yes	Poorly Drained	4.4	1.3%
30	Myakka-Myakka, Wet, Fine Sands, 0 to 2 Percent Slopes	No	Poorly Drained	259.9	74.1%
35	Ona Fine Sand, Orstein Substratum	No	Poorly Drained	64.3	18.3%
Total Study Area				350.7	100%



LORRAINE ROAD
NRCS SOILS MAP
 MANATEE COUNTY, FL

PATH: X:\MANATEE COUNTY\PD\3E_THREE_ROADS\LORRAINE_RD\GIS\MXD\LORRAINE_SOILS.MXD - USER: GBILTER - DATE: 09/2021

Figure 2-2: NRCS Soils Map for the Lorraine Road Study Area

3.0 Protected Species and Habitat

This Technical Memorandum complies with Section 7(a) of the Endangered Species Act (ESA) of 1973, as amended. Section 7(a) (2) of the ESA requires every federal agency, in consultation with and with the assistance of the Secretary, to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. Section 7(a) (3) of the ESA authorizes a prospective permit or license applicant to request the issuing federal agency to enter into early consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) to determine whether the proposed action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

In accordance with 16 United States Code (U.S.C.) 1536[(a)-(d)] of the ESA, as amended, federal agencies impose specific requirements regarding endangered or threatened species of fish, wildlife, or plants (listed species) and habitat of such species that has been designated as critical habitat under Section 7(a) of the Act. These requirements include the protection of all federal listed species (and their habitats).

The state affords protections to listed animals through the Florida Fish and Wildlife Conservation Commission (FWC) pursuant to Chapter 68A-27, Florida Administrative Code (F.A.C.). The state affords protections to listed plants through the Florida Department of Agriculture and Consumer Services (FDACS) Division of Plant Industry pursuant to Chapter 5B-40, F.A.C.

3.1 Methodology

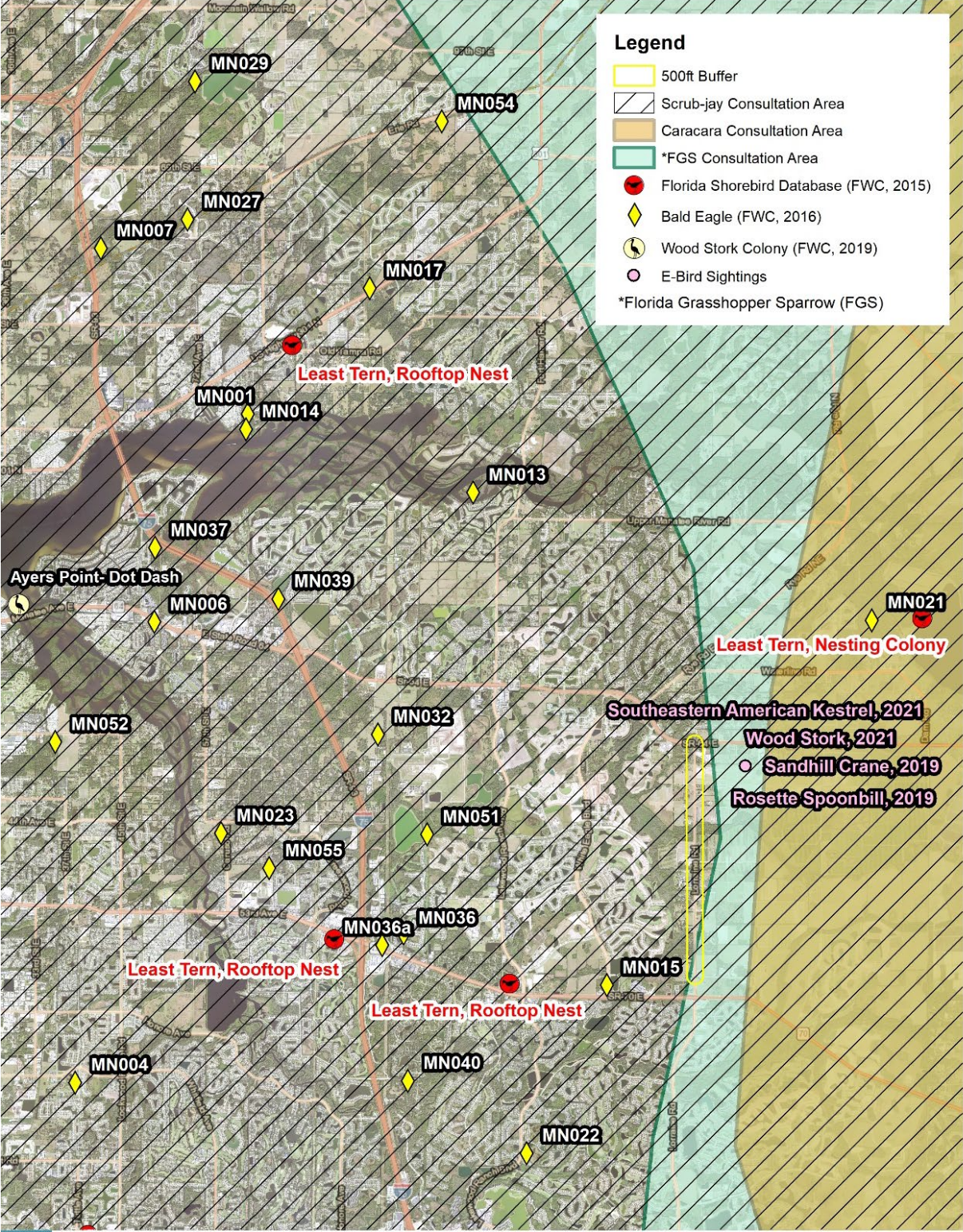
The project was evaluated for potential impacts to federal and state, threatened or endangered species (listed species) and federal protected species. Federally listed species are protected under the ESA. Other species, such as the bald eagle, are not listed but are afforded protection under the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d) or Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-711). State listed species are protected under Chapter 379, Florida Statutes and Chapters 68A-27 and 5B-40 F.A.C. The purpose of this assessment was to evaluate if listed or protected species would likely utilize the study area and to determine if protected species, or their habitat, could be adversely impacted by the project.

A Florida Natural Areas Inventory (FNAI) Biodiversity Matrix (Unofficial) was queried and an USFWS IPaC Official Species List was generated for the study area listing protected species that have the potential to occur within the study area. The IPaC Official Species List is included in **Appendix B**.

The methodology to identify state or federal listed species potentially occurring within the study area also included review of federal and state agency databases and USFWS Consultation Areas. A GIS desktop analysis was performed referencing this information prior to conducting field surveys to establish baseline information and guide onsite evaluations. **Figure 3-1** is a map of wildlife records showing the results of the GIS desktop analysis. Preliminary wildlife surveys were conducted within the project right-of-way in July and August 2021.

Information sources and databases utilized for the wildlife analysis included the following:

- ESRI ArcGIS World Image Service (2020)
- The Cornell Lab of Ornithology - e-Bird database (2019-2021) FNAI Biodiversity Matrix (Unofficial) (August 2021)
- Audubon Center for Birds of Prey Bald Eagle Nest database (2021)
- USDA NRCS, Soils of Manatee County, Florida (1983)
- USFWS Wood Stork Nesting Colonies / Core Foraging Areas (2021)
- USFWS Critical Habitat (2021)
- USFWS IPaC Resource List (2021)



**LORRAINE ROAD
WILDLIFE MAP
MANATEE COUNTY, FL**





PATH: X:\MANATEE COUNTY\PD&F - THIRFF - ROADS\LI - LORRAINE - RING\RMXD\LI - LORRAINE - WILDLIFE.MXD - USER: GRIFFIN - DATE: 9/8/2021

Figure 3-1: Wildlife Occurrence Map for the Lorraine Road Study Area

Protected species that were identified as having the potential to occur within the study area are discussed in the following sections. The study area was assessed for their habitat requirements and each species was assigned an effect determination. In addition, each potential species was designated as having a no, low, moderate, or high likelihood of occurrence based on range, habitat type, location, patch size, and connectivity, as defined below.

No	Suitable habitat is not believed to be present within the study area.
Low	Species documented within Manatee County, but with a low likelihood to occur within the study area due to the limited presence of suitable habitat.
Moderate	Species documented within Manatee County and for which suitable habitat was present within the study area; however, no documented occurrences exist.
High	Species highly likely to occur within the study area based on known habitat ranges and existence of suitable habitat. Species known to occur within or adjacent to the study area or have been documented within the vicinity.

3.2 Federal Protected Wildlife and Critical Habitat

Based on the combined results of the desktop analysis and preliminary field surveys, federal listed and protected species potentially occurring within the corridor study area are provided in **Table 3-1** along with their likelihood of occurrence. Their likelihood of occurrence was based on the above-mentioned data sources and methodology. Five listed federal species have the potential to occur within the study area and are discussed in detail following **Table 3-1**.

Migratory birds and their habitat, including the non-listed but federally protected bald eagle and osprey, and the state listed least tern, were also present in this region and included in **Table 3-1**. Migratory birds are afforded protection under the MBTA (16 U.S.C. 703-711). The least tern is discussed under the state listed wildlife section. The bald eagle is additionally protected under the BGEPA (16 U.S.C. 668-668d), as amended. The bald eagle and osprey are discussed under the federal protected wildlife section. In addition to federal listed endangered and threatened species, the gopher tortoise has been recognized as a candidate species for federal listing. This state threatened reptile is discussed in Section 3.3. The study area was evaluated for Critical Habitat for federal listed species as defined by Congress 50 CFR § 17.94. Review of available information determined that USFWS-designated critical habitat was not present.

Table 3-1: Federally Protected Wildlife Potentially Occurring within the Study Area

Scientific Name	Common Name	Status	Likelihood of Occurrence
Federal Listed Wildlife			
<i>Ammodramus savannarum floridanus</i>	Florida grasshopper sparrow	Endangered	Low
<i>Caracara cheriway</i>	Crested caracara	Threatened	Low
<i>Drymarchon corais couperi</i>	Eastern indigo snake	Threatened	Moderate
<i>Mycteria americana</i>	Wood stork	Threatened	High
<i>Aphelocoma coerulescens</i>	Florida scrub jay	Threatened	Low
Federal Protected Wildlife			
<i>Haliaeetus leucocephalus</i>	Bald eagle	BGEPA* MBTA**	Moderate
<i>Pandion haliaetus</i>	Osprey	MBTA**	Low

* Bald & Golden Eagle Protection Act and Migratory Bird Treaty Act. ** Migratory Bird Treaty Act

3.2.1 Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*)

The federal status for the Florida grasshopper sparrow is endangered. The southern end of the study area falls within the western edge of the USFWS Florida Grasshopper Sparrow Consultation Area. Florida grasshopper sparrows are small (5 inches), short-tailed birds that are predominantly black and gray with streaks of brown on the neck and upper back and a brownish-yellow stripe over the eye. This subspecies is habitat-specific and relies on frequent fires to maintain suitable habitat, which consists of treeless, relatively poorly drained grasslands that contain saw palmetto, dwarf oaks, bluestem grasses, and St. John's wort. This species is known to use overgrown pastures, but populations decrease or disappear on overgrazed pastures.

The USFWS recommends Florida grasshopper sparrow surveys within almost any unforested habitat in the consultation area, including pastures in counties where Florida grasshopper sparrows are known to occur. If required, the USFWS South Florida Ecological Services Office DRAFT Florida Grasshopper Sparrow Survey Protocol (June 2004) would be used for conducting surveys. The guidelines recommend three surveys between April 1 and June 15.

Much of the open grassland and pasture within the study area was actively grazed and none was managed with fire. The historic distribution of the Florida grasshopper sparrow is not known with certainty, but there were local records of occurrence. However, there are no recent records of the grasshopper sparrow in the study area or region. For these reasons, the anticipated effect determination for the Florida grasshopper sparrow would be **no effect**.

3.2.2 Crested Caracara (*Caracara Cheriway*)

The federal status for the crested caracara is threatened. The study area is approximately a half mile outside the western boundary of the USFWS Crested Caracara Consultation Area. Caracaras are large raptors that have dark brown wings, back, and crown, a white neck, and black and white speckles on the throat and tip of the tail. They have a bluish-gray, yellow and red beak, and long yellow legs. Caracaras utilize dry or wet prairies with scattered cabbage palm and/or cabbage palm-oak hammocks and typically nest in cabbage palms. Likely due to land-use conversions throughout Florida, caracaras increasingly utilize pastures, agricultural fields, and rangeland for life cycle needs. Caracaras have not been documented in this area. If discovered, keeping activities 1,500 feet from a caracara nest can minimize impacts, particularly during nest building, incubation, and nestling stages. Given the absence of sightings or known nesting in the area, the anticipated effect determination for the crested caracara would be **no effect**.

3.2.3 Eastern Indigo Snake (*Drymarchon corais couperi*)

The federal status for the eastern indigo snake is threatened. The eastern indigo snake is a shiny black snake, which can reach lengths up to eight feet. The indigo snake will use a range of habitats from disturbed open land, pasture, scrub, sandhills, and flatwoods to wet prairies and mangrove swamps. Indigo snakes are known to lay eggs in uplands with a preference for gopher tortoise burrows. These snakes are also known to utilize gopher tortoise burrows for thermal refuge.

The eastern indigo snake is distributed across Florida although no critical habitat has been designated in the study area. Neither gopher tortoise burrows nor eastern indigo snakes were observed during preliminary field surveys. However, the indigo snake has been documented within Manatee County and potential indigo snake habitat was present within and outside the corridor study area. Therefore, the *Eastern Indigo Snake Programmatic Effect Determination Key* approved for the North Florida Ecological Services Field Offices (USFWS 2013) was reviewed for consistency (**Appendix C**), as keyed out below:

- A Project is not located in open water or salt marsh...**go to B.**

- B Permit will be conditioned for use of the Service's *Standard Protection Measures for the Eastern Indigo Snake* during site preparation and project construction...**go to C.**

- C Project will impact less than 25 acres of eastern indigo snake habitat...**go to D.**

- D There are gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities...**go to E.**

In line with the consultation key, if found, gopher tortoise burrows, active or inactive, would be excavated prior to site manipulation. If an eastern indigo snake was encountered, the snake would be allowed to vacate the area. Notably, gopher tortoise burrows were not be observed during preliminary surveys, but they could be present within the study area.

- E Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows be inspected each morning before site manipulation in a particular area, and if occupied by an eastern indigo snake, no work will commence until the snake has vacated the vicinity of proposed work ...**NLAA.**

Projects containing habitat with the potential to support the indigo snake are required to follow the USFWS *Standard Protection Measures for the Eastern Indigo Snake* (2013) (**Appendix D**) during construction, which dictates that contractors be made aware the species could be present and that land clearing and using heavy equipment be conducted with avoidance and protection of this species in mind. These protection measures will be required for this project during clearing and grubbing and during construction within the project limits, including within pond sites. Due to these commitments and per the *Eastern Indigo Snake Programmatic Effect Determination Key*, it is anticipated that the project **may affect, but is not likely to adversely affect** the eastern indigo snake.

3.2.4 Wood Stork (*Mycteria americana*)

The federal status for the wood stork is threatened. The wood stork is a large wading bird with black edged wings and a short black tail. This often-transient wading bird forages in shallow water containing high prey densities and it utilizes freshwater and estuarine habitats for nesting, foraging, and roosting. Wood storks typically nest in rookeries and construct nests in forested wetlands, including hardwood hammocks, cypress swamps, and forested sloughs.

The study area falls within the jurisdiction of the USFWS North Florida Ecological Services Office, which recognizes a 15-mile Core Foraging Area (CFA) radius around wood stork rookeries for central Florida. The CFA is the maximum distance storks typically fly from the colony to capture prey for their young. The USFWS guidelines state that impacts to appropriate wetland systems within the CFA of an active colony may directly affect colony productivity.

Based on USFWS data (2017), the study area falls within the CFA of one wood stork colony at the time of this Technical Memorandum. This nesting colony was approximately 8.2 miles west-northwest of the study area. While nesting colonies were not documented within the study area, riverine and forested wetlands and some roadside ditches were present where intermittent foraging or loafing could occur. The USFWS recognizes the need to protect wood stork suitable foraging habitat (SFH) within a CFA. SFH is defined as calm, relatively open waters, uncluttered by dense vegetation with water levels between 2 to 15 inches (USFWS 2012). Wood storks were not observed during preliminary field surveys; however, potential impacts to SFH could occur due to direct impacts from the future road widening and pond sites.

The Wood Stork Effect Determination Key (**Appendix C**) for the North Florida Ecological Services Field Offices (2008) was reviewed for consistency, as keyed out below:

- | | |
|----------|--|
| A | Project more than 2,500 feet from a colony site... go to B. |
| B | Project impacts SFH ² ... go to C. |
| C | Project impacts to SFH are less than or equal to 0.5-acre ³ ... NLAA. |
| D | Project impacts to SFH are within the Core Foraging Area of a colony site, or wood storks have been documented foraging on site ... go to E. |
| E | Project provides SFH compensation within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank preferably within the CFA or consists of SFH compensation within the CFA consisting of enhancement, restoration or creation in a project phased approach that provides an amount of habitat and foraging function equivalent to that of impacted SFH... NLAA. |

Construction from the widening of Lorraine Road could impact riverine and forested wetlands and some roadside ditches with SFH; therefore, provisions to reduce or minimize impacts would be implemented. These measures would include wetland mitigation pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. Due to these assurances and per the Wood Stork Effect Determination Key (USFWS 2008), it is anticipated that the project **may affect, but is not likely to adversely affect** the wood stork.

3.2.5 Florida Scrub Jay (*Aphelocoma coerulescens*)

The federal status for the Florida scrub-jay is threatened. The Florida scrub-jay is blue- and gray-colored and about the size of a blue jay. They have blue wings, head, and tail, gray back and underparts, and a whitish forehead and neck. The jay does not have black markings or a crest. Florida scrub-jays live in family groups, consisting of a breeding pair with young helpers that are usually the offspring of the pair.

The study area is within the USFWS Florida Scrub-jay Consultation Area. Florida scrub-jays are habitat-specific and utilize sand pine and oak scrub, as well as scrubby flatwoods. Scrubby flatwoods have an open canopy of widely spaced pine trees and a low, shrubby understory dominated by scrub oak and saw palmetto, often interspersed with patches of barren white sand.

These habitat types were not present within the study area and there are no recent records of scrub-jays occurring in the area. For this reason, it is expected that the project would have **no effect** on the Florida scrub-jay.

3.2.6 Bald Eagle (*Haliaeetus leucocephalus*)

The bald eagle was delisted from the USFWS List of Endangered and Threatened Wildlife effective August 8, 2007. The bald eagle continues to receive protections through the BGEPA and the MBTA. To minimize disturbance to nesting eagles, construction activities are restricted within 330 feet of an active nest tree. The USFWS Eagle Management Guidelines (USFWS 2007) are used as guidance if construction is to occur within 660 feet of an active eagle nest during the nesting season (October 1 - May 15).

One bald eagle nest (MN015, active 2016) was known about 0.96 miles west from the southern end of the study area (Audobon, 2021). No bald eagles or their nests were observed during preliminary field surveys. There are numerous other known nests in Manatee County west along I-75 and the Braden River, south in Sarasota County, and northeast near Lake Manatee, but all were further than three miles from the study area. Resurvey of the corridor would occur during permitting and design. If a bald eagle nest is identified within 660 feet of the project, the County would coordinate with the USFWS in accordance with the BGEPA and MBTA. Because this project would be consistent with the BGEPA and MBTA, there is **no effect** anticipated to the bald eagle.

3.2.7 Osprey (*Pandion haliaetus*)

Ospreys are afforded protection under the MBTA and are state protected by Chapter 68A F.A.C. Ospreys require nest sites in open surroundings for easy approach that are safe from ground predators, such as raccoons. They readily build nests on manmade structures, such as telephone poles and nest platforms designed especially for these birds. Nesting season typically occurs between December and February.

Although both active and inactive osprey nests are federally protected, only active nests require federal permits for taking. Under state rules, only inactive osprey nests may be taken, as determined by the absence of eggs or flightless young at the nest. Typically, a replacement nesting structure located in the immediate vicinity is required to be erected.

Ospreys and their nests were not observed during preliminary field surveys for the study area. Surveys to identify active osprey nests will be conducted during the design and permitting phase of the project, and permits will be acquired if impacts during construction are unavoidable. Nest avoidance will be prioritized, and nest structure replacement will occur if removal is required. Because the project would be consistent with federal and state requirements, it is anticipated that the project would not impact the osprey.

3.3 State Protected Wildlife

Based on desktop analysis and preliminary field surveys, state listed wildlife managed by the FWC and potentially occurring within the corridor study area are provided in **Table 3-2** along with their protection status and likelihood of occurrence. Likelihood of occurrence was based on the above-mentioned data sources and methodologies, and on the presence of suitable habitat as defined in Florida’s Imperiled Species Management Plan, as amended (2018). Listing status was in accordance with Florida’s Official Endangered and Threatened Species List (June 2021).

State protected wildlife known to occur or have the potential to use habitat within the study area included nine species. None of the state listed species were observed during preliminary field surveys; however, potential habitat was present for some species.

Table 3-2: State Listed Wildlife Potentially Occurring within the Study Area

Scientific Name	Common Name	Status	Likelihood of Occurrence
<i>Antigone canadensis pratensis</i>	Florida sandhill crane	Threatened	Moderate
<i>Athene cunicularia floridana</i>	Florida burrowing owl	Threatened	Low
<i>Falco sparverius paulus</i>	Southeastern American kestrel	Threatened	Low
<i>Gopherus polyphemus</i>	Gopher tortoise	Threatened	Moderate
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	Threatened	Low
Wading Birds			
<i>Egretta caerulea</i>	Little blue heron	Threatened	High
<i>Egretta tricolor</i>	Tricolored heron	Threatened	High
<i>Platalea ajaja</i>	Rosette spoonbill	Threatened	Moderate
Nesting Shorebirds			
<i>Sternula antillarum</i>	Least Tern	Threatened	Low

3.3.1 Florida Sandhill Crane (*Antigone canadensis pratensis*)

The state protection status of the Florida sandhill crane is threatened. Sandhill cranes are tall gray birds with a patch of red on their head. Sandhill cranes use a variety of habitats, preferring wet prairies, marshy lake margins, wet pastures, and marshes. Sandhill cranes nest in shallow freshwater ponds and marshes. Sandhill cranes sometimes forage along roadsides and often in pastures.

No sandhill cranes were observed during surveys of the study area although some larger pasture areas could be used by cranes for foraging. There were marsh-like littoral zones on several small ponds and one highly disturbed larger wetland (WL-3) in a pasture on the east side of Lorraine Road that could provide nesting habitat.

Per the FWC species guidelines (2016), pre-planning and pre-construction surveys are recommended in areas with potential to support nesting sandhill cranes to ensure active nests and flightless young are protected. Sandhill cranes breed from December through August and nest between February and April. For pre-planning surveys, FWC recommends three survey events during the permitting process to facilitate avoidance, minimization, and mitigation measures. The ideal time for these surveys is in March, early April, and early May. For pre-construction surveys, surveys should occur prior to site clearing. Also, Florida sandhill cranes do not nest in the same location every year, so because construction occurs over several years it would be necessary to reconfirm nesting (or the absence thereof) each year.

Given that the County would be committed to avoiding nesting sandhill cranes during construction, if present, and because freshwater marsh systems would be maintained, there is **no effect anticipated** to the Florida sandhill crane.

3.3.2 Florida Burrowing Owl (*Athene cunicularia floridana*)

The Florida burrowing owl was reclassified as a threatened species by the FWC on January 11, 2017. Florida burrowing owls, active nests, eggs, and young are protected under F.A.C.: 68A-27.003(a), 68A-27.001(4), 68A-16.001, and 68A-4.001, F.A.C. Also, burrowing owls are protected under the MBTA (16 USC § 703-712). Burrowing owls are small, ground-dwelling owls that can reach a length of eight inches and a wingspan of 21 inches. Florida burrowing owls have a brown body and wings with white speckles, a white chin, long legs, and large yellow eyes. The typical habitat includes open prairies, pastures, and agricultural fields. Burrowing owls are known to revitalize inactive burrows, including tortoise burrows, and often move between burrows during the non-nesting season.

There are no records of Florida burrowing owls in the study area. No Florida burrowing owls were observed during surveys of the study area although some pasture areas could be used by the owls. Not all pasture areas were able to be accessed for review during the corridor surveys.

Formal burrowing owl surveys are not anticipated at this time. However, wildlife surveys would be conducted within the project area as part of the permitting process and both upland and wetland habitats within the selected project alternatives would be surveyed. These surveys would include documentation of observed wildlife and potential wildlife habitat within the project area. Should a burrowing owl or nest be observed during surveys, formal survey methodology would be developed and implemented. If an owl burrow is discovered, the FWC will be contacted to coordinate a permitting approach. For these reasons, there is **no effect anticipated** to the Florida burrowing owl.

3.3.3 Southeastern American Kestrel (*Falco sparverius paulus*)

The state status of the southeastern American kestrel is threatened. Females have brown wings while males have bluish-gray wings, however both have white bellies and black markings around their eyes. There are two kestrel subspecies in Florida. The American kestrel is migratory; the Southeastern American kestrel is not.

Identification of southeastern American kestrels can only be confirmed in the field when the migrant is not in Florida (approximately April through August). Kestrels utilize open grassland, pasture, and agricultural land, as well as ephemeral wetlands. They prefer habitats with perches, a diverse prey population, and tree snags with cavities for nesting. The FWC distribution map shows the kestrel as a potential species within this region but not in Manatee County. The FNAI distribution map and Biodiversity Matrix (Unofficial) list the kestrel as a potential species within this region.

The kestrel was not observed during preliminary field surveys although open pasture and fields were present, and snags were available. Within the study area, some land management activities have created disturbed clearings with low-growing vegetation, which could provide substrate for kestrels. The proposed road widening could overlay adjacent cleared areas and habitats.

FWC formal surveys for the southeastern American kestrel are conducted from April through August and are valid until March 1 of the following breeding season. FWC recommends three survey events. Surveys are conducted along transects to document the presence of kestrels (perching or foraging), suitable cavities, and/or active nest cavities. Verification of suitable nest cavities is conducted between March 1 and July 31.

The FWC may recommend kestrel surveys during permitting. If kestrel breeding and/or nesting is confirmed, the FWC will recommend avoidance measures to eliminate a take by maintaining a 490-foot buffer around active nest cavities during the breeding season, retaining cavities in natural structures, and maintaining at least 124 acres of SFH within a 0.31-mile radius of occupied habitat. Given the habitat conditions within portions of the study area, the southeastern American kestrel may use the project area but is not expected. Therefore, there is **no effect anticipated** to the southeastern American kestrel.

3.3.4 Gopher Tortoise (*Gopherus polyphemus*)

The state protection status for the gopher tortoise is threatened. The tortoise is a candidate for federal listing in its eastern range, which includes Florida, Georgia, and parts of Alabama and South Carolina. A final decision on whether to expand the listed range of this species or remove the species from the ESA candidate listing is expected in 2022 or 2023. The gopher tortoise has a brownish-gray, rounded carapace, and the plastron is beige without a hinge. The gopher tortoise has claws adapted for digging deep burrows. Tortoises occupy upland habitats, preferring those with well-drained sandy soils, a seasonal high groundwater table below 18 inches, and open areas with abundant forage. Habitats supportive of healthy gopher tortoise populations include, but are not limited to, dry pastures and fields, flatwoods, sandhills, scrub, xeric oak hammocks, dry prairies, and disturbed open lands such as transportation and utility rights-of-way. Tortoise burrows are used by many commensals such as the eastern indigo snake and the Florida pine snake.

Potential gopher tortoise habitat was present in the corridor study area; however, no gopher tortoises or potentially occupied tortoise burrows were observed during preliminary surveys. Formal tortoise surveys were not performed during the field survey.

Preliminary gopher tortoise surveys would be recommended within the project area during permitting. These surveys typically cover approximately 15 percent of potential gopher tortoise habitat. Prior to construction, formal gopher tortoise surveys will be required in areas deemed suitable for the gopher tortoise in accordance with the FWC *Gopher Tortoise Permitting Guidelines*. If potentially occupied tortoise burrows are found within the project area, a gopher tortoise capture, relocation, and release permit will be acquired from the FWC in accordance with F.A.C. 68A-27.007 and 68A-27.003.

Because gopher tortoise habitat would be surveyed, potentially occupied gopher tortoise burrows verified, and any gopher tortoise relocated, there is **no adverse effect anticipated** on the species.

3.3.5 Florida Pine Snake (*Pituophis melanoleucus mugitus*)

The state protection status for the Florida pine snake is threatened. The Florida pine snake can reach a length of up to 84 inches. It has a brown back with dark blotches, white belly, ridged scales, small head, and pointed snout. This snake utilizes dry, sandy open areas and has been found using gopher tortoise burrows. The FNAI Biodiversity Matrix (Unofficial) documents potential pine snake habitat and lists sightings of the pine snake in this region. Neither the pine snake nor gopher tortoise burrows were observed during preliminary field surveys within the study area. Due to the disturbed project area lacking suitable habitat and the requirement to excavate all potentially occupied gopher tortoise burrows, which would include a requirement to protect commensal species, there is **no effect anticipated** to the Florida pine snake.

3.3.6 Wading Birds

Wading birds, including the little blue heron, roseate spoonbill, and tricolored heron would be expected to utilize the study area, and in particular, the wetlands found within the study area. The state protection status of all three wading birds is threatened.

- Little blue herons have a grayish blue body. Their head is dark maroon during breeding season and purplish during non-breeding season.
- The roseate spoonbill has pink and red wings with a white neck and back and reddish legs and feet.
- The tricolored heron has a dark blue colored head and upper body, a purple chest, and a white belly.

The breeding season varies somewhat for each species and by location. All three birds are year-round residents in Florida, but none were observed in the study area. These wading birds could use the study area for foraging and loafing particularly the three larger creek and slough systems that cross Lorraine Road, and some of the adjacent smaller surface waters and roadside ditches.

Wading birds rely on wetlands for breeding, foraging, and sheltering and will build nests of sticks, twigs, and fibers in trees or shrubs on hummocks or in branches overhanging water. Wading birds typically nest in multi-species colonies, although tricolored herons also will nest in single-species groups or build solitary nests. These three wading birds are known to forage in shallow herbaceous and forested wetlands, as well as along the edges of riverine habitat.

The FWC recommends surveys to determine if wading bird nesting habitat is present within 330 feet of a project area. These surveys are usually conducted during the permitting process and generally focus on identifying nesting habitat rather than foraging habitat. If a wading bird nest is detected, additional surveys are recommended to determine if an active breeding site is present. Conducting surveys during the dates specified as follows is recommended:

Little Blue Heron	April 15 – June 30
Rosette Spoonbill	February 15 – April 30
Tricolored Heron	April 15 – June 30

Impacts to wading bird foraging habitat is addressed through wetland mitigation that meets the requirements of Rule 68A-27.007, F.A.C. However, if nesting is detected, additional measures are necessary to develop appropriate avoidance, minimization, and mitigation measures. FWC will also recommended pre-construction surveys prior to site clearing or excavation to ensure active nests or flightless young are not present. With adherence to the FWC guidelines and wetland impacts minimized and mitigated, there is **no effect anticipated** to these species.

3.3.7 Nesting Shorebirds

Least Tern

The state protection status for the least tern is threatened. The least tern is a small shorebird approximately eight to nine inches in length, with a forked tail and long pointed wings. Least terns are gray backed with a white belly, yellow beak, and a black cap. Terns typically nest on beaches with coarse sand and shell but have been reported to use interior shoreline habitats for nesting, including substrates such as dredged spoil and manmade structures. The least tern breeding season is April 1 through September 30. Least tern protection measures should focus on construction management techniques that avoid taking shorebird nests and young.

The least tern has not been documented in the study area and they were not observed during surveys of the study area. However, there are records of sightings within the region, particularly for nesting on rooftops. They could opportunistically utilize the project area during construction if bare ground is exposed. However, protection of potential least tern nests and young can be ensured through construction planning and management. For multi-year construction projects, where construction activities cannot be avoided during least tern nesting season, pre-construction surveys can be conducted prior to land clearing and earthmoving to ensure nesting birds are not present. If nesting or flightless young are encountered, construction should be suspended in that area and the sighting reported to the FWC. Assuming these basic construction practices, there is **no effect anticipated** to the least tern.

3.4 Federal and State Protected Plants

The FNAI Biodiversity Matrix (Unofficial) identified eight state listed plants and one federal listed plant protected by the FDACS that have the potential to occur within the corridor study area, including five endangered and three threatened. These listed plant species are shown in **Table 3-3**. None of these species were observed within the study area during preliminary field surveys. Due to their low likelihood of occurrence, there is **no effect anticipated** to these federal and state listed plant species. If protected plants are discovered during field surveys for permitting or at the time of construction, coordination with the FDACS will be initiated.

Table 3-3: Federal and State Listed Plants Potentially Occurring within the Study Area

Scientific Name	Common Name	Status	Likelihood of Occurrence
<i>Calopogon multiflorus</i>	Many-flowered Grass-pink	State Threatened	Low
<i>Centrosema arenicola</i>	Sand Butterfly Pea	State Endangered	None
<i>Chrysopsis floridana</i>	Florida Goldenaster	Federal/State Endangered	Low
<i>Lechea cernua</i>	Nodding Pinweed	State Threatened	None
<i>Matelea floridana</i>	Florida Spiny-pod	State Endangered	Low
<i>Nemastylis floridana</i>	Celestial Lily	State Endangered	Low
<i>Panicum abscissum</i>	Cutthroat Grass	State Threatened	None
<i>Rhynchospora megaplumosa</i>	Large-plumed Beaksedge	State Endangered	Low

4.0 Wetlands and Other Surface Waters

4.1 Methodology

A GIS desktop analysis was performed prior to the field survey to establish baseline information and guide the onsite evaluations for conducting wetland, riverine, and other surface water delineation estimates. Data sources utilized for this analysis included the following:

- ESRI ArcGIS World Image Service (2013-2015)
- SWFWMD Land Use Land Cover (2018)
- USDA NRCS, Soils of Manatee County, Florida (1983)
- USFWS National Wetland Inventory (NWI)
- USGS Topographic Maps
- Florida Department of Environmental Protection (FDEP) Outstanding Florida Water (2019)

Estimated delineations of wetlands and other surface waters were performed within the study area in July and August 2021. Features outside the existing right-of-way were estimated based on ground-truthing aerial photography to the extent possible considering private property and access limitations. Delineations were completed in accordance with the U.S. Army Corps of Engineers *Wetland Delineation Manual* (1987); *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (2010); Rule 62-340, F.A.C., *Delineation of the Landward Extent of Wetlands and Surface Waters*; and the *Florida Wetlands Delineation Manual* (1995).

4.2 Study Area Wetlands and Other Surface Waters

Wetlands were present within the corridor study area and were mapped and classified according to FLUCFCS and the USFWS *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, et. al., 1979).

Table 4-1 lists the wetland, surface waters, and other surface water features within the study area along with their estimated acreages and FLUCFCS and USFWS classifications. **Figures 4-1, 4-2, and 4-3** show the south, middle, and north areas of the study area with all wetlands and other surface waters observed within the 500-foot buffer limits. The primary wetland types in the study area included:

- Stream and Lake Swamps (615),
- Wetland Forested Mixed (630), and
- Freshwater Marshes (641 and 643).

The forested systems were associated with Mill Creek at the midpoint of the study area and the unnamed tributary to Mill Creek at the northern extent of the study area. Two of these forested wetlands (WL-4 and WL-5) are adjacent to Lorraine Road and widening alternatives may impact one or both systems. All forested wetlands are bisected by or proximal to ditches (Streams and Waterways – 510), which have had reduced water levels and hydroperiods for decades. One other larger forested wetland (WL-6) is isolated in the northwest corner of the study area. Elsewhere, smaller forested and herbaceous wetlands lie within the study area toward the southern extent of the project, but away from the roadway.

Generally, all wetland systems are in moderate to poor condition, having incurred drainage by ditching, watershed conversions to farmland, and/or nearby development. Vegetation communities within the wetlands have also been degraded by agricultural activities, tree harvesting, and nuisance and exotic species growth.

Table 4-1: Wetland and Other Surface Waters, Classifications, and Acres in the Study Area

Wetland and OSW	FLUCFCS Description	USFWS Classification	Area within Project 500-ft Buffer (Acres)
WL-1	641- Freshwater Marsh	PEM1 – Palustrine, Emergent, Persistent	0.13
WL-2	630 – Wetland Forested Mixed	PFO3 – Palustrine Forested Broad-leaved Evergreen	0.83
WL-3	641- Freshwater Marsh	PEM1 – Palustrine, Emergent, Persistent	0.66
WL-4	615 – Stream and Lake Swamps	PFO3 - Palustrine, Forested, Broad-leaved, Evergreen	4.72
WL-5	630 – Wetland Forested Mixed	PFO3 – Palustrine Forested Broad-leaved Evergreen	4.14
WL-6	630 – Wetland Forested Mixed	PFO3 – Palustrine Forested Broad-leaved Evergreen	1.54
OSW-1	560 – Slough Waters	R2UB2 – Riverine, Lower Perennial, Unconsolidated Bottom, Sand	0.48
OSW-2	524 – Lakes	L1OW – Lacustrine, Limnetic, Open Water	0.20
OSW-3	510 – Streams and Waterways	R2UB2 – Riverine, Lower Perennial, Unconsolidated Bottom, Sand	0.04
OSW-4	524 – Lakes	L1OW – Lacustrine, Limnetic, Open Water	0.38
OSW-5	510 – Streams and Waterways	R2UB2 – Riverine, Lower Perennial, Unconsolidated Bottom, Sand	0.51
OSW-6	510 – Streams and Waterways	R2UB2 – Riverine, Lower Perennial, Unconsolidated Bottom, Sand	0.69



Figure 4-1: Wetlands and Surface Water Map - South



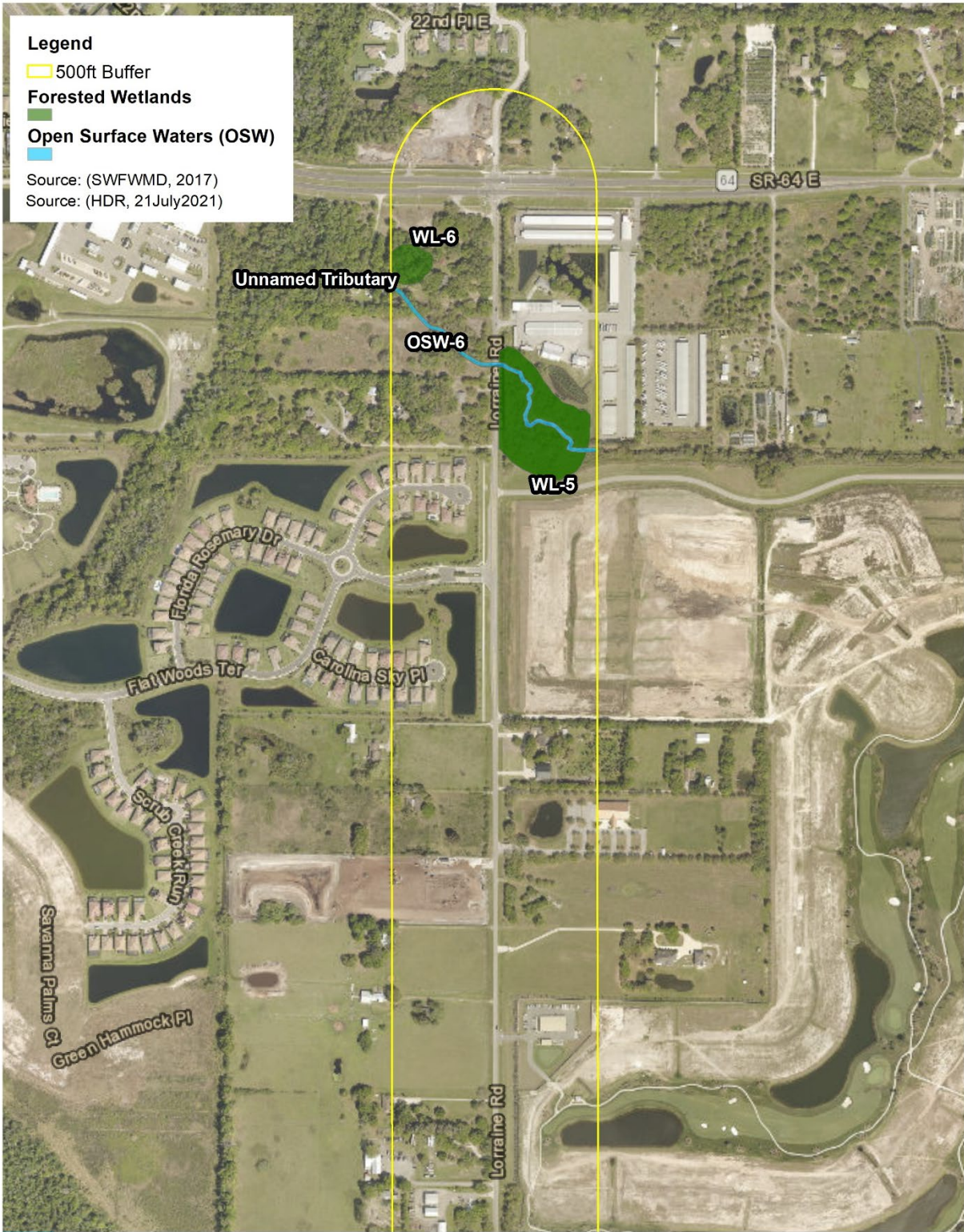




**LORRAINE ROAD
WETLAND AND SURFACE WATER MAP
MANATEE COUNTY, FL**

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Figure 4-2: Wetlands and Surface Water Map - Middle



**LORRAINE ROAD
WETLAND AND SURFACE WATER MAP
MANATEE COUNTY, FL**

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Figure 4-3: Wetlands and Surface Water Map - North

Surface waters were present mostly associated with the three water channels that cross Lorraine Road at the north, central, and south areas of the project. These drainages were historically natural and associated with wetlands draining from east to west across the road corridor, including:

- **Wolf Slough (OSW-1)** at the southern extent of the corridor study area, crosses Lorraine Road about 250 feet south of Rangeland Parkway. The slough drains west to Mill Creek through an upland mixed coniferous/hardwood forest dominated by live oak with some pine. There was little wetland vegetation associated with the flow channel.
- **Mill Creek (OSW-5)** lies about 1,700 feet (0.3 miles) north of 44th Avenue East and is a larger flowing system that crosses Lorraine Road. The creek drains through an upland mixed coniferous/hardwood forest dominated by live oak with some pine.

The surrounding upland forests on Mill Creek have very little wetland community along the flow channel. However, an area of mixed wetland forest is present at the northwest quadrant of the creek crossing, extending north, upslope to a nearby home site. A portion of this area overlays a mapped hydric soil, Felda-Wabasso association, frequently flooded, which covered a larger area of the creek floodplain west of Lorraine Road, including a historically broader forested wetland floodplain.

- **Unnamed tributary (OSW-6)** at the northern extent of the project lies about 800 feet south of SR 70, eventually flowing to Mill Creek west of Lorraine Road. The tributary drains through a mixed forested wetland (**WL-5**) on the east side of Lorraine Road associated with hydric Canova, Anclote, and Okeelanta soils. The creek then flows northwest under the road and adjacent to a historic wetland area (**WL-6**) with surrounding residences.

A smaller swale intersects Lorraine Road at the northern extent of the project associated with discharge from stormwater treatment facility. Also, a field ditch (**OSW-3**) at the southern extent of the project collects road and adjacent field run-off, conveying it west from Lorraine Road and south toward Rangeland Parkway. **Table 4-1** lists the wetland and other surface water features within the study area along with their estimated acreages and FLUCFCS and USFWS classifications.

4.3 Outstanding Florida Waters

FDEP-designated Outstanding Florida Waters (OFW) receive special protection to maintain ambient water quality in accordance with Chapter 62-302.700 F.A.C. and under the authority granted by Section 403.061(27) F.S. (FDEP, 2021). These waters are provided the highest level of water quality protection in the state of Florida, including requirements for additional water quality treatment above and beyond usual standards.

The corridor study area does not cross any OFWs so these criteria do not apply to this project.

4.4 Sovereign Submerged Lands

Sovereign Submerged Lands (SSL) are lands, including but not limited to, tidal lands, islands, sand bars, shallow banks, and lands waterward of the ordinary or mean high water line, beneath navigable fresh water, or beneath tidally influenced waters, which the State of Florida acquired title to on March 3, 1845, by virtue of statehood, and which have not been heretofore conveyed or alienated per Chapter 18-21.003, F.A.C. The corridor study area does not contain SSL listed, per Title XVIII Public Lands and Property Chapter 253 F.S. or per the Florida TIITF Land Records Spatial Index of the FDEP. Special SSL provisions and proprietary easements are not required for the widening of Lorraine Road.

4.5 Wetland and Other Surface Waters

4.5.1 Direct Wetland and Other Surface Water Impacts

Direct impacts to wetlands and other surface waters must be quantified and assessed for the proposed Lorraine Road project alignment and footprint. During evaluation of the road alignment alternatives, potential impacts to wetlands and other surface waters would be identified and quantified. Direct impacts would include permanent and temporary impacts and would be quantified and tabulated for the state and federal permit applications.

The Uniform Mitigation Assessment Method (UMAM) will be utilized to evaluate each wetland impact area to quantify the anticipated functional loss for each area based on location and landscape, water environment, and vegetation conditions. UMAM assessment forms would be prepared at a later design stage to document existing conditions of the wetlands to determine the functional loss for each impact.

4.5.2 Avoidance and Minimization

The proposed widening of Lorraine Road would use the existing disturbed and cleared right-of-way for the road and other project improvements as much as possible. Every effort would be made to avoid and minimize wetland impacts for the road widening. Additional impacts outside the existing right-of-way could result in impacts to wetland and other surface water habitats of better quality further from the disturbed right-of-way limits. Unavoidable direct wetland impacts would be expected within the existing right-of-way. Other impacts would be expected outside the existing right-of-way for the additional widening required, causing further disturbance to wetland and wildlife habitats.

Degradation of water quality, resulting from construction or excess stormwater runoff from the project, has the potential to adversely impact flowing waters and associated habitats. Best Management Practices (BMPs) would be implemented during construction to protect water quality. Direct, indirect, and temporary impacts to habitat and water quality would be avoided and then minimized using erosion control measures and BMPs during construction. Measures to minimize project impacts could include construction phasing, sediment barriers, floating turbidity barriers, and other construction techniques identified during design and permitting in cooperation with the regulatory agencies.

In addition, maintenance of an Erosion Control Plan that addresses protecting wetland areas and implements FDOT design standards, including those measures designed to protect aquatic environments, would be used as outlined in the following manuals:

- Standard Specifications for Road and Bridge Construction (Section 7, 104, and 110) (July 2020),
- State of Florida Erosion and Sediment Control Manual (E&SC Manual) (July 2013), and
- FDOT Design Manual (2020).

Based on the avoidance and minimization measures discussed above and in accordance with Section 404 of the Clean Water Act, the proposed project alternatives within the corridor study area would represent the most practicable alignment for the Lorraine Road widening. Given that the project involves improvements to an existing roadway, opportunities to completely avoid wetland impacts would not be available. Although unavoidable impacts to wetlands and other surface waters would occur within the existing and proposed right-of-way, these would be the least impactful as compared to an alternate new roadway alignment outside of the existing right-of-way.

This evaluation would consider all practicable measures to avoid and minimize impact and impairment to wetlands and other surface water habitats, resulting from the proposed road widening. Mitigation of direct and indirect wetland and riverine surface water impacts would be provided to reduce the short-term and long-term

adverse impacts to wetland resources in this region of Manatee County. Habitat quality, water quality and quantity, and hydroperiods would be protected and maintained in all wetlands and riverine surface waters that remain undisturbed.

4.5.3 Indirect and Cumulative Impacts

Short-term and long-term impacts to water quality and the resultant effects on wetland resources caused by construction, maintenance, and operation of the widened Lorraine Road would be managed using erosion control measures and BMPs during construction and use of stormwater management protocols. Measures to protect water quality within the waterways and wetlands will be required to meet state water quality standards.

Indirect wetland impacts are to habitat functions of wetlands associated with adjacent upland activities. The offset buffer of the indirect impact varies by agency. During the permitting process, indirect impacts would be evaluated at each wetland impact. For the state regulatory agencies, per the Environmental Resource Permit (ERP) Applicant's Handbook Volume I, Part III, Section 10.2.7, an average 25-foot buffer is the guidance used to estimate secondary impacts to the habitat functions of wetlands associated with adjacent upland activities. The exact buffer width would be site-specific and would be finalized during design and permitting.

The guidance for establishing the secondary impact buffer distance would be specific to landscape conditions (e.g., natural versus urban setting), wetland type (e.g., forested versus herbaceous) and wetland quality (e.g., low, medium, or high). The actual buffer distances for each wetland would be finalized in cooperation with the agencies, following formal wetland delineations and wetland quality characterizations at the time of permitting.

Cumulative effects of potential future projects on the natural resources adjacent to the widened road would be considered. Wetlands are present however these systems are limited in area, protected by federal and state regulations, and would not be expected to be impacted by future development. While development would be expected near these wetland areas, wetland buffers required by regulations would provide adequate protection. Therefore, cumulative impacts from the proposed project would be expected to be insignificant.

4.5.4 Mitigation

Wetland and riverine surface water impacts, resulting from the widening of Lorraine road would be mitigated pursuant to Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. Final mitigation requirements would be determined during permitting based on the project design, extent and type of impacts, and use of the UMAM habitat scoring.

Some wetland impacts are expected to be unavoidable for the Lorraine Road widening and would occur within the Braden River and Manatee River Watersheds. To compensate these impacts, Manatee County would be first directed to use available mitigation banks with service areas that cover the project limits. Braden River Mitigation Bank and the Manatee Mitigation Bank would be two candidates for these requirements. These banks have available state credits however, federal credits are limited but could be available soon.

- **Braden River Mitigation Bank** - The service area for this mitigation bank includes the project area; however, it does not offer federal mitigation credits. It only offers state approved, freshwater herbaceous and forested wetland mitigation credits.
- **Manatee Mitigation Bank** - The service area for this mitigation bank includes the project area; however, the federal permit remains pending. Issuance is expected in October 2021.

If adequate mitigation bank credits are not available, permittee-responsible, onsite or offsite wetland mitigation could be proposed within the project watershed limits, potentially on Manatee County-owned land. A project-specific wetland mitigation plan has not been developed. A feasibility study and review of potential sites would be required to determine selection of a viable and suitable site for mitigation.

5.0 Essential Fish Habitat

Essential Fish Habitat (EFH) Assessments are conducted in accordance with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act of 1996. However, essential fish habitat does not occur within the corridor study area. Therefore, an EFH Assessment is not required.

6.0 Anticipated Permits

Coordination with regulatory agencies is recommended for the Lorraine Road widening project primarily involving two state of Florida agencies, including SWFWMD and the FDEP Southwest District. In January 2021, the state of Florida assumed the federal Clean Water Act Section 404 Permit program for non-tidally influenced wetlands and waters. The Lorraine Road widening project would require a Section 404 permit from FDEP. In addition, due to impacts to wetlands and other surface waters, the project will require a Statewide ERP pursuant to 62-330 F.A.C. The following agency permitting actions are anticipated:

- FDEP Section 404 Permit – Individual Permit or General Permit, depending on the extent of wetland and water impacts, 0.5 acres of impact being the threshold.
- FDEP National Pollutant Discharge Elimination System, Stormwater Discharge from Large and Small Construction Activities (62-621.300 F.A.C.). This permit is to be obtained by the contractor.
- SWFWMD Statewide ERP – Individual ERP with the application review fee determined by project work area and extent of wetland impacts.

A second tier of agency involvement includes FWC and USFWS as commenting agencies on the respective permit applications for listed and protected species. Coordination and possible consultation with these agencies would be required to construct the Lorraine Road widening project.

7.0 Conclusions

7.1 Protected Species and Habitat

7.1.1 Federal Protected Wildlife and Critical Habitat

The federal listed and protected wildlife species provided in **Table 7-1** were determined to have the potential to occur within the corridor study area. Each species is listed with its federal status and the project effect determination based on the study results. The study area is not located within designated Critical Habitat for any federal protected species. Therefore, the proposed project would not result in the ***destruction or adverse modification of critical habitat***.

Table 7-1: Project Effect Determinations for Federal Listed and Protected Wildlife

Scientific Name	Common Name	Status	Project Effect Determination
Federal Listed Wildlife			
<i>Ammodramus savannarum floridanus</i>	Florida grasshopper sparrow	Endangered	No effect
<i>Caracara cheriway</i>	Crested caracara	Threatened	No effect
<i>Drymarchon corais couperi</i>	Eastern indigo snake	Threatened	May affect, not likely to adversely affect
<i>Mycteria americana</i>	Wood stork	Threatened	May affect, not likely to adversely affect
<i>Aphelocoma coerulescens</i>	Florida scrub jay	Threatened	No effect
Federal Protected Wildlife			
<i>Haliaeetus leucocephalus</i>	Bald eagle	BGEPA* MBTA**	No effect
<i>Pandion haliaetus</i>	Osprey	MBTA**	No effect

* Bald & Golden Eagle Protection Act and Migratory Bird Treaty Act. ** Migratory Bird Treaty Act

7.1.2 State Protected Wildlife

The state listed wildlife species provided in **Table 7-2** were determined to have the potential to occur within the corridor study area. Each species is listed with its state status and the project effect determination based on the study results.

Table 7-2: Project Effect Determinations for State Listed Wildlife

Scientific Name	Common Name	Status	Project Effect Determination
<i>Antigone canadensis pratensis</i>	Florida sandhill crane	Threatened	No effect anticipated
<i>Athene cunicularia floridana</i>	Florida burrowing owl	Threatened	No effect anticipated
<i>Falco sparverius paulus</i>	Southeastern American kestrel	Threatened	No effect anticipated
<i>Gopherus polyphemus</i>	Gopher tortoise	Threatened	No adverse effect anticipated
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	Threatened	No effect anticipated
Wading Birds			
<i>Egretta caerulea</i>	Little blue heron	Threatened	No effect anticipated
<i>Egretta tricolor</i>	Tricolored heron	Threatened	No effect anticipated
<i>Platalea ajaja</i>	Rosette spoonbill	Threatened	No effect anticipated
Nesting Shorebirds			
<i>Sternula antillarum</i>	Least Tern	Threatened	No effect anticipated

7.1.3 Federal and State Protected Plants

The federal and state listed plants protected by the FDACS provided in **Table 7-3** were determined to have the potential to occur within the corridor study area. Each species is listed with its status and the project effect

determination based on the study results. None of these species were observed during preliminary surveys and therefore there is no effect anticipated to these species.

Table 7-3: Project Effect Determinations for Federal and State Listed Plants

Scientific Name	Common Name	Status	Project Effect Determination
<i>Calopogon multiflorus</i>	Many-flowered Grass-pink	State Threatened	No effect anticipated
<i>Centrosema arenicola</i>	Sand Butterfly Pea	State Endangered	No effect anticipated
<i>Chrysopsis floridana</i>	Florida Goldenaster	Federal/State Endangered	No effect anticipated
<i>Lechea cernua</i>	Nodding Pinweed	State Threatened	No effect anticipated
<i>Matelea floridana</i>	Florida Spiny-pod	State Endangered	No effect anticipated
<i>Nemastylis floridana</i>	Celestial Lily	State Endangered	No effect anticipated
<i>Panicum abscissum</i>	Cutthroat Grass	State Threatened	No effect anticipated
<i>Rhynchospora megaplumosa</i>	Large-plumed Beaksedge	State Endangered	No effect anticipated

7.2 Wetlands and Other Surface Waters

Wetlands were present in the corridor study area and were mapped and classified according to FLUCFCS and the USFWS Classification of Wetlands and Deepwater Habitats of the United States.

Six wetlands were identified within the corridor study area. Four wetlands were identified along the west side of the road consisting of one herbaceous wetland totaling approximately 0.1 acres and three forested wetlands totaling approximately 7.1 acres. Two wetlands were identified along the east side of the road consisting of one herbaceous wetland totaling approximately 0.7 acres and one forested wetland totaling approximately 4.1 acres.

A total of six surface waters were identified within the corridor study area. They consist of Wolf Slough, Mill Creek, an unnamed tributary to Mill Creek, a drainage ditch, and two small ponds.

Potential impacts to wetlands and other surface waters would be estimated and assessed during an alternative's analysis. Each alternative would have a unique total UMAM functional loss on which to determine the eventual mitigation cost for each alternative. Additional wetland functional losses associated with the preferred pond site impacts would also be evaluated and compared. Mitigation will be required for all project impacts.

Final mitigation requirements would be determined during permitting based on the project design and using the UMAM scoring of impact areas at that time of review with the environmental agencies. Impacts to wetlands that result from the project would be mitigated pursuant to Section 373.4137, F.S., to satisfy all requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344.

There are no FDEP-designated OFWs within the corridor study area protected in accordance with 62-302.700 F.A.C. and under the authority granted by Section 403.061(27) F.S.

There are no sovereign submerged lands designated with the corridor study area per Title XVIII Public Lands and Property Chapter 253 F.S.

7.3 Essential Fish Habitat

There is no essential fish habitat present within the corridor study area.

7.4 Anticipated Permits

The Lorraine Road project would require permitting with two state of Florida agencies, including SWFWMD and the FDEP Southwest District.

- FDEP Section 404 Permit – Individual Permit or General Permit, depending on the extent of wetland and water impacts, 0.5 acres of impact being the threshold.
- FDEP National Pollutant Discharge Elimination System, Stormwater Discharge from Large and Small Construction Activities (62-621.300 F.A.C.) – To be obtained by the contractor.
- SWFWMD Statewide ERP – Individual ERP with the application review fee determined by project work area and extent of wetland impacts.

8.0 Commitments

8.1 Wildlife

To protect listed wildlife, wildlife habitat, and plants, Manatee County will conduct wildlife surveys of the road corridor and pond sites during permitting and then prior to construction for the presence of protected wildlife species including plants. Manatee County will abide by standard resource protection measures in addition to the following specific commitments:

1. If required, the County will use the USFWS Draft **Florida Grasshopper Sparrow** Survey Protocol (June 2004) for conducting surveys.
2. If the crested caracara is discovered nesting within the vicinity of the project, the County will keep construction activities 1,500 feet from a **crested caracara** nest to minimize impacts, particularly during nest building, incubation, and nestling stages.
3. The County will adhere to the most current version of USFWS *Standard Protection Measures for the Eastern Indigo Snake* (2013) during construction.
4. The County will survey for **bald eagle** nests during permitting and design. If a bald eagle nest is identified within 660 feet of the project prior to or during construction, the County will coordinate with the USFWS and the FWC in accordance with the BGEPA and MBTA and will adhere to the USFWS Bald Eagle Management Guidelines.
5. The County will conduct osprey nest surveys during the permitting phase of the proposed project. If an osprey nest is identified, the County will coordinate with the USFWS and/or the FWC, depending on the activity status of the nest.
6. The County will perform pre-construction surveys for nesting **Florida sandhill cranes** per the FWC species guidelines (2016) to ensure active nests and flightless young are protected.
7. If required, the County will perform **southeastern American kestrel** surveys for breeding and active nest cavities during permitting and preconstruction.
8. The County will perform preliminary **gopher tortoise** surveys during permitting and formal gopher tortoise surveys during pre-construction in areas deemed suitable habitat in accordance with the FWC *Gopher Tortoise Permitting Guidelines*, and will secure an FWC Gopher Tortoise Relocation Permit, if gopher tortoise burrows are found.

9. The County will survey **wading bird** nesting habitat within 330 feet of the project area during permitting. If a wading bird nest is detected, additional surveys may be recommended to determine if an active breeding site is present.
10. The County will perform pre-construction surveys for **least tern** nests and young and for multi-year construction projects. Surveys can be conducted prior to land clearing and earthmoving to ensure nesting birds are not present.
11. If **protected plants** are discovered during pre-construction surveys, the County will initiate coordination with the FDACS.

8.2 Wetlands and Other Surface Waters

To protect wetland and water resources before, during, and after construction, Manatee County will abide by state and federal permit requirements and water quality protection measures particularly including the following commitments:

1. The County will implement provisions to avoid and minimize wetland impacts during design, permitting, and construction.
2. The County will use the UMAM to evaluate each wetland impact area to quantify the functional loss based on location and landscape, water environment, and vegetation conditions.
3. The County will mitigate for wetland impacts pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344.
4. The County will use erosion control measures and Best Management Practices during construction to avoid and minimize direct, indirect, and temporary impacts to habitat and water quality.

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Appendices

Appendix A – Soil Data Report



United States
Department of
Agriculture

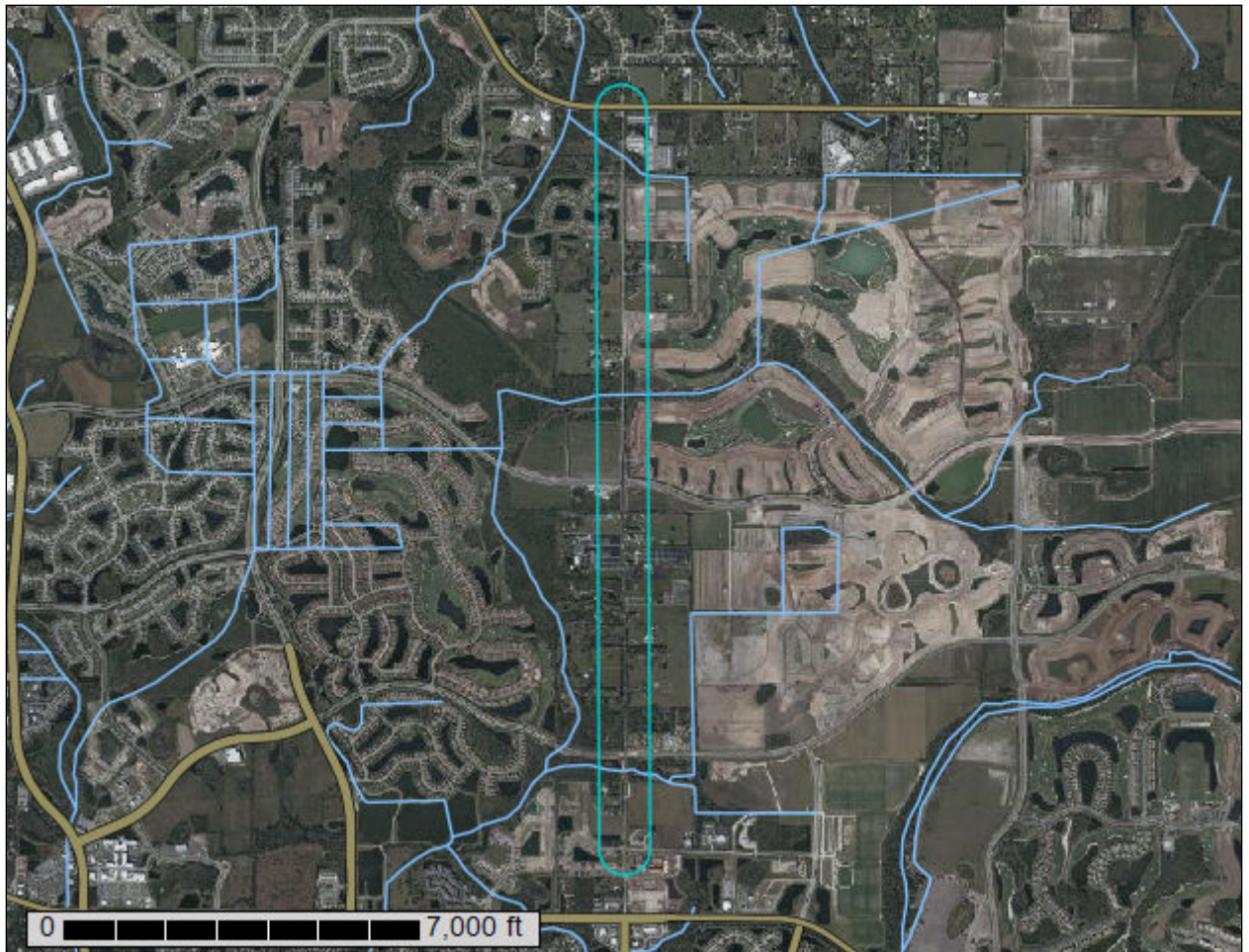
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Manatee County, Florida**

Lorraine Road Soil Report



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

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

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

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

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

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

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

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

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

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

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

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

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

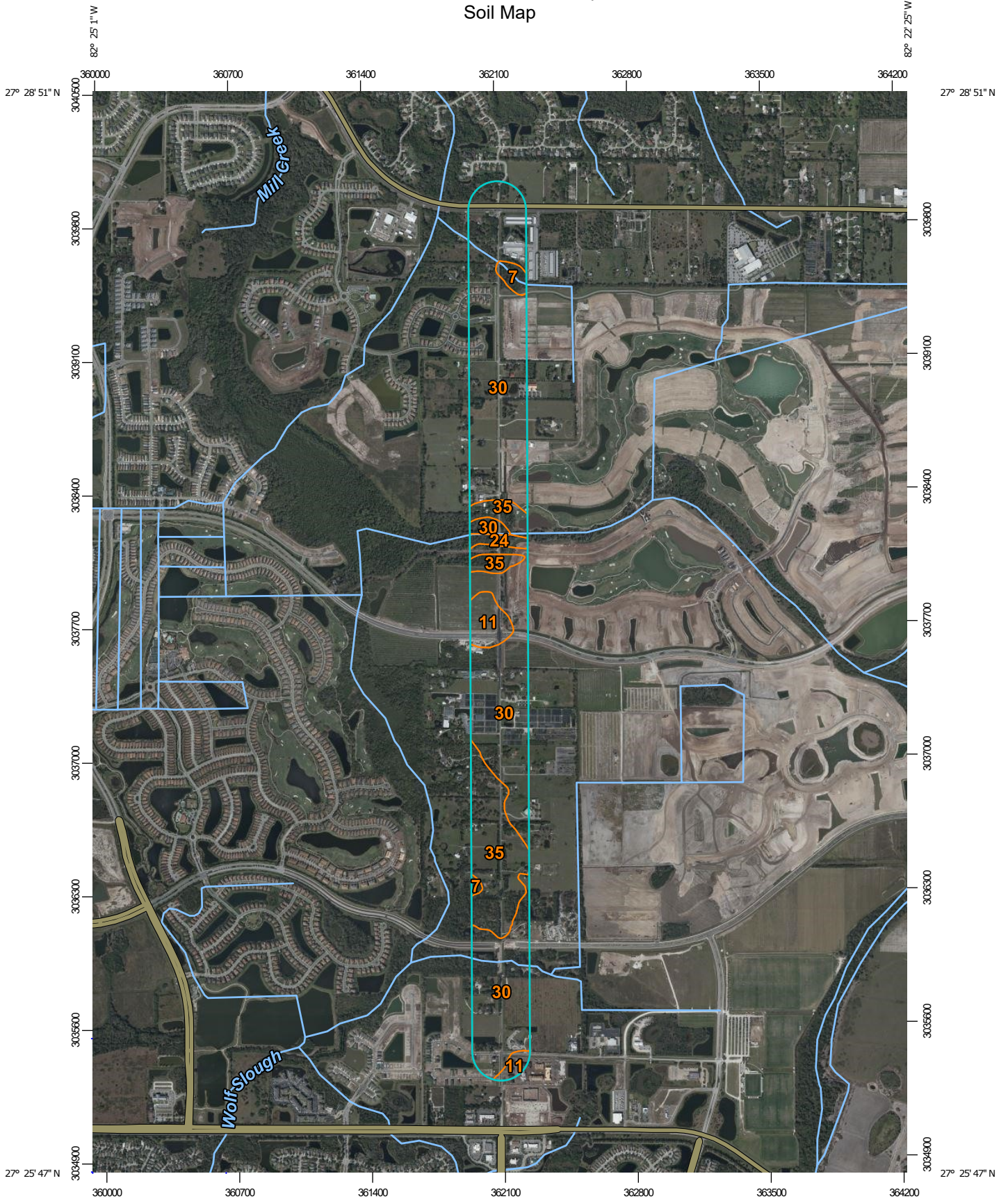
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

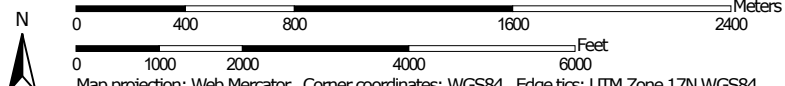
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map




Map Scale: 1:27,700 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84


MAP LEGEND


Area of Interest (AOI)

 Area of Interest (AOI)

Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Manatee County, Florida
 Survey Area Data: Version 17, Jun 8, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 5, 2020—Mar 10, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7	Canova, Anclote, and Okeelanta soils	5.8	1.7%
11	Cassia fine sand, 0 to 2 percent slopes	16.3	4.7%
24	Felda-Wabasso association, frequently flooded	4.4	1.3%
30	Myakka-Myakka, wet, fine sands, 0 to 2 percent slopes	259.9	74.1%
35	Ona fine sand, orstein substratum	64.3	18.3%
Totals for Area of Interest		350.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

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

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

Custom Soil Resource Report

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

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Manatee County, Florida

7—Canova, Anclote, and Okeelanta soils

Map Unit Setting

National map unit symbol: 1hg9b
Elevation: 0 to 130 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Canova and similar soils: 40 percent
Anclote and similar soils: 25 percent
Okeelanta and similar soils: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canova

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy marine deposits

Typical profile

Oa - 0 to 8 inches: muck
A - 8 to 24 inches: fine sand
B/C - 24 to 68 inches: sandy clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Forage suitability group: Organic soils in depressions and on flood plains
(G155XB645FL)

Custom Soil Resource Report

Other vegetative classification: Organic soils in depressions and on flood plains
(G155XB645FL)
Hydric soil rating: Yes

Description of Anclote

Setting

Landform: Drainageways on marine terraces, depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear, concave
Across-slope shape: Concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 16 inches: fine sand
Cg2 - 16 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Forage suitability group: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Description of Okeelanta

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Herbaceous organic material over sandy marine deposits

Typical profile

Oa - 0 to 20 inches: muck
C - 20 to 54 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained

Custom Soil Resource Report

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 4.0

Available water capacity: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7w

Hydrologic Soil Group: A/D

Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)

Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)

Hydric soil rating: Yes

Minor Components

Manatee

Percent of map unit: 5 percent

Landform: Depressions on marine terraces

Landform position (three-dimensional): Dip

Down-slope shape: Concave

Across-slope shape: Concave

Other vegetative classification: Loamy and clayey soils on stream terraces, flood plains, or in depressions (G155XB345FL), Freshwater Marshes and Ponds (R155XY010FL)

Hydric soil rating: Yes

Chobee

Percent of map unit: 5 percent

Landform: Depressions on marine terraces

Landform position (three-dimensional): Dip

Down-slope shape: Concave

Across-slope shape: Concave

Other vegetative classification: Loamy and clayey soils on stream terraces, flood plains, or in depressions (G155XB345FL)

Hydric soil rating: Yes

Floridana

Percent of map unit: 5 percent

Landform: Flats on marine terraces

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Freshwater Marshes and Ponds (R155XY010FL)

Hydric soil rating: Yes

11—Cassia fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tzx6

Elevation: 0 to 110 feet

Mean annual precipitation: 42 to 63 inches

Mean annual air temperature: 68 to 77 degrees F

Frost-free period: 350 to 365 days

Farmland classification: Farmland of unique importance

Map Unit Composition

Cassia and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cassia

Setting

Landform: Rises on flatwoods on marine terraces, knolls on flatwoods on marine terraces

Landform position (three-dimensional): Tread, rise, talf

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Sandy marine deposits

Typical profile

A - 0 to 5 inches: fine sand

E - 5 to 26 inches: fine sand

Bh - 26 to 42 inches: fine sand

C - 42 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)

Depth to water table: About 18 to 42 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 4.0

Available water capacity: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Custom Soil Resource Report

Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Forage suitability group: Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Minor Components

Myakka

Percent of map unit: 7 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Pomello

Percent of map unit: 6 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Side slope, interfluve, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: R155XY001FL - Sand Pine Scrub
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Satellite

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, talf, rise
Down-slope shape: Linear, convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Jonathan

Percent of map unit: 3 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve, tread, rise
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Hydric soil rating: No

24—Felda-Wabasso association, frequently flooded

Map Unit Setting

National map unit symbol: 1hg84
Elevation: 0 to 130 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Felda and similar soils: 60 percent
Wabasso, hydric, and similar soils: 15 percent
Wabasso, non-hydric, and similar soils: 10 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Felda

Setting

Landform: Flood plains on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 3 inches: fine sand
E - 3 to 24 inches: fine sand
Btg - 24 to 64 inches: sandy clay loam
BCg - 64 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 5.95 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: NoneFrequent
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w

Custom Soil Resource Report

Hydrologic Soil Group: A/D

Forage suitability group: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)

Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)

Hydric soil rating: Yes

Description of Wabasso, Hydric

Setting

Landform: Flood plains on marine terraces

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 7 inches: fine sand

E - 7 to 21 inches: fine sand

Bh - 21 to 31 inches: fine sand

Bw - 31 to 37 inches: fine sand

Bt - 37 to 65 inches: sandy loam

Cg - 65 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: NoneFrequent

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 4.0

Available water capacity: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D

Forage suitability group: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)

Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)

Hydric soil rating: Yes

Description of Wabasso, Non-hydric

Setting

Landform: Flood plains on marine terraces

Landform position (three-dimensional): Talf

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Sandy and loamy marine deposits

Custom Soil Resource Report

Typical profile

A - 0 to 7 inches: fine sand
E - 7 to 21 inches: fine sand
Bh - 21 to 31 inches: fine sand
Bw - 31 to 37 inches: fine sand
Bt - 37 to 65 inches: sandy loam
Cg - 65 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: NoneFrequent
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Forage suitability group: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: No

Minor Components

Chobee

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Other vegetative classification: Loamy and clayey soils on stream terraces, flood plains, or in depressions (G155XB345FL)
Hydric soil rating: Yes

Bradenton

Percent of map unit: 4 percent
Landform: Rises on marine terraces
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Loamy and clayey soils on flats of hydric or mesic lowlands (G155XB341FL), Wetland Hardwood Hammock (R155XY012FL)
Hydric soil rating: Yes

Anclote

Percent of map unit: 4 percent

Custom Soil Resource Report

Landform: Drainageways on marine terraces, depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear, concave
Across-slope shape: Concave
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Floridana, depressional

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

30—Myakka-Myakka, wet, fine sands, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tw7
Elevation: 0 to 160 feet
Mean annual precipitation: 38 to 68 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 310 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Myakka and similar soils: 70 percent
Myakka, wet, and similar soils: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myakka

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 6 inches: fine sand
E - 6 to 20 inches: fine sand
Bh - 20 to 36 inches: fine sand

Custom Soil Resource Report

C - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 5.95 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 4.0

Available water capacity: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: A/D

Forage suitability group: Sandy soils on flats of mesic or hydric lowlands
(G155XB141FL)

Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands
(G155XB141FL), South Florida Flatwoods (R155XY003FL)

Hydric soil rating: No

Description of Myakka, Wet

Setting

Landform: Flatwoods on marine terraces

Landform position (three-dimensional): Tread, talf

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Sandy marine deposits

Typical profile

A - 0 to 6 inches: fine sand

E - 6 to 20 inches: fine sand

Bh - 20 to 36 inches: fine sand

C - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 5.95 in/hr)

Depth to water table: About 3 to 18 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 4.0

Available water capacity: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Custom Soil Resource Report

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: A/D

Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)

Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)

Hydric soil rating: Yes

Minor Components

Eaugallie

Percent of map unit: 5 percent

Landform: — error in exists on —

Landform position (three-dimensional): Tread, talf

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R155XY003FL - South Florida Flatwoods

Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)

Hydric soil rating: No

Basinger

Percent of map unit: 5 percent

Landform: Drainageways on marine terraces, flats on marine terraces

Landform position (three-dimensional): Tread, dip, talf

Down-slope shape: Concave, convex

Across-slope shape: Concave, linear

Other vegetative classification: Slough (R155XY011FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)

Hydric soil rating: Yes

Placid

Percent of map unit: 5 percent

Landform: Depressions on marine terraces, drainageways on marine terraces

Landform position (three-dimensional): Tread, dip

Down-slope shape: Concave

Across-slope shape: Concave

Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)

Hydric soil rating: Yes

35—Ona fine sand, orstein substratum

Map Unit Setting

National map unit symbol: 1hg8j

Elevation: 20 to 150 feet

Mean annual precipitation: 48 to 56 inches

Mean annual air temperature: 68 to 75 degrees F

Custom Soil Resource Report

Frost-free period: 350 to 365 days

Farmland classification: Not prime farmland

Map Unit Composition

Ona, non-hydric, and similar soils: 70 percent

Ona, hydric, and similar soils: 15 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ona, Non-hydric

Setting

Landform: Flatwoods on marine terraces

Landform position (three-dimensional): Talf

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Sandy marine deposits

Typical profile

A - 0 to 5 inches: fine sand

Bh - 5 to 16 inches: fine sand

E - 16 to 52 inches: fine sand

B'h1 - 52 to 68 inches: fine sand

B'h2 - 68 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 4.0

Available water capacity: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D

Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)

Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)

Hydric soil rating: No

Description of Ona, Hydric

Setting

Landform: Flats on marine terraces

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Sandy marine deposits

Custom Soil Resource Report

Typical profile

A - 0 to 5 inches: fine sand
Bh - 5 to 16 inches: fine sand
E - 16 to 52 inches: fine sand
B'h1 - 52 to 68 inches: fine sand
B'h2 - 68 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Minor Components

Myakka, non-hydric

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

St. Johns, non-hydric

Percent of map unit: 4 percent
Landform: Seeps on marine terraces
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Wauchula, non-hydric

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces

Custom Soil Resource Report

Landform position (three-dimensional): Talf

Down-slope shape: Convex

Across-slope shape: Linear

Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), South Florida Flatwoods (R155XY003FL)

Hydric soil rating: No

Waveland, non-hydric

Percent of map unit: 3 percent

Landform: Flatwoods on marine terraces

Landform position (three-dimensional): Talf

Down-slope shape: Convex

Across-slope shape: Linear

Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)

Hydric soil rating: No

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Custom Soil Resource Report

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Appendix B – IPaC Resource List



United States Department of the Interior



FISH AND WILDLIFE SERVICE
North Florida Ecological Services Field Office
7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7517
Phone: (904) 731-3336 Fax: (904) 731-3045

In Reply Refer To:
Consultation Code: 04EF1000-2021-SLI-1217
Event Code: 04EF1000-2021-E-01886
Project Name: Lorraine Road

July 06, 2021

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - Migratory Birds
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

North Florida Ecological Services Field Office

7915 Baymeadows Way, Suite 200

Jacksonville, FL 32256-7517

(904) 731-3336

Project Summary

Consultation Code: 04EF1000-2021-SLI-1217

Event Code: 04EF1000-2021-E-01886

Project Name: Lorraine Road

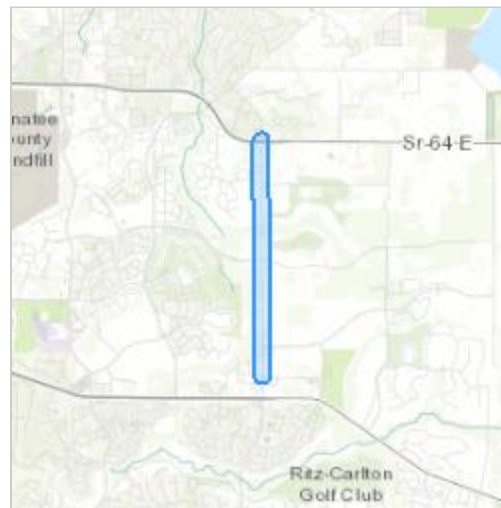
Project Type: TRANSPORTATION

Project Description: The purpose is to evaluate the future roadway needs of the corridor and intersections.

Project Location:

Approximate location of the project can be viewed in Google Maps: [https://](https://www.google.com/maps/@27.4555358,-82.39547716595527,14z)

www.google.com/maps/@27.4555358,-82.39547716595527,14z



Counties: Manatee County, Florida

Endangered Species Act Species

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Audubon's Crested Caracara <i>Polyborus plancus audubonii</i> Population: FL pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8250	Threatened
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Florida Grasshopper Sparrow <i>Ammodramus savannarum floridanus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/32	Endangered
Wood Stork <i>Mycteria americana</i> Population: AL, FL, GA, MS, NC, SC No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8477	Threatened

Reptiles

NAME	STATUS
Eastern Indigo Snake <i>Drymarchon corais couperi</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/646	Threatened
Gopher Tortoise <i>Gopherus polyphemus</i> Population: eastern No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6994	Candidate
Green Sea Turtle <i>Chelonia mydas</i> Population: North Atlantic DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Loggerhead Sea Turtle <i>Caretta caretta</i> Population: Northwest Atlantic Ocean DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1110	Threatened

Flowering Plants

NAME	STATUS
Pygmy Fringe-tree <i>Chionanthus pygmaeus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1084	Endangered

Lichens

NAME	STATUS
Florida Perforate Cladonia <i>Cladonia perforata</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7516	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Kestrel <i>Falco sparverius paulus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
American Oystercatcher <i>Haematopus palliatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31

NAME	BREEDING SEASON
<p>Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626</p>	Breeds Sep 1 to Jul 31
<p>Black Skimmer <i>Rynchops niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234</p>	Breeds May 20 to Sep 15
<p>Common Ground-dove <i>Columbina passerina exigua</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Feb 1 to Dec 31
<p>Least Tern <i>Sterna antillarum</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Apr 20 to Sep 10
<p>Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Magnificent Frigatebird <i>Fregata magnificens</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Oct 1 to Apr 30
<p>Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Jul 31
<p>Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10
<p>Reddish Egret <i>Egretta rufescens</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/7617</p>	Breeds Mar 1 to Sep 15
<p>Ruddy Turnstone <i>Arenaria interpres morinella</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds elsewhere
<p>Swallow-tailed Kite <i>Elanoides forficatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938</p>	Breeds Mar 10 to Jun 30

NAME	BREEDING SEASON
Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Yellow Warbler <i>Dendroica petechia gundlachi</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 20 to Aug 10

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

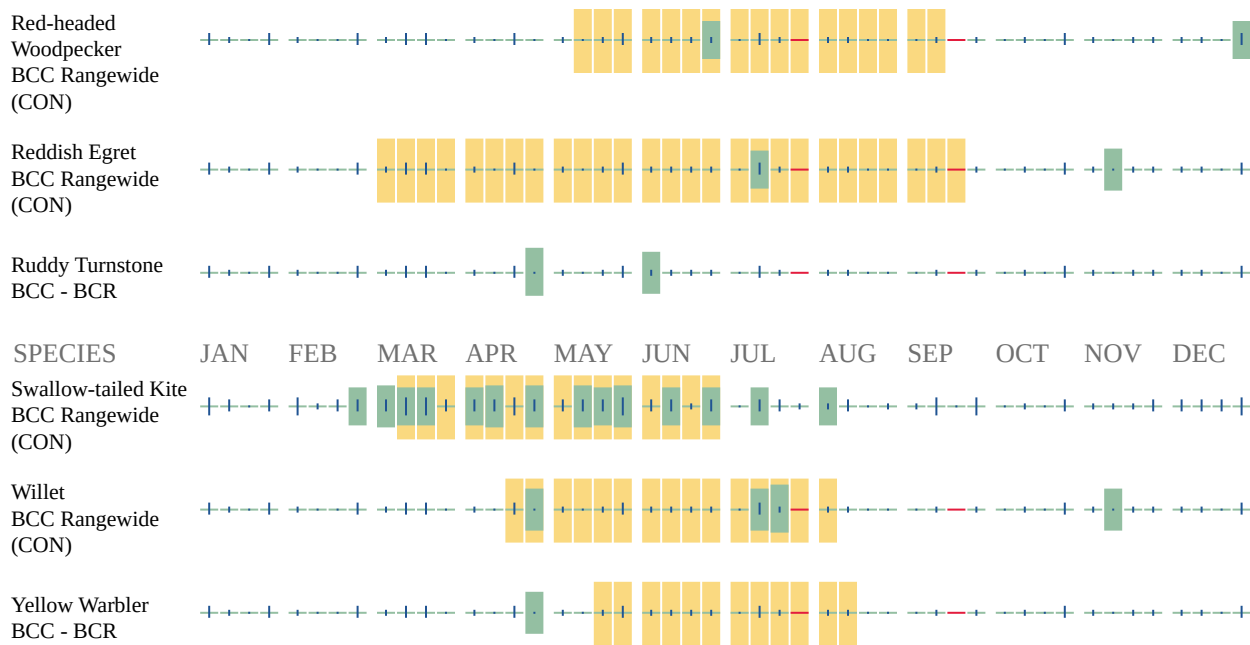
Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.



Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
 2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
 3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).
-

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Appendix C – Affect Determination Keys

**THE CORPS OF ENGINEERS, JACKSONVILLE DISTRICT, U. S. FISH AND
WILDLIFE SERVICE, JACKSONVILLE ECOLOGICAL SERVICES FIELD
OFFICE AND STATE OF FLORIDA EFFECT DETERMINATION KEY FOR
THE WOOD STORK IN CENTRAL AND NORTH PENINSULAR FLORIDA
September 2008**

Purpose and Background

The purpose of this document is to provide a tool to improve the timing and consistency of review of Federal and State permit applications and Federal civil works projects, for potential effects of these projects on the endangered wood stork (*Mycteria americana*) within the Jacksonville Ecological Services Field Office (JAFL) geographic area of responsibility (GAR see below). The key is designed primarily for Corps Project Managers in the Regulatory and Planning Divisions and the Florida Department of Environmental Protection or its authorized designee, or Water Management Districts. The tool consists of the following dichotomous key and reference material. The key is intended to be used to evaluate permit applications and Corps' civil works projects for impacts potentially affecting wood storks or their wetland habitats. At certain steps in the key, the user is referred to graphics depicting known wood stork nesting colonies and their core foraging areas (CFA), footnotes, and other support documents. The graphics and supporting documents may be downloaded from the Corps' web page at <http://www.saj.usace.army.mil/permit> or at the JAFL web site at <http://www.fws.gov/northflorida/WoodStorks>. We intend to utilize the most recent information for both the graphics and supporting information; so should this information be updated, we will modify it accordingly. **Note: This information is provided as an aid to project review and analysis, and is not intended to substitute for a comprehensive biological assessment of potential project impacts. Such assessments are site-specific and usually generated by the project applicant or, in the case of civil works projects, by the Corps or project co-sponsor.**

Explanatory footnotes provided in the key must be closely followed whenever encountered.

Scope of the key

This key should only be used in the review of permit applications for effects determinations on wood storks within the JAFL GAR, and not for other listed species. Counties within the JAFL GAR include Alachua, Baker, Bradford, Brevard, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Hernando, Hillsborough, Lafayette, Lake, Levy, Madison, Manatee, Marion, Nassau, Orange, Pasco, Pinellas, Putnam, St. Johns, Seminole, Sumter, Suwannee, Taylor, Union, and Volusia.

The final effect determination will be based on project location and description, the potential effects to wood storks, and any measures (for example project components, special permit conditions) that avoid or minimize direct, indirect, and/or cumulative

impacts to wood storks and/or suitable wood stork foraging habitat. Projects that key to a “no effect” determination do not require additional consultation or coordination with the JAFL. Projects that key to “NLAA” also do not need further consultation; however, the JAFL staff will assist the Corps if requested, to answer questions regarding the appropriateness of mitigation options. Projects that key to a “may affect” determination equate to “likely to adversely affect” situations, and those projects should not be processed under the SPGP or any other programmatic general permit. For all “may affect” determinations, Corps Project Managers should request the JAFL to initiate formal consultation on the Wood stork.

Summary of General Wood Stork Nesting and Foraging Habitat Information

The wood stork is primarily associated with freshwater and estuarine habitats that are used for nesting, roosting, and foraging. Wood storks typically nest colonially in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water (Ogden 1991; Rodgers et al. 1996). Successful breeding sites are those that have limited human disturbance and low exposure to land based predators. Nesting sites protected from land-based predators are characterized as those surrounded by large expanses of open water or where the nest trees are inundated at the onset of nesting and remain inundated throughout most of the breeding cycle. These colonies have water depths between 0.9 and 1.5 meters (3 and 5 feet) during the breeding season.

In addition to limited human disturbance and land-based predation, successful nesting depends on the availability of suitable foraging habitat. Such habitat generally results from a combination of average or above-average rainfall during the summer rainy season, and an absence of unusually rainy or cold weather during the winter-spring breeding season (Kahl 1964; Rodgers et al. 1987). This pattern produces widespread and prolonged flooding of summer marshes that tends to maximize production of freshwater fishes, followed by steady drying that concentrate fish during the season when storks nest (Kahl 1964). Successful nesting colonies are those that have a large number of foraging sites. To maintain a wide range of foraging opportunities, a variety of wetland habitats exhibiting short and long hydroperiods should be present. In terms of wood stork foraging, the Service (1999) describes a short hydroperiod as one where a wetland fluctuates between wet and dry in 1 to 5-month cycles, and a long hydroperiod where the wet period is greater than five consecutive months. Wood storks during the wet season generally feed in the shallow water of short-hydroperiod wetlands and in coastal habitats during low tide. During the dry season, foraging shifts to longer hydroperiod interior wetlands as they progressively dry down (though usually retaining some surface water throughout the dry season).

Because of their specialized feeding behavior, wood storks forage most effectively in shallow-water areas with highly concentrated prey. Typical foraging sites for the wood stork include freshwater marshes, depressions in cypress heads, swamp sloughs, managed impoundments, stock ponds, shallow-seasonally flooded roadside or agricultural ditches, and narrow tidal creeks or shallow tidal pools. Good foraging conditions are characterized by water that is relatively calm, open, and having water depths between 5 and 15 inches (5 and 38 cm). Preferred foraging habitat includes wetlands exhibiting a mosaic of submerged and/or emergent aquatic vegetation, and shallow, open-water areas subject to hydrologic

regimes ranging from dry to wet. The vegetative component provides nursery habitat for small fish, frogs, and other aquatic prey, and the shallow, open-water areas provide sites for concentration of the prey during daily or seasonal low water periods.

WOOD STORK KEY

Although designed primarily for use by Corps Project Managers in the Regulatory and Planning Divisions, and State Regulatory agencies or their designees, project permit applicants and co-sponsors of civil works projects may find this key and its supporting documents useful in identifying potential project impacts to wood storks, and planning how best to avoid, minimize, or compensate for any identified adverse effects.

- A. Project within 2,500 feet of an active colony site¹.....*May affect*
Project more than 2,500 feet from a colony site.....go to B
- B. Project does not affect suitable foraging habitat² (SFH).....*no effect*
Project impacts SFH².....go to C
- C. Project impacts to SFH are less than or equal to 0.5 acre³.....*NLAA*⁴
Project impacts to SFH are greater than or equal to 0.5 acre.....go to D
- D. Project impacts to SFH not within a Core Foraging Area⁵ (see attached map) of a colony site, and no wood storks have been documented foraging on site.....*NLAA*⁴
Project impacts to SFH are within the CFA of a colony site, or wood storks have been documented foraging on a project site outside the CFAgo to E
- E. Project provides SFH compensation within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank preferably within the CFA, or consists of SFH compensation within the CFA consisting of enhancement, restoration or creation in a project phased approach that provides an amount of habitat and foraging function equivalent to that of impacted SFH (see *Wood Stork Foraging Habitat Assessment Procedure*⁶ for guidance), is not contrary to the Service's *Habitat Management Guidelines For The Wood Stork In The Southeast Region* and in accordance with the CWA section 404(b)(1) guidelines.....*NLAA*⁴
Project does not satisfy these elements.....*May affect*

¹ An active nesting site is defined as a site currently supporting breeding pairs of wood storks, or has supported breeding wood storks at least once during the preceding 10-year period.

² Suitable foraging habitat (SFH) is described as any area containing patches of relatively open (< 25% aquatic vegetation), calm water, and having a permanent or seasonal water depth between 2 and 15 inches (5 to 38 cm). SFH supports and concentrates, or is capable of supporting and concentrating small fish, frogs, and other aquatic prey. Examples of SFH include, but are not limited to, freshwater marshes and stock ponds, shallow, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs. See above *Summary of General Wood Stork Nesting and Foraging Habitat Information*.

³ On an individual basis, projects that impact less than 0.5 acre of SFH generally will not have a measurable effect on wood storks, although we request the Corps to require mitigation for these losses when appropriate. Wood Storks are a wide ranging species, and individually, habitat change from impacts to less than 0.5 acre of SFH is not likely to adversely affect wood storks. However, collectively they may have an effect and therefore regular monitoring and reporting of these effects are important.

⁴ Upon Corps receipt of a general concurrence issued by the JAFL through the Programmatic Concurrence on this key, "NLAA" determinations for projects made pursuant to this key require no further consultation with the JAFL.

⁵ The U.S. Fish and Wildlife Service (Service) has identified core foraging area (CFA) around all known wood stork nesting colonies that is important for reproductive success. In Central Florida, CFAs include suitable foraging habitat (SFH) within a 15-mile radius of the nest colony; CFAs in North Florida include SFH within a 13-mile radius of a colony. The referenced map provides locations of known colonies and their CFAs throughout Florida documented as active within the last 10 years. The Service believes loss of suitable foraging wetlands within these CFAs may reduce foraging opportunities for the wood stork.

⁶This draft document, *Wood Stork Foraging Habitat Assessment Procedure*, by Passarella and Associates, Incorporated, may serve as further guidance in ascertaining wetland foraging value to wood storks and compensating for impacts to wood stork foraging habitat.

Monitoring and Reporting Effects

For the Service to monitor cumulative effects, it is important for the Corps to monitor the number of permits and provide information to the Service regarding the number of permits issued that were determined "may affect, not likely to adversely affect." It is requested that information on date, Corps identification number, project acreage, project wetland acreage, and latitude and longitude in decimal degrees be sent to the Service quarterly.

Literature Cited

Kahl, M.P., Jr. 1964. Food ecology of the wood stork (*Mycteria americana*) in Florida. *Ecological Monographs* 34:97-117.

Ogden, J.C. 1991. Nesting by wood storks in natural, altered, and artificial wetlands in central and northern Florida. *Colonial Waterbirds* 14:39-45.

Rodgers, J.A. Jr., A.S. Wenner, and S.T. Schwikert. 1987. Population dynamics of wood storks in northern and central Florida, USA. *Colonial Waterbirds* 10:151-156.

Rodgers, J.A., Jr., S.T. Schwikert, and A. Shapiro-Wenner. 1996. Nesting habitat of wood storks in north and central Florida, USA. *Colonial Waterbirds* 19:1-21.

U.S. Fish and Wildlife Service. 1999. South Florida multi-species recovery plan. Fish and Wildlife Service; Atlanta, Georgia. Available from:
<http://verobeach.fws.gov/Programs/Recovery/vbms5.html>.



United States Department of the Interior

U. S. FISH AND WILDLIFE SERVICE

7915 BAYMEADOWS WAY, SUITE 200
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

August 13, 2013

Colonel Alan M. Dodd, District Engineer
Department of the Army
Jacksonville District Corps of Engineers
P.O Box 4970
Jacksonville, Florida 32232-0019
(Attn: Mr. David S. Hobbie)

RE: Update Addendum to USFWS Concurrence Letter to U.S. Army Corps of Engineers
Regarding Use of the Attached Eastern Indigo Snake Programmatic Effect Determination Key

Dear Colonel Dodd:

This letter is to amend the January 25, 2010, letter to the U.S. Army Corps of Engineers regarding the use of the attached eastern indigo snake programmatic effect determination key (key). It supersedes the update addendum issued January 5, 2012.

We have evaluated the original programmatic concurrence and find it suitable and appropriate to extend its use to the remainder of Florida covered by the Panama City Ecological Services Office.

On Page 2

The following replaces the last paragraph above the signatures:

“Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to Annie Dziergowski (North Florida ESO) at 904-731-3089, Harold Mitchell (Panama City ESO) at 850-769-0552, or Victoria Foster (South Florida ESO) at 772-469-4269.”

On Page 3

The following replaces both paragraphs under “Scope of the key”:

“This key should be used only in the review of permit applications for effects determinations for the eastern indigo snake within the State of Florida, and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH).”

On Page 4

The following replaces the first paragraph under Conservation Measures:

“The Service routinely concurs with the Corps’ “not likely to adversely affect” (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that

our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2013) located at: <http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes.htm> will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake.”

On Page 4 and Page 5 (Couplet D)

The following replaces D. under Conservation Measures:

D. The project will impact less than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or less than 25 active and inactive gopher tortoise burrows.....go to E

The project will impact more than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested²..... ”may affect”


On Page 5

The following replaces footnote #3:

“³If excavating potentially occupied burrows, active or inactive, individuals must first obtain state authorization via a FWC Authorized Gopher Tortoise Agent permit. The excavation method selected should also minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the most current Gopher Tortoise Permitting Guidelines found at <http://myfwc.com/gophertortoise> .”

Thank you for making these amendments concerning the Eastern Indigo Snake Key. If you have any questions, please contact Jodie Smithem of my staff at the address on the letterhead, by email at jodie_smithem@fws.gov, or by calling (904)731-3134.

Sincerely,



Dawn Jennings
Acting Field Supervisor

cc:

- Panama City Ecological Services Field Office, Panama City, FL
- South Florida Ecological Services Field Office, Vero Beach, FL



United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960



January 25, 2010

David S. Hobbie
Chief, Regulatory Division
U.S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Service Federal Activity Code: 41420-2009-FA-0642

Service Consultation Code: 41420-2009-I-0467

41910-2010-I-0045

Subject: North and South Florida
Ecological Services Field Offices
Programmatic Concurrence for Use
of Original Eastern Indigo Snake
Key(s) Until Further Notice

Dear Mr. Hobbie:

The U.S. Fish and Wildlife Service's (Service) South and North Florida Ecological Services Field Offices (FO), through consultation with the U.S. Army Corps of Engineers Jacksonville District (Corps), propose revision to both Programmatic concurrence letters/keys for the federally threatened Eastern Indigo Snake (*Drymarchon corais couperi*), (indigo snake), and now provide one key for both FO's. The original programmatic key was issued by the South Florida FO on November 9, 2007. The North Florida FO issued a revised version of the original key on September 18, 2008. Both keys were similar in content, but reflected differences in geographic work areas between the two Field Offices. The enclosed key satisfies each office's responsibilities under the Endangered Species Act of 1973, as amended (Act) (87 Stat. 884; 16 U.S.C.1531 *et seq.*).

Footnote number 3 in the original keys indicated "A member of the excavation team should be authorized for Incidental Take during excavation through either a section 10(a)(1)(A) permit issued by the Service or an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission (FWC)." We have removed this reference to a Service issued Section 10(a)(1)(A) permit, as one is not necessary for this activity. We also referenced the FWC's revised April 2009 Gopher Tortoise Permitting Guidelines with a link to their website for updated excavation guidance, and have provided a website link to our Standard Protection Measures. All other conditions and criteria apply.

We believe the implementation of the attached key achieves our mutual goal for all users to make consistent effect determinations regarding this species. The use of this key for review of projects

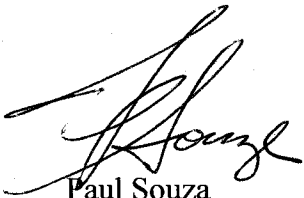
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located in all referenced counties in our respective geographic work areas leads the Service to concur with the Corps' determination of "may affect, not likely to adversely affect" (MANLAA) for the Eastern indigo snake. The biological rationale for the determinations is contained within the referenced documents and is submitted in accordance with section 7 of the Act.

Should circumstances change or new information become available regarding the eastern indigo snake or implementation of the key, the determinations may be reconsidered as deemed necessary.

Thank you for your continued cooperation in the effort to conserve fish and wildlife resources. Any questions or comments should be directed to either Allen Webb (Vero Beach) at 772-562-3909, extension 246, or Jay Herrington (Jacksonville) at 904-731-3326.

Sincerely,



Paul Souza
Field Supervisor
South Florida Ecological Services Office



David L. Hankla
Field Supervisor
North Florida Ecological Services Office

Enclosure

cc: electronic only
FWC, Tallahassee, Florida (Dr. Elsa Haubold)
Service, Jacksonville, Florida (Jay Herrington)
Service, Vero Beach, Florida (Sandra Sneckenberger)

Eastern Indigo Snake Programmatic Effect Determination Key

Scope of the key

This key should be used only in the review of permit applications for effects determinations within the North and South Florida Ecological Services Field Offices Geographic Areas of Responsibility (GAR), and not for other listed species or for aquatic resources such as Essential Fish Habitat (EFH). Counties within the **North** Florida GAR include Alachua, Baker, Bradford, Brevard, Citrus, Clay, Columbia, Dixie, Duval, Flagler, Gilchrist, Hamilton, Hernando, Hillsborough, Lafayette, Lake, Levy, Madison, Manatee, Marion, Nassau, Orange, Pasco, Pinellas, Putnam, St. Johns, Seminole, Sumter, Suwannee, Taylor, Union, and Volusia.

Counties in the **South** Florida GAR include Broward, Charlotte, Collier, De Soto, Glades, Hardee, Hendry, Highlands, Lee, Indian River, Martin, Miami-Dade, Monroe, Okeechobee, Osceola, Palm Beach, Polk, Sarasota, St. Lucie.

Habitat

Over most of its range, the eastern indigo snake frequents several habitat types, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats (Service 1999). Eastern indigo snakes appear to need a mosaic of habitats to complete their life cycle. Wherever the eastern indigo snake occurs in xeric habitats, it is closely associated with the gopher tortoise (*Gopherus polyphemus*), the burrows of which provide shelter from winter cold and summer desiccation (Speake et al. 1978; Layne and Steiner 1996). Interspersion of tortoise-inhabited uplands and wetlands improves habitat quality for this species (Landers and Speake 1980; Auffenberg and Franz 1982).

In south Florida, agricultural sites, such as sugar cane fields, created in former wetland areas are occupied by eastern indigo snakes (Enge pers. comm. 2007). Formerly, indigo snakes would have only occupied higher elevation sites within the wetlands. The introduction of agriculture and its associated canal systems has resulted in an increase in rodents and other species of snakes that are prey for eastern indigo snakes. The result is that indigos occur at higher densities in these areas than they did historically.

Even though thermal stress may not be a limiting factor throughout the year in south Florida, indigo snakes still seek and use underground refugia. On the sandy central ridge of central Florida, eastern indigos use gopher tortoise burrows more (62 percent) than other underground refugia (Layne and Steiner 1996). Other underground refugia used include armadillo (*Dasypus novemcinctus*) burrows near citrus groves, cotton rat (*Sigmodon hispidus*) burrows, and land crab (*Cardisoma guanhumii*) burrows in coastal areas (Service 2006). Natural ground holes, hollows at the base of trees or shrubs, ground litter, trash piles, and crevices of rock-lined ditch walls are also used (Layne and Steiner 1996). These refugia are used most frequently where tortoise burrows are not available, principally in low-lying areas off the central and coastal ridges. In extreme south Florida (the Everglades and Florida Keys), indigo snakes are found in tropical

hardwood hammocks, pine rocklands, freshwater marshes, abandoned agricultural land, coastal prairie, mangrove swamps, and human-altered habitats (Steiner et al. 1983). It is suspected that they prefer hammocks and pine forests, because most observations occur in these habitats disproportionately to their presence in the landscape (Steiner et al. 1983). Hammocks may be important breeding areas as juveniles are typically found there. The eastern indigo snake is a snake-eater so the presence of other snake species may be a good indicator of habitat quality.

Conservation Measures

The Service routinely concurs with the Corps' "not likely to adversely affect" (NLAA) determination for individual project effects to the eastern indigo snake when assurances are given that our *Standard Protection Measures for the Eastern Indigo Snake* (Service 2004) located at: <http://www.fws.gov/northflorida/IndigoSnakes/indigo-snakes> will be used during project site preparation and project construction. There is no designated critical habitat for the eastern indigo snake.

In an effort to reduce correspondence in effect determinations and responses, the Service is providing an Eastern Indigo Snake Effect Determination Key, similar in utility to the West Indian Manatee Effect Determination Key and the Wood Stork Effect Determination Keys presently being utilized by the Corps. If the use of this key results in a Corps' determination of "no effect" for a particular project, the Service supports this determination. If the use of this Key results in a determination of NLAA, the Service concurs with this determination and no additional correspondence will be necessary¹. This key is subject to revisitation as the Corps and Service deem necessary.

- A. Project is not located in open water or salt marsh.....go to B
 Project is located solely in open water or salt marsh..... "no effect"
- B. Permit will be conditioned for use of the Service's *Standard Protection Measures For The Eastern Indigo Snake* during site preparation and project construction.....go to C
 Permit will not be conditioned as above for the eastern indigo snake, or it is not known whether an applicant intends to use these measures and consultation with the Service is requested² "may affect"
- C. There are gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activitiesgo to D
 There are no gopher tortoise burrows, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities "NLAA"
- D. The project will impact less than 25 acres of xeric habitat supporting less than 25 active and inactive gopher tortoise burrows.....go to E

The project will impact more than 25 acres of xeric habitat or more than 25 active and inactive gopher tortoise burrows and consultation with the Service is requested²..... "may affect"

- E. Any permit will be conditioned such that all gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity of the burrow³. If an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit will also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows will be inspected each morning before planned site manipulation of a particular area, and, if occupied by an indigo snake, no work will commence until the snake has vacated the vicinity of proposed work..... "NLAA"

Permit will not be conditioned as outlined above and consultation with the Service is requested² "may affect"

¹With an outcome of "no effect" or "NLAA" as outlined in this key, the requirements of section 7 of the Act are fulfilled for the eastern indigo snake and no further action is required.

²Consultation may be concluded informally or formally depending on project impacts.

³ If burrow excavation is utilized, it should be performed by experienced personnel. The method used should minimize the potential for injury of an indigo snake. Applicants should follow the excavation guidance provided within the Florida Fish and Wildlife Conservation Commission's revised April 2009 Gopher Tortoise Permitting Guidelines located at http://myfwc.com/License/Permits_ProtectedWildlife.htm#gophertortoise. A member of the excavation team should be authorized for Incidental Take during excavation through an incidental take permit issued by the Florida Fish and Wildlife Conservation Commission.

Appendix D – Species Protection Measures

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

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

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

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

POSTER INFORMATION

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

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

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

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

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

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

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

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

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

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

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

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

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

PRE-CONSTRUCTION ACTIVITIES

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

DURING CONSTRUCTION ACTIVITIES

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

POST CONSTRUCTION ACTIVITIES

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

Appendix D – Cultural Resources Memo

Cultural Resources Technical Memorandum

Lorraine Road

Project Development and Corridor Study Report

October 2021



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Executive Summary

Manatee County conducted a Project Development and Corridor Study (Study) to develop alternatives along Lorraine Road for reducing congestion, improving safety and operational performance, and addressing future transportation needs. The project limits extend from 59th Avenue East to SR 64, providing additional capacity between SR 70 and SR 64 in Bradenton, Manatee County, Florida. Manatee County will use the results of the Study to evaluate alternatives to avoid or minimize impacts to environmental sensitive areas.

To support the Study, background research was conducted to identify known cultural resources within the corridor study area (Study Area) that have the potential to be impacted by the proposed project improvements. The background research informed recommendations for future cultural resources surveys (archaeological and architectural) in the Study Area. For this project, the Study Area comprises a 500-foot buffer on either side of the existing Lorraine Road centerline.

The desktop review revealed that previous archaeological surveys have been performed within much of the Study Area over the past 20 years. One known archaeological site, Site 8MA00036, is located in the Study Area. Site 8MA00036 has not been evaluated for inclusion in the National Register of Historic Places (NRHP). An archaeological survey of the undisturbed portion of the Study Area and a revisit to Site 8MA00036 is recommended. It is advised that should any archaeological materials be identified during construction, all construction should cease, and the Florida Division of Historic Resources should be notified.

No historic-age architectural resources have been previously recorded in the Study Area. A review of Manatee County Appraisal District data online showed 13 historic-age buildings (those constructed in 1976 or before) that have not been previously surveyed in the Study Area. Given the presence of previously unrecorded historic-age architectural resources in the Study Area, an architectural resources survey may also be necessary to survey those resources and evaluate their eligibility for listing in the NRHP, depending on the final project design and potential impacts to historic-age architectural resources.

1.0 Introduction

Manatee County conducted a Project Development and Corridor Study (Study) to develop alternatives along Lorraine Road for reducing congestion, improving safety and operational performance, and addressing future transportation needs. The project limits extend from 59th Avenue East to SR 64, providing additional capacity between SR 70 and SR 64 in Bradenton, Manatee County, Florida, as shown in **Figure 1**. Manatee County will use the results of the Study to evaluate alternatives to avoid or minimize impacts to environmental sensitive areas.

To support the Study, background research was conducted to identify known cultural resources within the corridor study area (Study Area) that have the potential to be impacted by the proposed project improvements. The background research informed recommendations for future cultural resources surveys (archaeological and architectural) in the Study Area. For this project, the Study Area comprises a 500-foot buffer on either side of the existing Lorraine Road centerline.

1.1 Purpose

The primary purpose of the Lorraine Road improvements is to provide congestion relief by providing additional capacity between SR 70 and SR 64. Located between the Manatee River and SR70, additional capacity along Lorraine Road would provide relief to existing major north-south corridors, such as Interstate 75 (I-75) and Lakewood Ranch Boulevard. The project would also connect to four-lane east-west corridors 44th Avenue East and Rangeland Parkway.

2.0 Environmental Setting

The majority of the Study Area is underlain by undifferentiated quaternary sediments of Pleistocene and Holocene age (USGS 2021). The remaining portions are underlain by shelly sediments of Plio-Pleistocene age and the Hawthorn Group of the Arcadia Formation of Oligocene and Miocene age (USGS 2021). According to the University of California and U.S. Department of Agriculture Natural Resources Conservation Service Soil Web (2019), five mapped soil units occur within the Study Area, as listed in Table 1. Additionally, the corridor Study Area crosses Mill Creek.

Table 1 | Mapped Soil Units in the Study Area

Map Symbol	Soil Unit	Landforms
30	Myakka-Myakka wet, fine sands, 0 to 2 percent slopes	Flatwoods
7	Canova, Anclote, and Okeelanta soils	Depressions
35	Ona fine sand, orstein substratum	Flatwoods
24	Felda-Wabasso association, frequently flooded	Flood plains
11	Cassia fine sand, 0 to 2 percent slopes	Marine terraces



Figure 1 | Project Location

3.0 Methodology

A desktop review was completed to identify known cultural resources within the Lorraine Road Study Area, and within 1 mile of the Study Area boundaries. The desktop review consisted of a search of Florida Master Site File (FMSF) records to identify previous cultural resources surveys conducted in the Study Area and vicinity, and previously recorded archaeological sites and architectural resources (buildings and structures) in those areas. Manatee County Appraisal District data, and historic aerials and United States Geological Survey (USGS) maps available online, were used to identify historic-age buildings in the Study Area.

4.0 Findings

4.1 Cultural Resource Surveys

At the time of the desktop review, FMSF data revealed the boundaries of 30 previous cultural resources surveys overlap the 1-mile search area. Eight of the 30 previous survey areas partially overlap the Study Area. Previous surveys partially overlap approximately 2.25 miles of the 2.9-mile long Study Area corridor. The remaining unsurveyed segments of the corridor include an undisturbed area that measures approximately 580 feet in length. The locations of the 30 previous surveys are shown in **Figure 2**. Details for all previous surveys within 1 mile of the Study Area are listed in **Table 2**.

4.2 Archaeological Sites

FMSF data shows two archaeological sites within 1 mile of the Study Area. One of those sites, Site 8MA00036, is located within the Study Area. There is little detail recorded about Site 8MA00036 in the FMSF records, and the site has not been evaluated for National Register of Historic Places (NRHP) eligibility. Details for both sites within 1 mile of the Study Area are listed in **Table 3**.

4.3 Resource Groups

FMSF shows one resource group located within 1 mile of the Study Area. Resource group MA01906 (SR 70 [53rd Avenue E]) is located approximately 0.15 mile south of the Study Area, and it has been evaluated as ineligible for inclusion in the NRHP.

4.4 Historic-age Architectural Resources

4.4.1 Previously Recorded Historic-age Architectural Resources

FMSF data shows no previously recorded historic-age architectural resources in or within 1 mile of the Study Area.

4.4.2 Unrecorded Historic-age Architectural Resources

For projects requiring compliance with Section 106 of the National Historic Preservation Act (NHPA), an Area of Potential Effects (APE) is defined to assess potential effects of the project on historic properties. An APE is defined as the geographic area or areas within which a project may directly or indirectly cause alterations in the character or use of historic properties, including changes to historic setting via visual impacts. All buildings and structures (including bridges) 50 years of age or older in the APE must be identified, surveyed, and evaluated for potential eligibility for listing in the NRHP. For most projects, a five-year buffer is applied to allow for project completion, meaning all resources 45 years of age or older (built in 1976 or earlier) in the APE should be recorded and evaluated as part of a cultural resources survey.

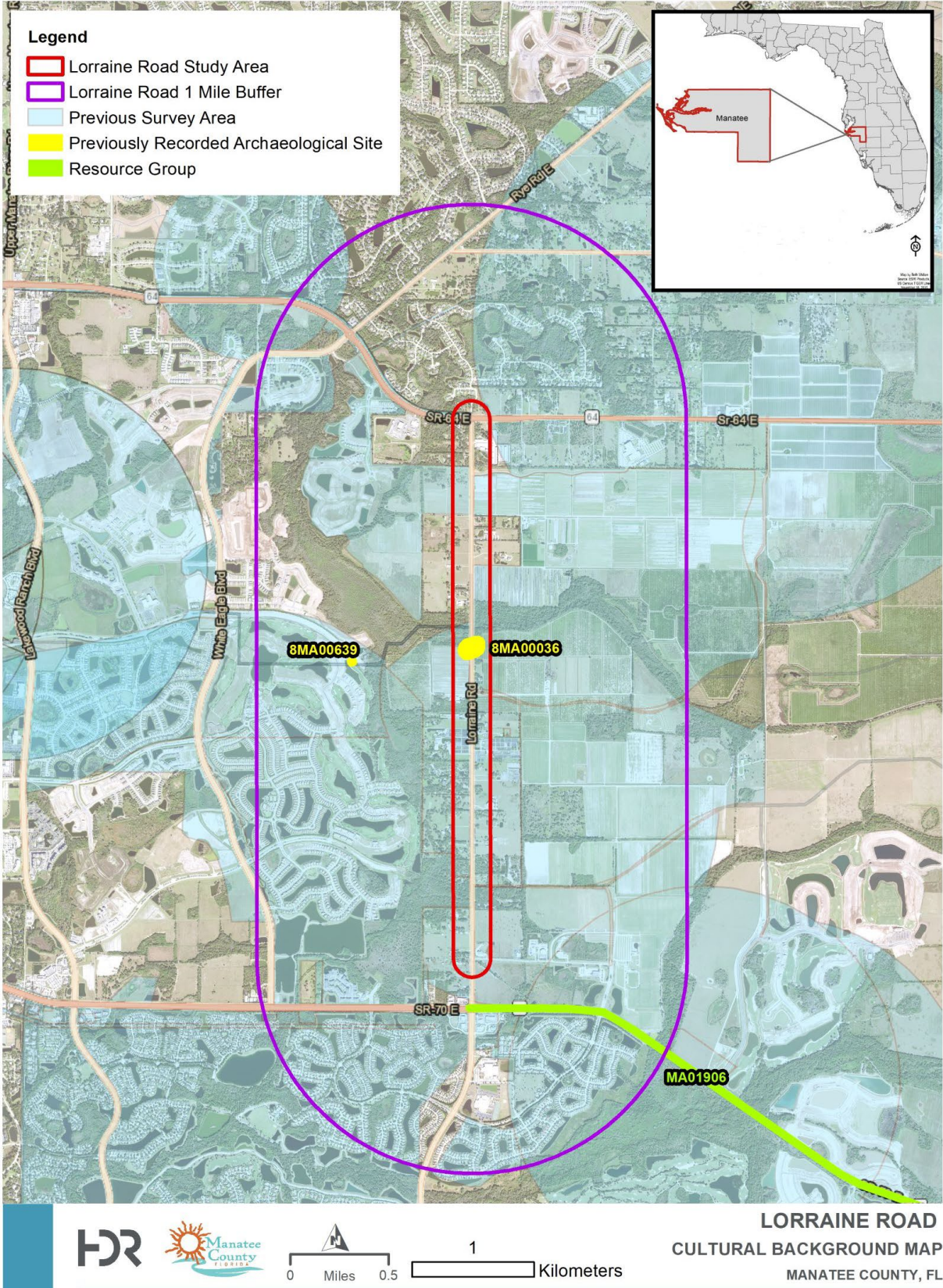


Figure 2 | Cultural Resources and Previous Surveys within 1 Mile of the Study Area

Table 2 | Previous Cultural Resources Surveys Conducted within 1 Mile of the Study Area

ID	Agency	Report Title	Contractor	Year	Comments
26843	-	Archaeological Records Check & Site Evaluation for the Proposed Rye Road Telecommunications Tower Site, 14710 SR 64E, Bradenton, Manatee County, Florida	RESCOM Environmental Corp.	2020	-
26078	-	Cultural Resources Assessment Survey, Project Development and Environment (PD&E) Study SR 70 from Lorraine road to CR 765/Waterbury Road Manatee County, Florida; Financial Project ID.:414506-2-22-01	Archaeological Consultants, Inc.	2019	-
24717	-	Cultural Resources Assessment Survey, NE Sector Roadways, Manatee County Florida	Archaeological Consultants, Inc.	2018	-
25274	-	Esplanade at Lakewood Branch, Manatee, FL Cultural Resources Assessment Survey	-	2018	Overlaps approx. 0.84 mi (1.35 km) of the Study Area
24174	-	A Cultural Resource Assessment Survey of Lennar Lakewood Ranch Project Area in Manatee County, Florida	Panamerican Consultants, Inc.	2017	-
23645	-	Section 106 Review. Form 620 NWF193 - Hwy 70 Site, Manatee County, FL, North American Towers LLC., DEA No. 21608004, Prepare for North Towers LLC, Prepared by Dynamic Environmental Associates, Inc.	Dynamic Environmental Associates, Inc.	2016	Overlaps approx.. 360 ft (110 m) of the Study Area
23124	-	Cultural Resources Assessment Survey, Technical Memorandum, Proposed	Archaeological Consultants, Inc.	2016	-

		Roundabout at SR 64 and Rye Road, Manatee County, Florida; Financial Project ID No.: 196022-5-22-01			
21810	-	Cultural Resource Assessment Survey, White Eagle Boulevard (Phase III), Manatee County, Florida	Archaeological Consultants, Inc.	2015	-
21345	-	Cultural Resource Assessment Survey of River Sands, Manatee County, Florida	Archaeological Consultants, Inc.	2014	Overlaps approx. 0.25 mi (0.41 km) of the Study Area
19639	-	Cultural Resource Assessment Survey, Fort Hammer Bridge EIS, Manatee County, Florida	Archaeological Consultants, Inc.	2011	-
17678	-	Section 106 Review FCC Form 620 Taylor Ranch – Lorraine Site Manatee County, Florida T-Mobile Site No. A2F0765A DEA Project No. 20701034	Florida Archaeological Consulting, Inc.	2007	-
17978	-	Final Cultural Resource Assessment Survey FPD&E Study SR 64 to US 301- Manatee County	Archaeological Consultants, Inc.	2007	-
19514	-	Cultural Resource Assessment Survey of the Northwest Sector DRI Project Area, Manatee County	Janus Research	2004	Overlaps approx. 820 ft (250 m) of the Study Area
19926	-	Addendum to the Cultural Resource Assessment of the Northwest Sector PDA Project Area, Manatee County, Florida	Janus Research	2004	-
27197	-	Cultural Resource Assessment Surveys (CRAS) of the Royal Green Estates Project Area, Manatee County, Florida	Janus Research	2004	-
9200	-	Cultural Resource Assessment Survey of the Northwest Sector PDA Project Area, Manatee County	Janus Research	2003	-

9327	-	A Cultural Resource Assessment Survey of Five Proposed Pond Locations Along State Road 70 From Lakewood Ranch Boulevard to Lorraine Road in Manatee County, Florida	Panamerican Consultants, Inc.	2003	-
7244	-	Section 106 Review of Proposed Tower Site, Verizon Wireless – Schroder SR 70 - #086867-1, Bradenton, Manatee County FL	Florida Archaeological Consulting, Inc.	2002	-
7303	-	Raw Land- New Build FL- Lakewood-Ranch Tower Site Bradenton, Manatee County, Florida	Environmental Resource Management	2002	Overlaps approx. 1.84 mi (2.96 km) of the Study Area
7844	-	Cultural Resource Assessment Survey of Greenbrook East Addition to the Cypress Banks DRI, Manatee County	Janus Research	2002	-
7393	-	Cultural Resources Assessment/ Section 106 Review Proposed Cellular Tower: Foxleigh 12705 State Road 64 East, Bradenton, Manatee County, Florida	Archaeological Consultants, Inc.	2001	-
7916	-	Historic Properties Survey and Assessment of the One Mile Area of Potential Effects of the Proposed Schroder/SR 70 Telecommunications Tower, Manatee County, Florida	Florida Archaeological Consulting, Inc.	2001	-
7920	-	Proposed Tower: Rye & 64	Florida Archaeological Services, Inc.	2001	Overlaps approx.. 642 ft (196 m) of the Study Area
6066	-	Cultural Resources Assessment Survey for the State Road (SR) 70 PD&E Study from West of Interstate	Janus Research	2000	-

		75 to Lorraine Road in Manatee County, Florida			
6079	-	A Cultural Resource Assessment Survey S.R. 64 from East of I-75 to Lorraine Road, Manatee County, Florida	Archaeological Consultants, Inc.	2000	Overlaps approx.. 200 ft (61 m) of the Study Area
6141	-	CRS of Modifications to the Lake Wales Sarasota and Tampa South Laterals FGT Company Phase IV Expansion	Southeastern Archaeological Research, Inc.	2000	-
5699	-	Cultural Resource Survey and Evaluation Report of the Florida Gas Transmission Company Phase IV Expansion	Southeastern Archaeological Research, Inc.	1999	-
1293	-	Phase I Cultural Resources Assessment Survey of Manatee County Southeast Wastewater Treatment Plant effluent pipeline corridor, Manatee County, Florida	-	1986	Overlaps approx.. 0.60 mi (0.97 km) of the Study Area
2214	FDoT	The proposed multilaning of SR70 (Onepo Road), from SR683 (US301) to Lorraine Road, in Manatee County, Florida	-	1986	-

Table 3 | Previously Recorded Archaeological Sites Located within 1 mile of the Study Area

Identifier	Affiliation	Features/Function	NRHP Eligibility	Comments
8MA00036	Unknown	Low density artifact scatter	Unknown	Site Name "NN"; Crosses the Study Area
8MA00639	Prehistoric	Lithic scatter/quarry	Ineligible	Site Name "Pipeline"; Approx. 0.52 mi (0.84 km) from the Study Area

A review of Manatee County Appraisal District data online showed 13 buildings constructed in 1976 or before located within the Study Area (Table 4). All are residential in use. The oldest of the buildings was built in 1930. The most recently constructed was built in 1976. The final project design, including potential right-of-way (ROW) acquisitions and introduction of new vertical elements, would determine which, if any, of those buildings would be included in the APE for an historic-age resources architectural survey, in accordance with Section 106.

Table 4 | Previously Unrecorded Historic-Age Architectural Resources Located within Study Area

Address	Year Built	Classification
5557 Lorraine Rd., Bradenton	1958	Residential
5418 Lorraine Rd., Bradenton	1970	Residential
5401 Lorraine Rd., Bradenton	1975	Residential
5340 Lorraine Rd., Bradenton	1976	Residential
5315 Lorraine Rd., Bradenton	1975	Residential
5308 Lorraine Rd., Bradenton	1974	Residential
5115 Lorraine Rd., Bradenton	1975	Residential
5111 Lorraine Rd., Bradenton	1975	Residential
4304 Lorraine Rd., Bradenton	1957	Residential
4210 Lorraine Rd., Bradenton	1975	Residential
3519 Lorraine Rd., Bradenton	1974	Residential
14703 SR 64 E, Bradenton	1930	Residential
14427 SR 64 E, Bradenton	1974	Residential

5.0 Summary and Recommendations

The desktop review revealed that previous archaeological surveys have been performed for the majority of the Study Area within the last 20 years, and that a variety of cultural resources have been recorded within 1 mile of the Study Area. Approximately 0.65 miles of the length of the Study Area has not been previously surveyed. Of the un-surveyed area, approximately 580 feet is undisturbed. The undisturbed area also crosses an unnamed tributary of Mill Creek, which indicates a higher probability for undiscovered archaeological material. Additionally, archaeological Site 8MA00036 crosses the project area. However, there is little information recorded about the site, and it has not been evaluated for inclusion in the NRHP. An archaeological survey of the undisturbed portion of the Study Area and a revisit to Site 8MA00036 is recommended. Given the presence of previously unrecorded historic-age architectural resources in the Study Area, an architectural resources survey may also be necessary to survey those resources and evaluate their eligibility for listing in the National Register of Historic Places, depending on the final project design and potential impacts to historic-age architectural resources.

6.0 References

United States Geological Survey (USGS).

2021 Florida Geologic Map Data. Available online at <https://mrddata.usgs.gov/geology/state/state.php?state=FL>. Accessed July 2021.

University of California and United States Department of Agriculture Natural Resources Conservation Service (University of California, Davis, California Soil Resource Lab; University of California, Division of Agriculture and Natural Resources)

2019 SoilWeb. University of California; USDA-NRCS. Available online at <https://data.nal.usda.gov/dataset/soilweb>, accessed July 2021.



Appendix E – Contamination Screening Memo

Contamination Screening Technical Memorandum

Lorraine Road

Project Development and Corridor Study Report

September 2021



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Appendix A – EDR

Executive Summary

Manatee County conducted a Project Development and Corridor Study (Study) to develop alternatives along Lorraine Road for reducing congestion, improving safety and operational performance, and addressing future transportation needs. The project limits extend from 59th Avenue East to State Road (SR) 64, providing additional capacity between SR 70 and SR 64 in Bradenton, Manatee County, Florida.

A preliminary contamination screening was conducted for the project corridor to support the Study by identifying properties or facilities that have potential contamination that may affect the Lorraine Road corridor. The preliminary contamination screening was performed using the Florida Department of Transportation (FDOT) Project Development and Environment (PD&E) Manual, Chapter 20 as a guide. This preliminary screening uses the reporting format and standard environmental assessment practices of reviewing records of regulatory agencies, site reconnaissance, literature review and when necessary, personal interviews of individuals and business owners within the limits of the study area, outlined in the FDOT PD&E Manual, Chapter 20. However, this preliminary contamination screening is not considered a full Contamination Screening Evaluation Report as defined in the FDOT PD&E Manual.

Manatee County will use the results of the Study to evaluate alternatives to avoid or minimize impacts to environmental sensitive areas, including potential contamination concerns.

Twelve (12) sites were investigated along the project corridor for current or past operations that may present the potential for finding contamination concerns and therefore may impact proposed improvements for the study area. The following risk ratings have been applied:

Risk Rating	No. of Sites
High	0
Medium	3
Low	4
No	5

However, this list may need to be refined based on the project alternative selected to proceed.

For sites ranked No and Low for potential contamination, no further action is required at this time. These sites/facilities have the potential to impact the study area, but based on select variables have been determined to have low risk to the project at this time. Variables that may change the risk rating include a facility's non-compliance to environmental regulations, new discharges to the soil or groundwater, and modifications to current permits. Should any of these variables change, additional assessment of the facilities would be conducted.

For those locations with a risk rating of "Medium", field screening or a soil management plan may be needed depending on the locations of construction and intrusive activities proposed for the study area. These sites have been determined to have potential contaminants, which may impact the proposed construction. A soil and groundwater sampling plan may be needed for each site. The sampling plan should provide sufficient detail as to the number of soil and groundwater samples to be obtained and the specific analytical tests to be performed. A site location sketch for each facility showing all proposed boring locations and groundwater monitoring wells should also be included in the sampling plan.

Additional information may become available or site-specific conditions may change from the time this memorandum was prepared and should be considered prior to proceeding with roadway construction.

1.0 Introduction

Manatee County conducted a Project Development and Corridor Study (Study) to develop alternatives along Lorraine Road for reducing congestion, improving safety and operational performance, and addressing future transportation needs. The project limits extend from 59th Avenue East to SR 64, providing additional capacity between SR 70 and SR 64 in Bradenton, Manatee County, Florida, as shown in **Figure 1**.

This Contamination Technical Memorandum has been prepared to support the Study by identifying properties or facilities that have potential contamination/hazardous materials that may affect the corridor study area. Manatee County will use the results of the Study to evaluate alternatives to avoid or minimize impacts to environmental sensitive areas, including potential contamination concerns.

1.1 Purpose

The primary purpose of the Lorraine Road improvements is to provide congestion relief by providing additional capacity between SR 70 and SR 64. Located between the Manatee River and SR70, additional capacity along Lorraine Road would provide relief to existing major north-south corridors, such as Interstate 75 (I-75) and Lakewood Ranch Boulevard. The project would also connect to four-lane east-west corridors 44th Avenue East and Rangeland Parkway.

2.0 Methodology

A preliminary contamination screening of the corridor study area was conducted to determine the potential for contamination within the corridor right-of-way. A desktop review was performed of electronically available information on the Florida Department of Environmental Protection (FDEP) Oculus website. This review identified locations including but not limited to underground storage tanks (USTs), petroleum discharges, registered drycleaners, superfund sites, solid waste sites, and brownfield sites. The Florida Department of Transportation (FDOT) Project Development and Environment (PD&E) Manual Part 2 Chapter 20, Contamination provides a standard contamination screening buffer, an area within and adjacent to the project that should be evaluated for possible additional contamination assessment. The following buffer distances are recommended by FDOT and were used for the desktop review:

- 500 feet from the right-of-way line for petroleum, drycleaners, and non-petroleum sites. Corridor projects in heavily industrialized or urbanized areas with dewatering planned near the contaminated sites need to be addressed with FDEP, Water Management District, or the local delegated program lead.
- 1,000 feet from the right-of-way line for non-landfill solid waste sites (such as recycling facilities, transfer stations, and debris placement areas).
- 1/2 -mile (2,640 feet) from the right-of-way line for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) registered sites, National Priorities List (NPL) Superfund sites, or Landfill sites.

Additionally, an environmental database search was performed by Environmental Data Resources, Inc. The resulting Environmental Data Report (EDR), dated July 1, 2021 (provided in Appendix A), includes potential hazardous material and petroleum contamination sites that were listed in the United States Environmental Protection Agency (USEPA) and the FDEP databases. The databases listed in **Table 1** and **Table 2** were reviewed with the Oculus or EDR databases.

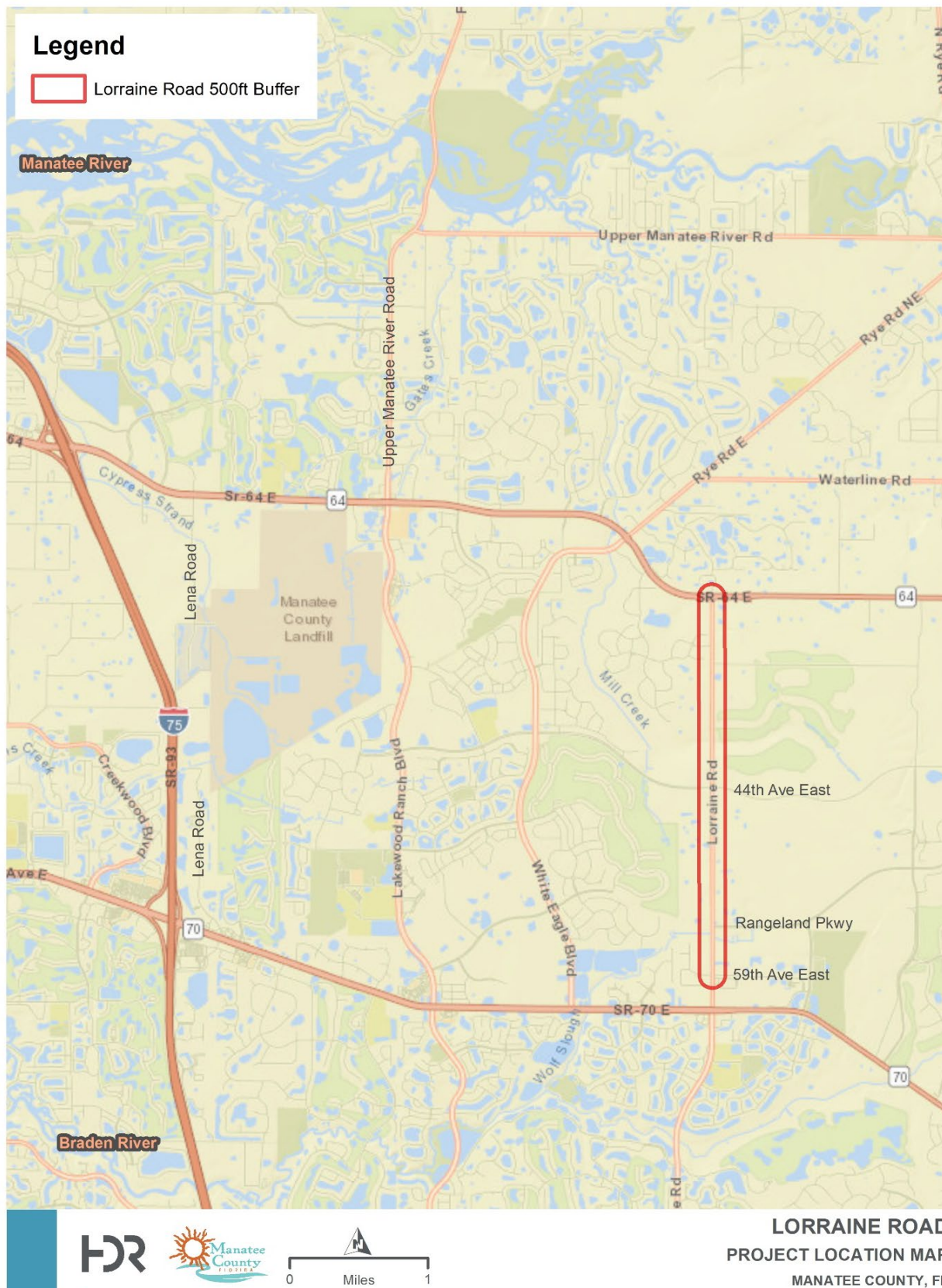


Figure 1 | Project Location

Table 1 | Federal Databases

Database Name	Database Description
National Priorities List (NPL)	This list contains facilities and/or locations where environmental contamination has been confirmed and prioritized for cleanup activities.
Comprehensive Environmental Response, Compensation and Liability Information System List (CERCLIS)	This Superfund database tracks facilities and/or locations that the USEPA is investigating to determine if an existing or threatened release of hazardous substances is present.
Records of Decisions (ROD) System	This system documents information relative to site history, community participation, enforcement activities, site characteristics, scope and role of response action, and remedies applied to Superfund sites.
Archived CERCLIS Sites (No Further Remedial Action Planned List (NFRAP))	This list contains archived data on CERCLIS sites where the USEPA has completed assessment activities and determined no further steps to list the site on the NPL will be taken.
Emergency Response Notification System (ERNS) List	This database stores information on the notification of oil discharges and hazardous substance releases. It is a cooperative data sharing effort among the USEPA, US Department of Transportation, and the National Response Center.
Resource Conservation and Recovery Information System (RCRIS) Handlers with Corrective Action Activity (CORRACTS)	This database lists hazardous waste handlers that have undergone Resource Conservation and Recovery Act (RCRA) corrective action activity.
Hazardous Waste Data Management System (HWDMS)	This historical database was replaced by the USEPA RCRA Information System (RCRIS). The HWDMS list formerly tracked sites involved in the generation, transportation, treatment, storage, and/or disposal of hazardous waste.
RCRA-Large Quantity Generator (LQG), Small Quantity Generator (SQG), Conditionally Exempt SQG and Transporters (NONTSD)	This list is a subset of the USEPA RCRIS list and identifies facilities that generate and transport hazardous wastes.
RCRA Treatment, Storage and/or Disposal Sites (TSD)	This list is a subset of the RCRIS and identifies facilities that treat, store, and/or dispose of hazardous waste.
RCRA Administrative Action Tracking System (RAATS)	This list is a historical RCRA enforcement database that tracked facilities found to be major violators under RCRA. Data entry in this database discontinued in 1995.
Tribal Lust List (TRIBLLUST)	This database lists active and closed storage tank facilities on Native American lands. The database is created by extracting records from the storage tank databases that have indicated current or past releases.
Tribal Tanks List (TRIBLTANKS)	This database lists active and closed storage tanks on Native American lands.

Facility Registry System (FRS)	The FRS is a centrally-managed database of sites regulated by Program Offices of the USEPA, such as air, water, and waste. The FRS has replaced the Facility Index System List (FINDS).
Toxic Release Inventory System (TRIS) List	This list identifies facilities that are required to submit annual reports relative to the estimated routine and accidental release of toxic chemicals to the environment, as stipulated under current federal laws.
Biennial Reporting System	This system collects data on the generation and management of hazardous waste from large quantity generators and treatment, storage, and disposal facilities. The data are reported on even years by the facilities to state environmental agencies that provide the information to regional and national USEPA offices.
PCB Activity Data System (PADS)	This list contains sites that have notified the USEPA of their activities relative to the generation, transportation, permitted storage, and permitted disposal of polychlorinated biphenyls (PCBs) under the Toxic Substances Control Act.
Permit Compliance System (PCS)	This is a data system for the National Pollutant Discharge Elimination System (NPDES) permit holding facilities.
Brownfields Management System (USBRWNFLDS)	This database stores information reported by USEPA brownfields grant recipients on brownfields properties assessed or cleanup up with grant funding.

Table 2 | State Databases

Database Name	Database Description
Underground/Aboveground Storage Tanks (TANKS)	This database contains sites with registered aboveground (AST) or underground storage tanks (UST) containing regulated petroleum products.
Leaking Underground Storage Tanks List (LUST)	This list identifies facilities and/or locations that have notified the FDEP of a possible release of contaminants from petroleum storage systems.
Solid Waste Facilities List (SLDWST)	This list identifies locations that have been permitted to conduct solid waste handling activities. Activities may include landfills, transfer stations, and sites handling bio-hazardous wastes.
State Sites List (STCERC)	This historical list contains sites that the Florida Department of Environmental Regulation (now FDEP) compiled to track suspect contamination sites. The FDER updated this list, previously known as the Florida SITES list, in 1989.
State Funded Action Sites (STNPL)	This list contains facilities and/or locations that have been identified by the FDEP as having known environmental contamination and are currently being addressed through state funded cleanup action.
State Hazardous Waste Notifiers (STRCRA)	This list identifies facilities that generate, transport, treat, store, and dispose of hazardous waste.
State Institutional and/or Engineering Controls (INSTENG)	This list contains sites that have had institutional and/or engineering controls implemented to regulate exposure to environmental hazards.

State Designated Brownfields (BRWNFLDS)	This database contains a listing of state-designated brownfield areas. Brownfield areas are typically abandoned, idled, or underused industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.
State Voluntary Cleanup (VOLCLNUP)	Derived from the FDEP Brownfields Site Rehabilitation Agreement database, the VOLCLNUP database identifies sites that have signed an agreement to voluntarily cleanup a brownfield site in accordance with the FDEP's requirements.
Florida Dry Cleaners List (DRY)	This list is comprised of data from the FDEP Storage Tank and Contamination Monitoring database and the Dry Cleaning Solvent Cleanup Program Priority Ranking List. This list contains dry cleaning sites (and suspected historical dry cleaning sites) that have registered with the FDEP for the Dry Cleaning Solvent Cleanup Program.

In addition to the database search of potential contamination sites, field reviews were conducted on August 10, 2021 to verify the locations of the sites included in the EDR and identified through the FDEP Oculus search. Site reconnaissance was completed from the public areas for each facility having the potential for contamination involvement of the corridor. The sites were evaluated for possible contamination risks to the project right-of-way and construction activities.

3.0 Risk Ratings

A hazardous materials rating system that expresses the degree of concern for potential contamination problems was used to rank the identified sites. The ratings are No, Low, Medium, and High and are generally explained as follows:

- No – A review of available information on the property and a review of the conceptual or design plans indicates there is minimal potential contamination impact to the project. It is possible that contaminants have been handled on the property. However, findings from this preliminary contamination screening indicate that contamination impacts are not expected.
- Low – A review of available information indicates that past or current activities on the property have an ongoing compliance or regulatory issue, the site has a hazardous waste generator identification (ID) number, or the site stores, handles, or manufacturers hazardous materials. However, based on the review of conceptual or design plans and/or findings from this preliminary contamination screening, it is not likely that there would be any contamination impacts to the project.
- Medium – After a review of conceptual or design plans and findings from a preliminary contamination screening, a potential contamination impact to the project has been identified. If there was insufficient information (such as regulatory records or site historical documents) to make a determination as to the potential for contamination impact, and there was reasonable suspicion that contamination may exist that would impact the proposed design and construction, the property was rated at least as a “Medium.” Properties used historically as gasoline stations and which have not been evaluated or assessed by regulatory agencies, sites with abandoned in place underground petroleum storage tanks or currently operating gasoline stations received this rating.

- High – After a review of all available information and conceptual or design plans, there is appropriate analytical data or regulatory information that shows contamination would impact construction activities, have implications to right-of-way acquisition or have other potential transfer of contamination related liability to the FDOT.

4.0 Findings

Following the desktop review, 12 sites were identified within the contamination screening buffer distances. Of the 12 sites, seven (7) were identified as having the potential for contamination concern to the corridor study area. Of the seven (7) sites investigated, the following risk ratings have been applied.

- Medium Risk Sites: Three (3) sites were identified as having a Medium risk to the project corridor.
- Low Risk Sites: Four (4) sites were identified as having a Low risk to the project corridor.

Table 3 lists the potential contamination sites along the project corridor. Individual site descriptions follow **Table 3**. No High-risk sites were identified. The location of these three Medium risk sites are shown in **Figure 2**. The remaining five sites would have No impact to the project corridor.

Table 3 | Summary of Potential Contamination Sites

Site No.	Site Name	Address	Oculus or EDR Database ¹	Distance from ROW	Details	Risk Rating
1	Union 76-Lorraine	14410 East State Road 64, Bradenton, FL 34212	UST, LUST	Within ROW	Historic Fuel Facility	Low
2	7-Eleven Store #38991	14427 East State Road 64, Bradenton, FL 34212	UST	300 ft	New Gas Station	Low
3	Lakewood Storage III/ Manatee River Groves, Inc.	2611 Lorraine Road, Bradenton, FL 34211 / 2327 Lorraine Road, Bradenton, FL 34212	FINDS, ECHO, AST	200 ft	Tank Closure/Construction Permit	Low
4	Jessie Caballero	3512 Lorraine Road, Bradenton, FL 34212	AST	Unknown	Historic Fuel Facility/Lack of Information	Medium
5	LDS Palmetto, University Park and Sarasota FL Stake	3704 Lorraine Road, Bradenton, FL 34211	ECHO, NPDES	250 ft	Construction Permit	No
6	Esplande at Azario Lakewood Ranch Golf	4025 Lorraine Road, Bradenton, FL 34211	AST	200 ft	Tank Violations	Medium
7	SMR Farms – Citrus Grove/Azario	4715 Lorraine Road, Bradenton, FL 34211	Tier 2, NPDES, FINDS, ECHO	100 ft	Construction Permit	No
8	JH Diesel and 4x4	4220 Lorraine Road, Bradenton, FL 34211	FINDS, ECHO	500 ft	Minor Air Permit	Low

Site No.	Site Name	Address	Oculus or EDR Database ¹	Distance from ROW	Details	Risk Rating
9	Savannah at Lakewood Ranch	4810 Lorraine Road, Bradenton, FL 34211	NPDES, FINDS, ECHO	100 ft	Construction Permit	No
10	SMR Farms Shop	4820 Lorraine Road, Bradenton, FL 34211	Financial Assurance, AST	225 ft	Historic compliance Issues/Tank Closure	Medium
11	Schroeder Manatee Ranch/SMR Farms – Citrus Grove	4821 Lorraine Road, Bradenton, FL 34211	Spills, Tier 2	Unknown	Spill	No
12	Nate’s Honor Animal Rescue	4951 Lorraine Road, Bradenton, FL 34211	NPDES, FINDS, ECHO	200 ft	Construction Permit	No

Sources: Environmental Data Resources, Inc. Environmental Data Report (EDR), dated July 1, 2021, FDEP Map Direct
Notes:

ROW: right-of-way.

¹ Tables 1 and 2 list the Oculus or EDR databases reviewed and the description for each.

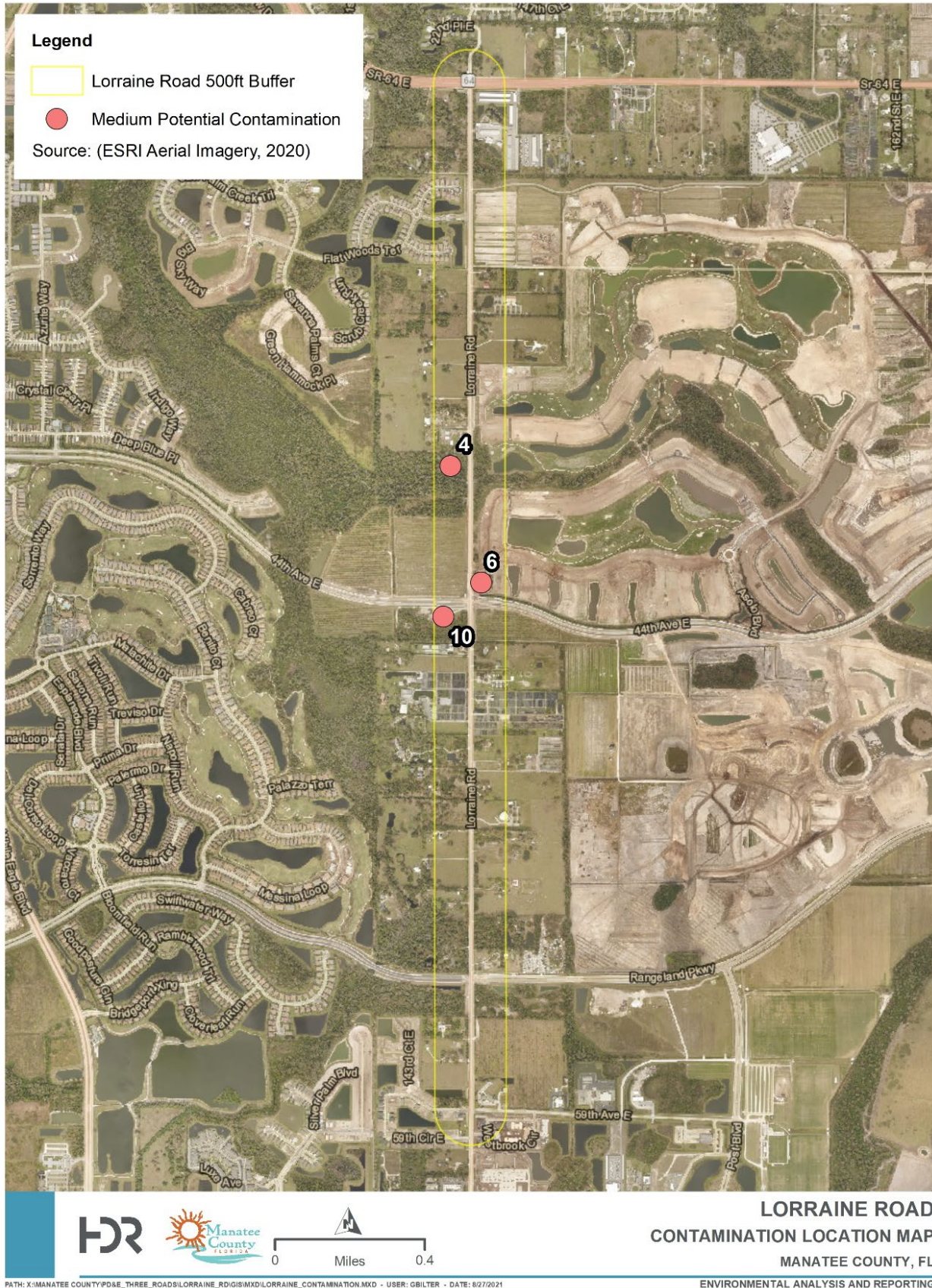


Figure 2 | Potential Contamination Site Locations (No sites were rated High)

Site No. 1 – Union 76-Lorraine

14410 East State Road 64, Bradenton, FL 34212

- Concern: Underground Storage Tank Leak
- Risk Rating: Low

Photos of the facility are provided in Figure 3. The site is located at the intersection of Lorraine Road and SR 64. According to the historical aerial photographs, SR 64 was expanded and further developed between 2006 and 2009. According to the FDEP records and the EDR, the site was a retail gas station with four USTs containing leaded gasoline, unleaded gasoline, and diesel fuel. These tanks were installed in 1984 and removed in 1989. A discharge reporting form was submitted in March 1991 in response to evidence of leaded gasoline, unleaded gasoline, and diesel fuel contamination discovered during closure activities (1989). A contamination evaluation was conducted in 1991 identifying contaminated soil in proximity to the former UST locations. Site assessment activities were proposed, and a Health and Safety Plan was submitted to FDEP in 2014, however due to inability to obtain a site access agreement, work was suspended until 2017. In 2017, soil borings and groundwater monitoring wells were installed for sampling and did not discover petroleum impacts. A Site Rehabilitation Completion Report and a Well Abandonment Report was submitted to FDEP in 2017. A No Further Action was granted in May 2018. Based on the site visit and regulatory review, the site is given a risk rating of “Low” for potential contamination to impact the corridor.



General site photo. View SE



General Site Photo. View SW



General Site Photo. View West



Area of MW2, MW4, MW5. View SE

Figure 3 | Union 76-Lorraine (FDEP Records 2018 Inspection)

*Site No. 2 – 7-Eleven Store #38991
14410 East State Road 64, Bradenton, FL 34212*

- Concern: Petroleum Products
- Risk Rating: Low

Photos of the facility are provided in Figure 4. During site reconnaissance, this site was a 7-Eleven gas station under construction. This site is located 300 feet from the existing right-of-way. According to the FDEP records, the site completed a Storage Tank Facility Registration Form in May 2021 for two USTs for vehicular diesel and ethanol (E10). Based on the site visit and regulatory review, the site is given a risk rating of “Low” for potential contamination to impact the corridor.



Figure 4 | 7-Eleven (2021 HDR Site Reconnaissance)

*Site No. 3 – Lakewood Storage III/Manatee River Groves, Inc.
2611 Lorraine Road Bradenton, FL 34211 / 2327 Lorraine Road, Bradenton, FL 34212*

- Concern: Aboveground Storage Tanks
- Risk Rating: Low

Photos of the facility are provided in Figure 5. During site reconnaissance, this site was Hide-Away Storage. This site is located 200 feet from the existing right-of-way. According to the FDEP records and the EDR, the facility installed a 5,000-gallon AST in March 1987 and removed it in May 1988. The site determined the 5,000-gallon AST was no longer needed and registered two 550-gallon ASTs containing vehicular diesel and unleaded gas in December 1987. The installation dates of these ASTs are unknown. According to the EDR, the site had a construction stormwater permit that expired in February 2011. Based on the site visit and regulatory review, the site is given a risk rating of “Low” for potential contamination to impact the corridor.



Figure 5 | Hide Away Storage (2021 HDR Site Reconnaissance)

Site No. 4 – Jessie Caballero

3512 Lorraine Road, Bradenton, FL 34212-9249

- Concern: Aboveground Storage Tanks, Lack of Information
- Risk Rating: Medium

During site reconnaissance, this site was a residential neighborhood according to the location on the EDR Map. However, the address provided in the EDR places this site more south on Lorraine Road and was undeveloped land. According to the FDEP records, the original address had a zip code of 33508. According to the EDR, the site is an open fuel user/non-retail facility. A 1,000-gallon AST containing vehicular diesel was removed in 1987. A tank revision form was completed in 1997 indicating new ownership to Terra with a new address of 3203 US 301. According to the EDR, one 550-gallon AST containing vehicular diesel is in service on site. The correct and accurate location of this site and AST are unknown due to lack of information. Therefore, this site is given a risk rating of “Medium” for potential contamination to impact the corridor.

Site No. 5 – LDS Palmetto, University Park, and Sarasota FL Stake

3704 Lorraine Road, Bradenton, FL 34211

- Concern: Construction Permit
- Risk Rating: No

Photos of the facility are provided in Figure 6. During site reconnaissance, this site was under construction. According to the Manatee County Property Appraiser, this vacant parcel in 2007 was purchased by Church of Jesus Christ of Latter Day Saints, Corporation of Presiding Bishop. This site is located 250 feet from the existing right-of-way. According to the EDR, the site had a construction stormwater permit that is set to expire in January 2026. Based on the site visit and regulatory review, the site is given a risk rating of “No” for potential contamination to impact the corridor.



Figure 6 | LDS Palmetto (2021 HDR Site Reconnaissance)

Site No. 6 – Esplande at Azario Lakewood Ranch Golf

4025 Lorraine Road, Bradenton, FL 34212

- Concern: Aboveground Storage Tank
- Risk Rating: Medium

Photos of the facility are provided in Figure 7. During site reconnaissance, this site was a maintenance facility for the Esplande at Azario Lakewood Ranch community, discussed as Site No. 7 below. This site is located 200 feet from the existing right-of-way. According to the EDR, the site is a fuel user/non-retail facility with an AST of 1,000 gallons of unleaded gas installed and in service since May 2020. According to the FDEP records, the tank is located south of the maintenance building, 290 feet from the existing right-of-way. In August 2020, an on-site inspection indicated multiple violations including failure to perform integrity test prior to placing tanks into

service, release detection not being conducted monthly, storage tank system not installed with a spill containment system at each tank fill connection (no spill buckets), and motor fuel being deposited into storage tank at facility where valid registration placard is not displayed. A Warning Letter was issued by FDEP on March 3, 2021 noting these violations from the August 2020 inspection. No follow up actions are reported according to the FDEP records. Based on the site visit and regulatory review, the site is given a risk rating of “Medium” for potential contamination to impact the corridor.



Figure 7 | Esplande at Azario Lakewood Ranch Golf Maintenance (FDEP Records 2020 Inspection)

Site No. 7 – SMR Farms – Citrus Grove/Azario 4715 Lorraine Road, Bradenton, FL 34211

- Concern: Wastewater Permit
- Risk Rating: No

During site reconnaissance, this site was the Azario Esplande Phase 1 residential community under construction. According to the historic aerial photographs, the parcel was farmland with one stand-alone building adjacent to Lorraine Road. The western edge of the parcel is located 100 feet from the existing right-of-way. SMR (Schroeder-Manatee Ranch) is the parent company of Lakewood Ranch, a 33,000+ acre master planned community located in Manatee and Sarasota Counties. According to the EDR, the site has an active wastewater permit for wastewater discharge issued in April 2020 and set to expire May 2025. No violations have been identified. Based on the site visit and regulatory review, the site is given a risk rating of “No” for potential contamination to impact the corridor.

Site No. 8 – JH Diesel and 4x4 4220 Lorraine Road, Bradenton, FL 34211

- Concern: Diesel Repair Shop
- Risk Rating: Low

During site reconnaissance, this site was JH Diesel and 4x4. This site is a full-service diesel repair shop. This site is located 500 feet from the existing right-of-way. According to the Manatee County Property Appraiser, the property was purchased in 2014 by the current president of JH Diesel and 4x4. According to the EDR, the site is regulated under the EPA Integrated Compliance Information System (ICIS) AIR Program being a stationary source of air pollution. This program contains compliance and permit data for stationary sources of air pollution (such as electric power plants, steel mills, factories, and universities). This facility has a minor permit for operations. An on-site inspection was conducted in June 2021. The facility was found to be operating in compliance with the permit regulations and no violations have been identified. Based on the site visit and regulatory review, the site is given a risk rating of “Low” for potential contamination to impact the corridor.

*Site No. 9 – Savannah at Lakewood Ranch
4810 Lorraine Road, Bradenton, FL 34211*

- Concern: Construction Permit
- Risk Rating: No

During site reconnaissance, this site was undeveloped land. The western edge of the parcel is located 100 feet from the existing right-of-way. According to the Manatee County Property Appraiser, the property is owned by SMR North 70 LLC. According to the EDR, the site had a stormwater construction permit that expired in April 2021, and currently has two stormwater construction permits, set to expire in November 2021 and in March 2026. No violations have been identified. Based on the site visit and regulatory review, the site is given a risk rating of “No” for potential contamination to impact the corridor.

*Site No. 10 – SMR Farms Shop
4820 Lorraine Road, Bradenton, FL 34211*

- Concern: Aboveground Storage Tanks, Agricultural Facility
- Risk Rating: Medium

Photos of the facility are provided in Figure 8. During site reconnaissance, this site was undeveloped land. This parcel is located in the southwest corner of Lorraine Road and 44th Avenue, 225 feet from the existing right-of-way. According to the Manatee County Property Appraiser, the property is owned by SMR North 70 LLC. SMR Farms contains over 31,000 acres, produces sod and improved turfgrasses, containerized and field-grown trees, and citrus. According to the EDR, the site is an agricultural facility. The site was used as a John Deere Test Site and had one regulated AST on site containing unleaded gas, installed in March 1991. The AST was a 1,000-gallon single wall steel tank within concrete containment under a roof. In 1996, a citizen’s complaint stated there is an ongoing problem with gasoline release leaking to the ground surface from the refueling nozzle. The complaint stated the tanks are in a containment system, but the nozzles are outside the containment area. No follow up records are related to this complaint according to the FDEP records. In 2007, an annual inspection indicated an additional three unregulated ASTs containing diesel, used oil, and bio-fuel. In 2019, a revised tank registration form was completed indicating SMR Farms as the new owner of the tanks on site. In 2020, a major out of compliance was reported due to site personnel not conducting monthly monitoring of tank and release detection equipment. A Closure Integrity Evaluation was not required and therefore not conducted. A Limited Closure Assessment Report was submitted and approved by the Manatee County Environmental Protection Division. All tanks are to be scrapped at a later date. A storage tank closure inspection was conducted June 9, 2021 confirming the AST has been properly closed in place. The spill containment system was also closed in place while the piping, sumps and dispensers were removed. Based on the site visit and regulatory review, the site is given a risk rating of “Medium” for potential contamination to impact the corridor.



Figure 8 | SMR Farms AST (FDEP Records)

*Site No. 11 – Schroeder Manatee Ranch/SMR Farms – Citrus Grove
4821 Lorraine Road, Bradenton, FL 34211*

- Concern: Historic Spill
- Risk Rating: No

During site reconnaissance, this site was undeveloped land. This parcel is located in the southeast corner of Lorraine Road and 44th Avenue, not located within existing right-of-way. According to the Manatee County Property Appraiser, the property is owned by SMR Northeast LLC. SMR (Schroeder-Manatee Ranch) is the parent company of Lakewood Ranch, a 33,000+ acre master planned community located in Manatee and Sarasota Counties. SMR Farms contains over 31,000 acres, produces sod and improved turfgrasses, containerized and field-grown trees, and citrus. According to the EDR, a spill occurred in 1998. Remediation and on-scene response were completed, and the incident is considered closed. Based on the site visit and regulatory review, the site is given a risk rating of “No” for potential contamination to impact the corridor.

*Site No. 12 – Nate’s Honor Animal Hospital
4951 Lorraine Road, Bradenton, FL 34211*

- Concern: Construction Permit
- Risk Rating: No

Photos of the facility are provided in Figure 9. During site reconnaissance, this site was Nate’s Honor Animal Rescue. This site is located 200 feet from the existing right-of-way. According to the Manatee County Property Appraiser, the facility had an on-site inspection was conducted in December 2019 for new/addition/demo permit requirements. According to the EDR, the site has a construction generic dewatering permit issued July 2020 and set to expire July 2025. No violations have been identified. Based on the site visit and regulatory review, the site is given a risk rating of “No” for potential contamination to impact the corridor.



Figure 9 | Nate’s Honor Animal Hospital (2021 HDR Site Reconnaissance)

5.0 Recommendations

For the sites ranked “No” for potential contamination, no further action is required. These sites have been evaluated and determined not to have any potential environmental risk to the study area at this time.

For sites ranked “Low” for potential contamination, no further action is required at this time. These sites/facilities have the potential to impact the study area but based on select variables have been determined to have low risk to the corridor at this time. Variables that may change the risk rating include a facility’s non-compliance to environmental regulations, new discharges to the soil or groundwater, and modifications to current permits. Should any of these variables change, additional assessment of the facilities would be conducted.

For those locations with a risk rating of “Medium”, field screening or a soil management plan may be needed depending on the locations of construction and intrusive activities proposed for the study area. These sites have been determined to have potential contaminants, which may impact the proposed construction. A soil and groundwater sampling plan may be needed for each site. The sampling plan should provide sufficient detail as to the number of soil and groundwater samples to be obtained and the specific analytical tests to be performed. A site location sketch for each facility showing all proposed boring locations and groundwater monitoring wells should also be included in the sampling plan.

Additional information may become available or site-specific conditions may change from the time this memorandum was prepared and should be considered prior to proceeding with any roadway construction.

Appendices

Appendix A – EDR Report



Lorraine Road

Lorraine Road
Bradenton, FL 34212

Inquiry Number: 6558351.17s
July 01, 2021

EDR Area / Corridor Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

LORRAINE ROAD
BRADENTON, FL 34212

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

STANDARD ENVIRONMENTAL RECORDS

State and tribal registered storage tank lists

AST: Storage Tank Facility Information

A review of the AST list, as provided by EDR, has revealed that there are 4 AST sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
MANATEE RIVER GROVES Database: AST, Date of Government Version: 01/26/2021 Facility-Site Id: 8737284 Facility Status: OPEN Facility Status: OPEN	2327 LORRAINE RD	A1 / 3	22
CABALLERO JESSIE Database: AST, Date of Government Version: 01/26/2021 Facility-Site Id: 8624131 Facility Status: OPEN Facility Status: OPEN	3512 LORRAINE RD	3 / 3	23
ESPLANDE AT AZARIO L Database: AST, Date of Government Version: 01/26/2021 Facility-Site Id: 9818275 Facility Status: OPEN Facility Status: OPEN	4025 LORRAINE RD	6 / 4	25
SMR FARMS SHOP Database: AST, Date of Government Version: 01/26/2021	4820 LORRAINE RD	E18 / 5	40

EXECUTIVE SUMMARY

Facility-Site Id: 9102336

Facility Status: OPEN

Facility Status: OPEN

ADDITIONAL ENVIRONMENTAL RECORDS

Records of Emergency Release Reports

SPILLS: Oil and Hazardous Materials Incidents

A review of the SPILLS list, as provided by EDR, and dated 04/05/2021 has revealed that there is 1 SPILLS site within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
Not reported OHMIT Incident Number: 16773 Incident Status: Closed	4821 LORRAINE ROAD,	F19 / 6	41

Other Ascertainable Records

FINDS: Facility Index System/Facility Registry System

A review of the FINDS list, as provided by EDR, and dated 02/03/2021 has revealed that there are 7 FINDS sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
LAKEWOOD STORAGE III Registry ID:: 110032773559	2611 LORRAINE RD	A2 / 4	23
JH DIESEL AND 4X4	4220 LORRAINE ROAD	C8 / 3	26
AZARIO	4715 LORRAINE RD	D11 / 4	33
SAVANNAH AT LAKEWOOD Registry ID:: 110064424680	4810 LORRAINE RD	E13 / 5	34
SAVANNA AT LAKEWOOD Registry ID:: 110069218796	4810 LORRAINE RD	E14 / 5	34
CYPRESS BANKS PHASE Registry ID:: 110035566287	5000 W OF LORRAINE	21 / 5	44
NATE'S HONOR ANIMAL	4951 LORRAINE RD	G23 / 6	45

ECHO: Enforcement & Compliance History Information

A review of the ECHO list, as provided by EDR, and dated 04/04/2021 has revealed that there are 7 ECHO sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
LAKEWOOD STORAGE III Registry ID: 110032773559	2611 LORRAINE RD	A2 / 4	23
LDS PALMETTO, UNIVER	3704 LORRAINE RD	B4 / 3	24

EXECUTIVE SUMMARY

Registry ID: 110070918020			
JH DIESEL AND 4X4	4220 LORRAINE ROAD	C7 / 3	26
Registry ID: 110070832724			
AZARIO	4715 LORRAINE RD	D10 / 4	33
Registry ID: 110070743839			
SAVANNAH AT LAKEWOOD	4810 LORRAINE RD	E12 / 5	33
Registry ID: 110064424680			
SAVANNA AT LAKEWOOD	4810 LORRAINE RD	E14 / 5	34
Registry ID: 110069218796			
NATE'S HONOR ANIMAL	4951 LORRAINE RD	G23 / 6	45
Registry ID: 110070825377			

Financial Assurance: Financial Assurance Information Listing

A review of the Financial Assurance list, as provided by EDR, has revealed that there is 1 Financial Assurance site within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
SMR FARMS SHOP	4820 LORRAINE RD	E17 / 5	36
Database: Financial Assurance 3, Date of Government Version: 01/26/2021			
Facility Status: OPEN			
Facility ID: 9102336			

TIER 2: Tier 2 Facility Listing

A review of the TIER 2 list, as provided by EDR, and dated 12/31/2019 has revealed that there are 2 TIER 2 sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
S M R FARMS - CITRUS	4715 LORRAINE ROAD	D9 / 4	26
SMR FARMS - CITRUS G	4821 LORRAINE ROAD	F20 / 6	41
Facility Id: 4516753			
Facility Id: 5014286			
Facility Id: 4275195			

NPDES: Wastewater Facility Regulation Database

A review of the NPDES list, as provided by EDR, and dated 01/29/2021 has revealed that there are 5 NPDES sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
LDS PALMETTO, UNIVER	3704 LORRAINE RD	B5 / 3	24
Status: A			
Facility ID: FLR10UC10			
S M R FARMS - CITRUS	4715 LORRAINE ROAD	D9 / 4	26
Status: A			
Facility ID: FLR20DO52			
SAVANNA AT LAKEWOOD	4810 LORRAINE RD	E15 / 5	35

EXECUTIVE SUMMARY

Status: A Facility ID: FLR10QA96			
SAVANNAH AT LAKEWOOD Status: A Facility ID: FLR10QP01	4810 LORRAINE RD	E16 / 5	35
NATE'S HONOR ANIMAL Status: A Facility ID: FLR20DT57	4951 LORRAINE RD	G22 / 6	44

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State and tribal leaking storage tank lists

LUST: Petroleum Contamination Detail Report

A review of the LUST list, as provided by EDR, and dated 01/25/2021 has revealed that there are 3 LUST sites within approximately 0.5 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<i>LAKWOOD RANCH SHELL</i> Discharge Cleanup Status: RA - RA ONGOING Facility Status: OPEN Facility-Site Id: 9806868	<i>14315 E STATE ROAD 7</i>	<i>SSW 1/8 - 1/4 (0.232 mi.)</i>	<i>24 / 5</i>	<i>45</i>
<i>UNION 76-LORRAINE</i> Discharge Cleanup Status: SRCR - SRCR COMPLETE Facility Status: CLOSED Facility-Site Id: 8510898	<i>14410 E SR 64</i>	<i>W 1/4 - 1/2 (0.298 mi.)</i>	<i>25 / 3</i>	<i>55</i>
<i>SCHROEDER MANATEE RA</i> Discharge Cleanup Status: NFA - NFA COMPLETE Facility Status: OPEN Facility-Site Id: 8510948	<i>6215 LORRAINE RD</i>	<i>S 1/4 - 1/2 (0.468 mi.)</i>	<i>26 / 8</i>	<i>60</i>

EXECUTIVE SUMMARY

State and tribal registered storage tank lists

UST: Storage Tank Facility Information

A review of the UST list, as provided by EDR, has revealed that there is 1 UST site within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
LAKWOOD RANCH SHELL	14315 E STATE ROAD 7	SSW 1/8 - 1/4 (0.232 mi.)	24 / 5	45
Database: UST, Date of Government Version: 01/26/2021				
Tank Status: U				
Facility-Site Id: 9806868				
Facility Status: OPEN				

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

DWM CONTAM: DWM CONTAMINATED SITES

A review of the DWM CONTAM list, as provided by EDR, and dated 11/13/2020 has revealed that there is 1 DWM CONTAM site within approximately 0.5 miles of the requested target property.

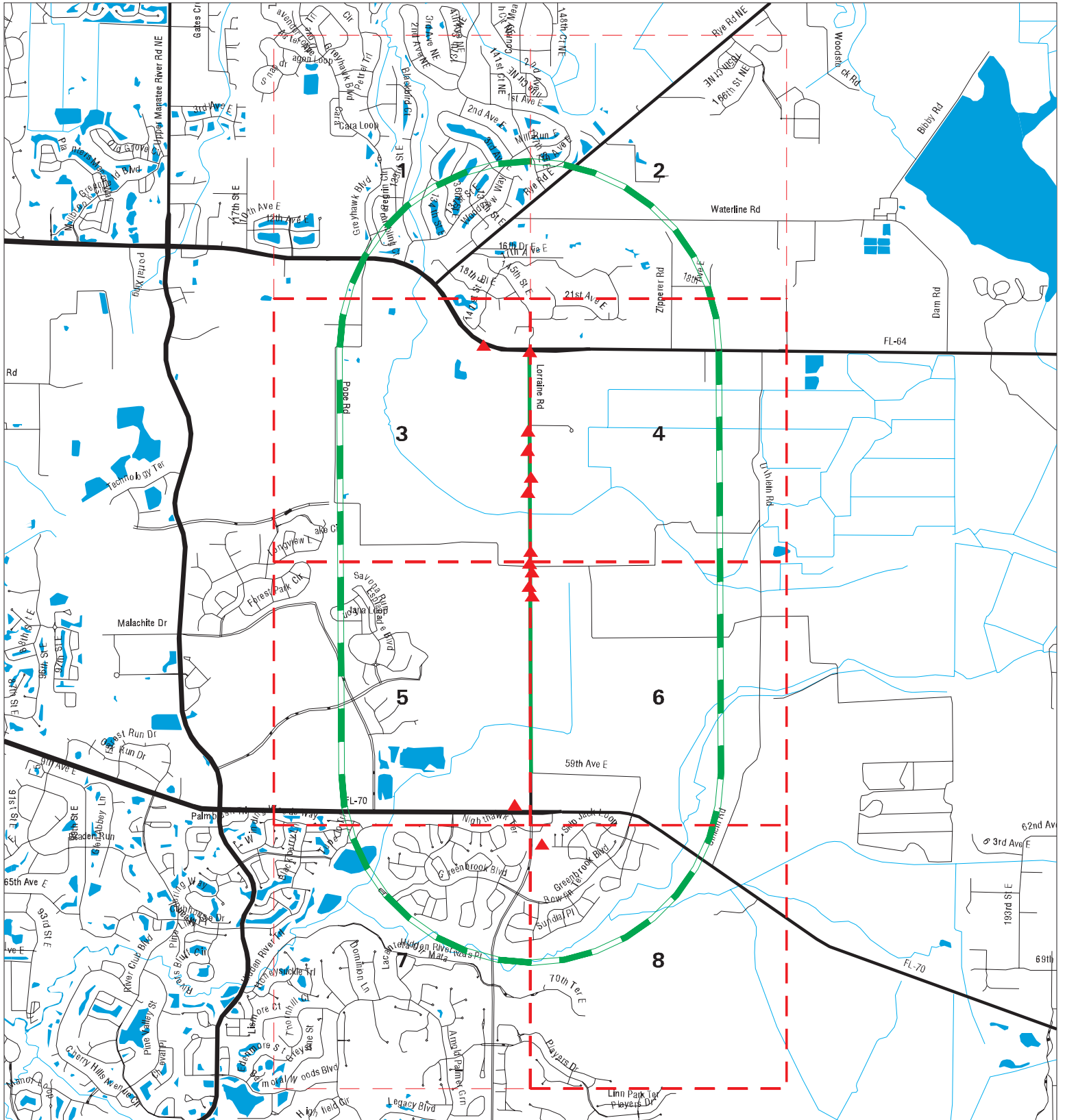
<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
LAKWOOD RANCH SHELL	14315 E STATE ROAD 7	SSW 1/8 - 1/4 (0.232 mi.)	24 / 5	45
Program Site Id: 9806868				

MAPPED SITES SUMMARY

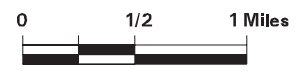
Target Property:
LORRAINE ROAD
BRADENTON, FL 34212

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
A1 / 3	MANATEE RIVER GROVES	2327 LORRAINE RD	AST	TP
A2 / 4	LAKEWOOD STORAGE III	2611 LORRAINE RD	FINDS, ECHO	TP
3 / 3	CABALLERO JESSIE	3512 LORRAINE RD	AST	TP
B4 / 3	LDS PALMETTO, UNIVER	3704 LORRAINE RD	ECHO	TP
B5 / 3	LDS PALMETTO, UNIVER	3704 LORRAINE RD	NPDES	TP
6 / 4	ESPLANDE AT AZARIO L	4025 LORRAINE RD	AST	TP
C7 / 3	JH DIESEL AND 4X4	4220 LORRAINE ROAD	ECHO	TP
C8 / 3	JH DIESEL AND 4X4	4220 LORRAINE ROAD	FINDS	TP
D9 / 4	S M R FARMS - CITRUS	4715 LORRAINE ROAD	TIER 2, NPDES	TP
D10 / 4	AZARIO	4715 LORRAINE RD	ECHO	TP
D11 / 4	AZARIO	4715 LORRAINE RD	FINDS	TP
E12 / 5	SAVANNAH AT LAKEWOOD	4810 LORRAINE RD	ECHO	TP
E13 / 5	SAVANNAH AT LAKEWOOD	4810 LORRAINE RD	FINDS	TP
E14 / 5	SAVANNA AT LAKEWOOD	4810 LORRAINE RD	FINDS, ECHO	TP
E15 / 5	SAVANNA AT LAKEWOOD	4810 LORRAINE RD	NPDES	TP
E16 / 5	SAVANNAH AT LAKEWOOD	4810 LORRAINE RD	NPDES	TP
E17 / 5	SMR FARMS SHOP	4820 LORRAINE RD	Financial Assurance	TP
E18 / 5	SMR FARMS SHOP	4820 LORRAINE RD	AST	TP
F19 / 6		4821 LORRAINE ROAD,	SPILLS	TP
F20 / 6	SMR FARMS - CITRUS G	4821 LORRAINE ROAD	TIER 2	TP
21 / 5	CYPRESS BANKS PHASE	5000 W OF LORRAINE	FINDS	TP
G22 / 6	NATE'S HONOR ANIMAL	4951 LORRAINE RD	NPDES	TP
G23 / 6	NATE'S HONOR ANIMAL	4951 LORRAINE RD	FINDS, ECHO	TP
24 / 5	LAKEWOOD RANCH SHELL	14315 E STATE ROAD 7	LUST, UST, DWM CONTAM, Financial Assuran...	1225 0.232 SSW
25 / 3	UNION 76-LORRAINE	14410 E SR 64	LUST, UST	1574 0.298 West
26 / 8	SCHROEDER MANATEE RA	6215 LORRAINE RD	LUST, AST, Financial Assurance	2470 0.468 South

Key Map - 6558351.17s



- ▲ Sites
- - - Target Property
- - - Search Buffer
- - - Focus Map - No Sites
- Focus Map - Sites
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- FL Brownfield



SITE NAME: Lorraine Road ADDRESS: Lorraine Road CITY/STATE: Bradenton FL ZIP: 34212	CLIENT: HDR Engineering Inc. CONTACT: Chelsea Williams INQUIRY #: 6558351.17s DATE: 07/01/21 1:10 PM
--	---

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>STANDARD ENVIRONMENTAL RECORDS</u>								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
SHWS	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LAST	0.500		0	0	0	NR	NR	0
LUST	0.500		0	1	2	NR	NR	3
INDIAN LUST	0.500		0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FF TANKS	0.250		0	0	NR	NR	NR	0
UST	0.250		0	1	NR	NR	NR	1
AST	0.250	4	0	0	NR	NR	NR	4
INDIAN UST TANKS	0.250		0	0	NR	NR	NR	0
	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
PRIORITYCLEANERS	0.500		0	0	0	NR	NR	0
FI Sites	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP	1	NR	NR	NR	NR	NR	1
SPILLS 90	TP		NR	NR	NR	NR	NR	0
SPILLS 80	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	7	NR	NR	NR	NR	NR	7
ECHO	TP	7	NR	NR	NR	NR	NR	7
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
ASBESTOS	TP		NR	NR	NR	NR	NR	0
CLEANUP SITES	TP		NR	NR	NR	NR	NR	0
DEDB	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
DWM CONTAM	0.500		0	1	0	NR	NR	1
Financial Assurance	TP	1	NR	NR	NR	NR	NR	1
FL Cattle Dip. Vats	0.250		0	0	NR	NR	NR	0
HW GEN	0.250		0	0	NR	NR	NR	0
RESP PARTY	0.500		0	0	0	NR	NR	0
SITE INV SITES	0.500		0	0	0	NR	NR	0
TIER 2	TP	2	NR	NR	NR	NR	NR	2
UIC	TP		NR	NR	NR	NR	NR	0
NPDES	TP	5	NR	NR	NR	NR	NR	5
MINES MRDS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>EDR HIGH RISK HISTORICAL RECORDS</u>								
<i>EDR Exclusive Records</i>								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
<u>EDR RECOVERED GOVERNMENT ARCHIVES</u>								
<i>Exclusive Recovered Govt. Archives</i>								
RGA HWS	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		27	0	3	2	0	0	32

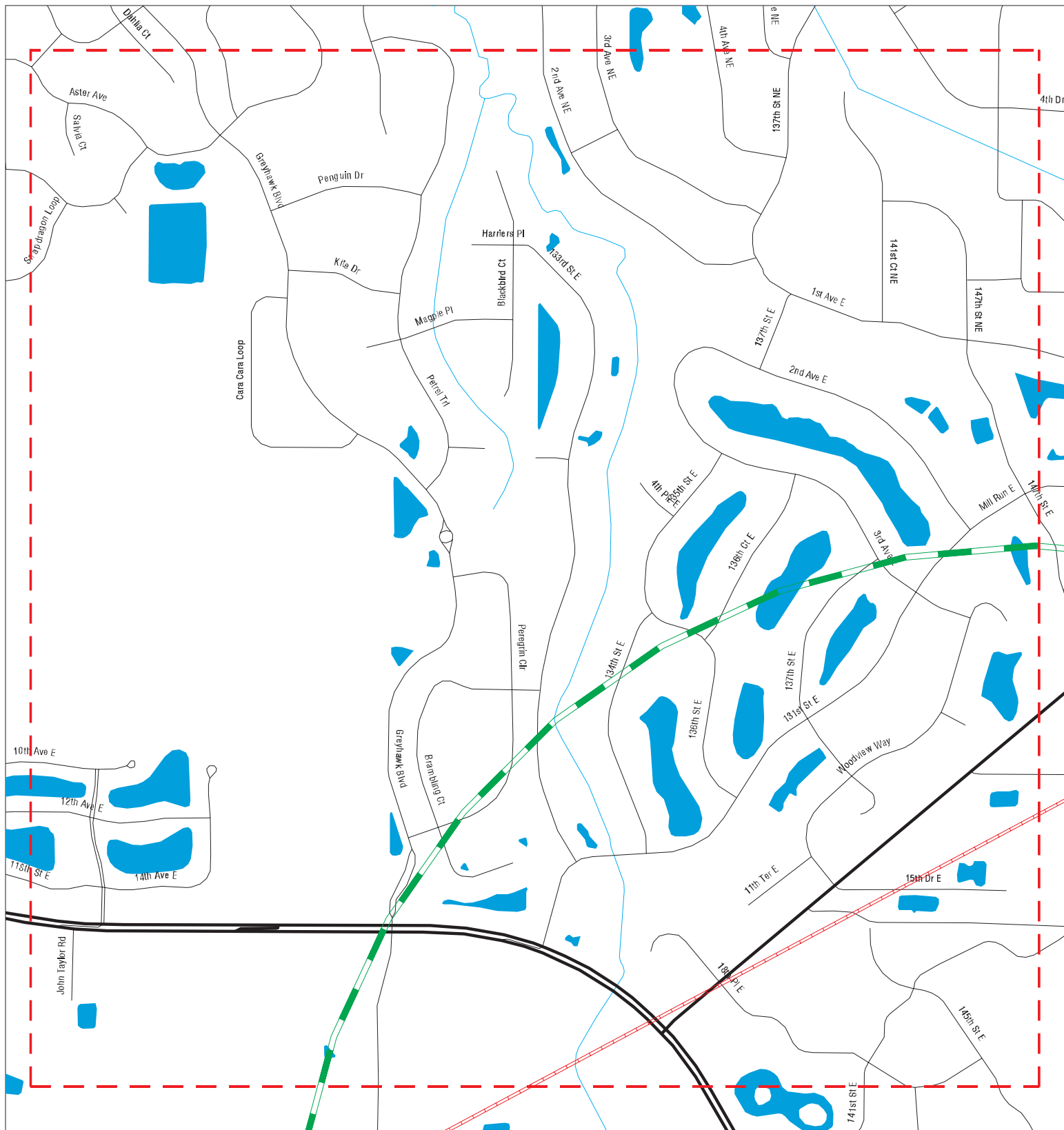
NOTES:

TP = Target Property

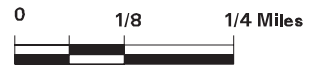
NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Focus Map - 1 - 6558351.17s



- | | | |
|----------------------|------------------------------|-------------------------|
| Sites | Focus Map - Sites | Dept. Defense Sites |
| Target Property | Power Line | Indian Reservations BIA |
| Search Buffer | Pipe Line | FL Brownfield |
| Focus Map - No Sites | National Priority List Sites | |



SITE NAME: Lorraine Road
 ADDRESS: Lorraine Road
 CITY/STATE: Bradenton FL
 ZIP: 34212

CLIENT: HDR Engineering Inc.
 CONTACT: Chelsea Williams
 INQUIRY #: 6558351.17s
 DATE: 07/01/21

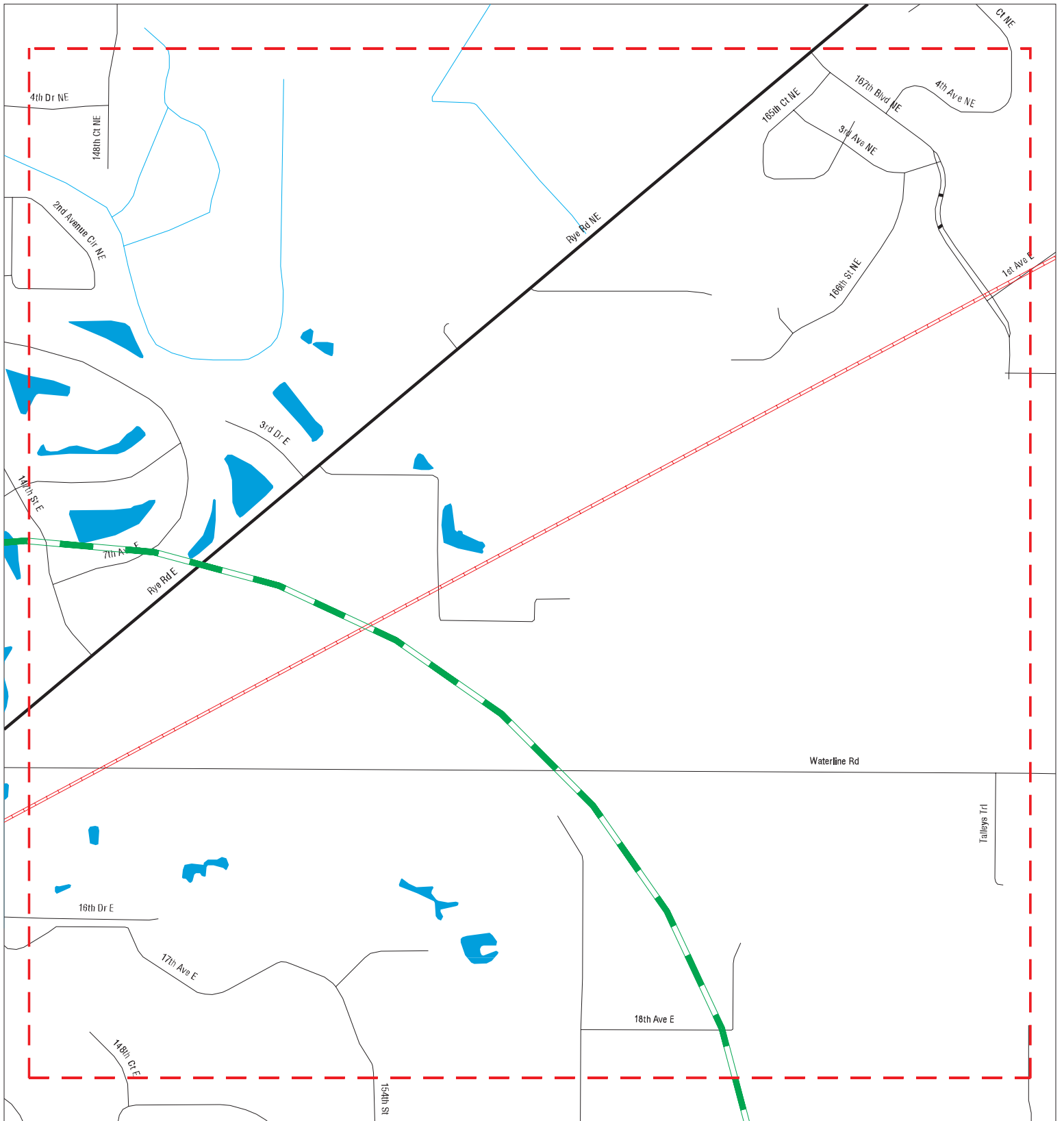
MAPPED SITES SUMMARY - FOCUS MAP 1

Target Property:
LORRAINE ROAD
BRADENTON, FL 34212

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 2 - 6558351.17s



- | | | |
|----------------------|------------------------------|-------------------------|
| Sites | Focus Map - Sites | Dept. Defense Sites |
| Target Property | Power Line | Indian Reservations BIA |
| Search Buffer | Pipe Line | FL Brownfield |
| Focus Map - No Sites | National Priority List Sites | |



SITE NAME: Lorraine Road
ADDRESS: Lorraine Road
CITY/STATE: Bradenton FL
ZIP: 34212

CLIENT: HDR Engineering Inc.
CONTACT: Chelsea Williams
INQUIRY #: 6558351.17s
DATE: 07/01/21

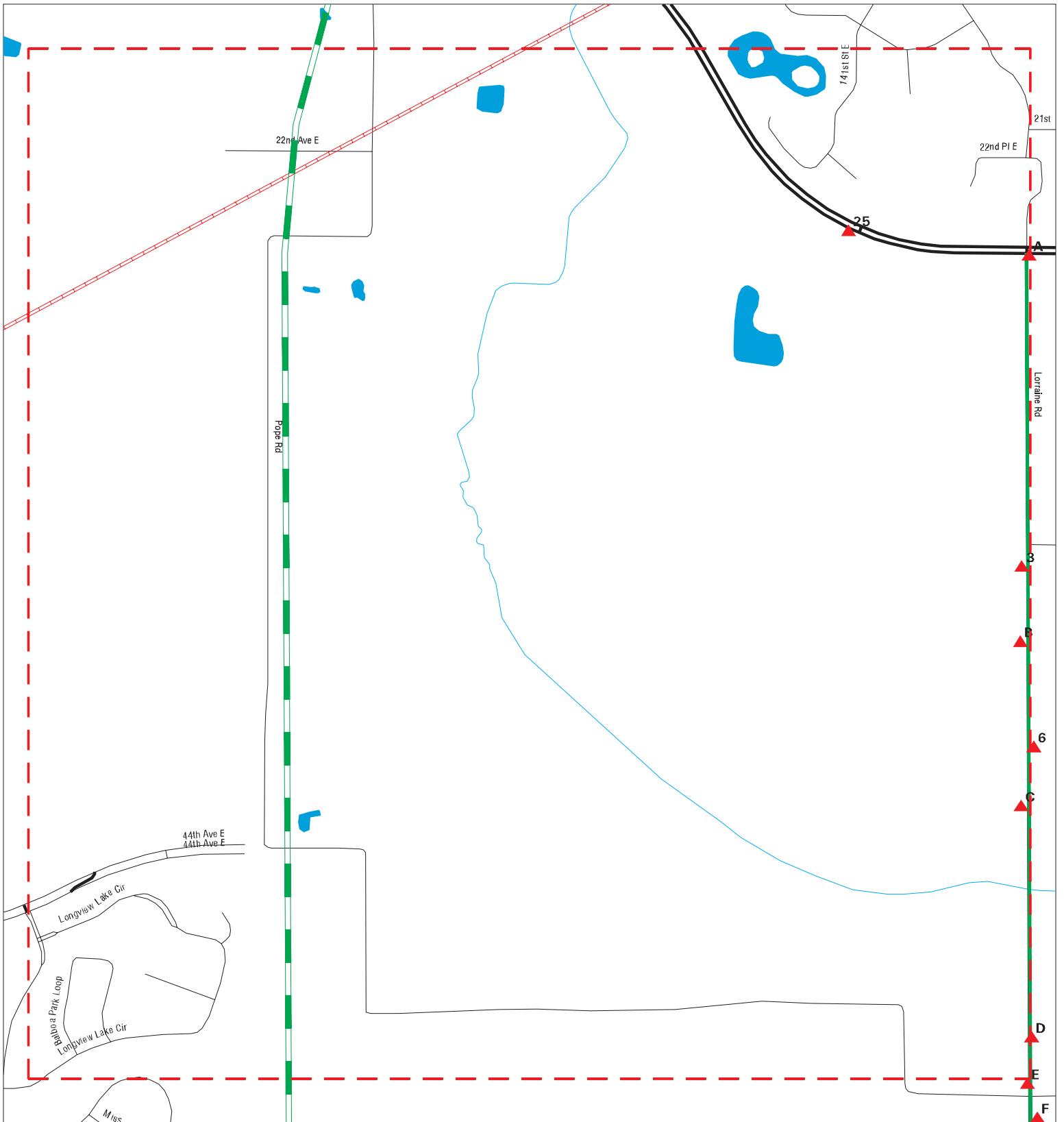
MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:
LORRAINE ROAD
BRADENTON, FL 34212

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
-----------------------	-----------	---------	-------------------	-------------------------------

NO MAPPED SITES FOUND

Focus Map - 3 - 6558351.17s



- | | | |
|----------------------|------------------------------|-------------------------|
| Sites | Focus Map - Sites | Dept. Defense Sites |
| Target Property | Power Line | Indian Reservations BIA |
| Search Buffer | Pipe Line | FL Brownfield |
| Focus Map - No Sites | National Priority List Sites | |



SITE NAME: Lorraine Road
ADDRESS: Lorraine Road
CITY/STATE: Bradenton FL
ZIP: 34212

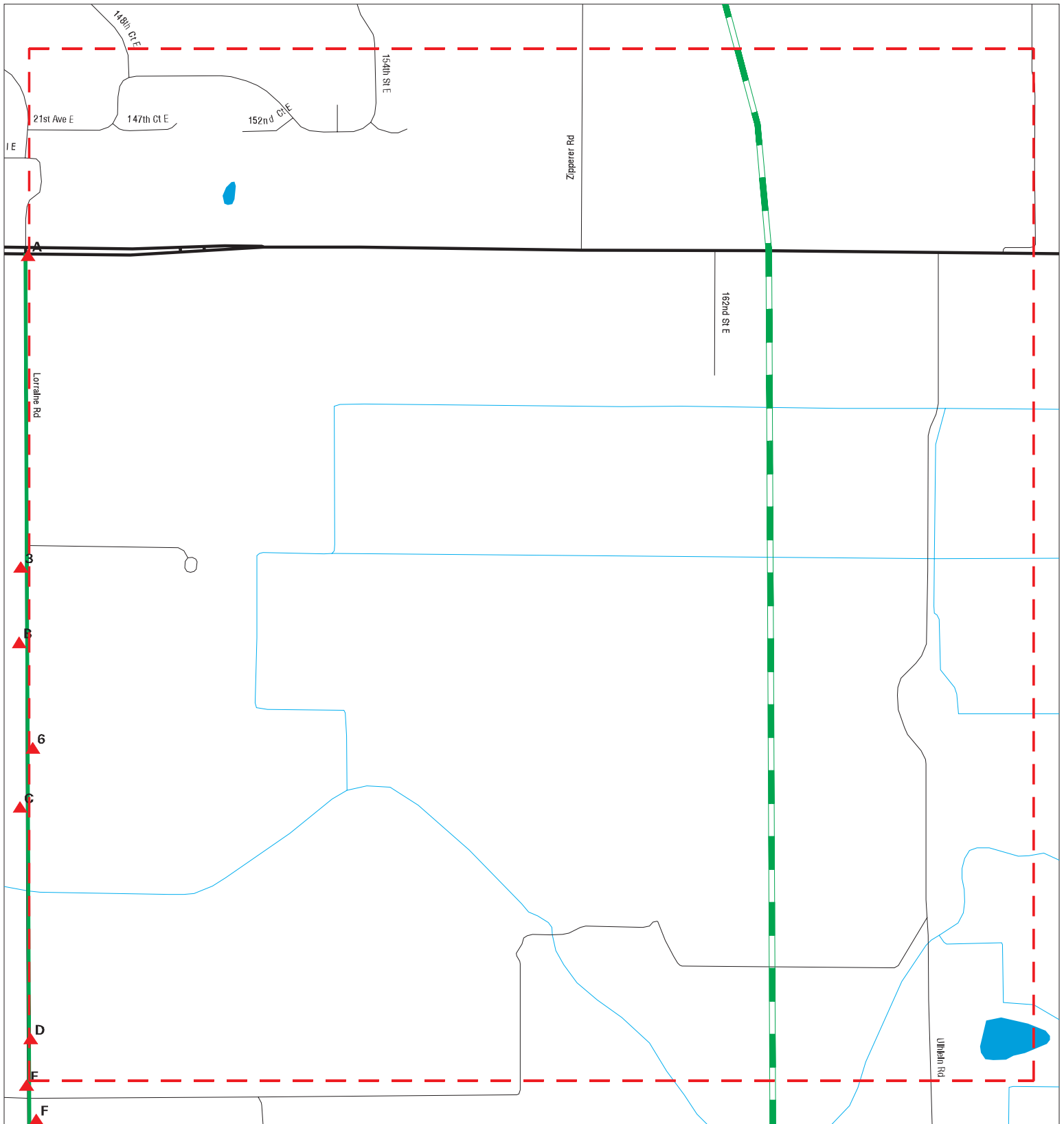
CLIENT: HDR Engineering Inc.
CONTACT: Chelsea Williams
INQUIRY #: 6558351.17s
DATE: 07/01/21

MAPPED SITES SUMMARY - FOCUS MAP 3

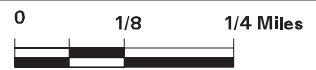
Target Property:
 LORRAINE ROAD
 BRADENTON, FL 34212

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
A1 / 3	MANATEE RIVER GROVES	2327 LORRAINE RD	AST	TP
3 / 3	CABALLERO JESSIE	3512 LORRAINE RD	AST	TP
B4 / 3	LDS PALMETTO, UNIVER	3704 LORRAINE RD	ECHO	TP
B5 / 3	LDS PALMETTO, UNIVER	3704 LORRAINE RD	NPDES	TP
C7 / 3	JH DIESEL AND 4X4	4220 LORRAINE ROAD	ECHO	TP
C8 / 3	JH DIESEL AND 4X4	4220 LORRAINE ROAD	FINDS	TP
25 / 3	UNION 76-LORRAINE	14410 E SR 64	LUST, UST	1574 0.298 West

Focus Map - 4 - 6558351.17s



- | | | | | | |
|--|----------------------|--|------------------------------|--|-------------------------|
| | Sites | | Focus Map - Sites | | Dept. Defense Sites |
| | Target Property | | Power Line | | Indian Reservations BIA |
| | Search Buffer | | Pipe Line | | FL Brownfield |
| | Focus Map - No Sites | | National Priority List Sites | | |



SITE NAME: Lorraine Road
ADDRESS: Lorraine Road
CITY/STATE: Bradenton FL
ZIP: 34212

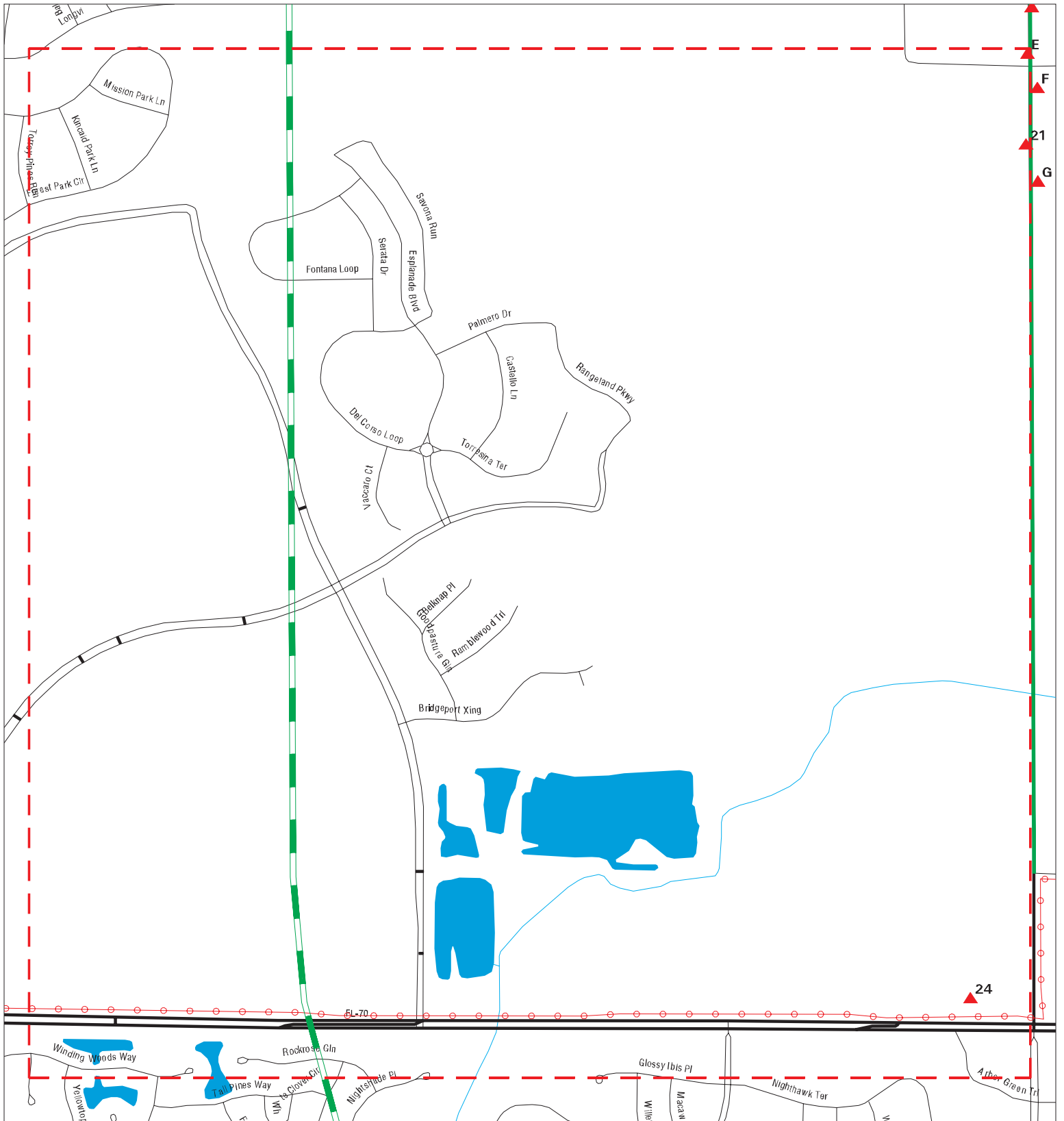
CLIENT: HDR Engineering Inc.
CONTACT: Chelsea Williams
INQUIRY #: 6558351.17s
DATE: 07/01/21

MAPPED SITES SUMMARY - FOCUS MAP 4

Target Property:
 LORRAINE ROAD
 BRADENTON, FL 34212

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
A2 / 4	LAKEWOOD STORAGE III	2611 LORRAINE RD	FINDS, ECHO	TP
6 / 4	ESPLANDE AT AZARIO L	4025 LORRAINE RD	AST	TP
D9 / 4	S M R FARMS - CITRUS	4715 LORRAINE ROAD	TIER 2, NPDES	TP
D10 / 4	AZARIO	4715 LORRAINE RD	ECHO	TP
D11 / 4	AZARIO	4715 LORRAINE RD	FINDS	TP

Focus Map - 5 - 6558351.17s



- | | | |
|----------------------|------------------------------|-------------------------|
| Sites | Focus Map - Sites | Dept. Defense Sites |
| Target Property | Power Line | Indian Reservations BIA |
| Search Buffer | Pipe Line | FL Brownfield |
| Focus Map - No Sites | National Priority List Sites | |



SITE NAME: Lorraine Road
ADDRESS: Lorraine Road
CITY/STATE: Bradenton FL
ZIP: 34212

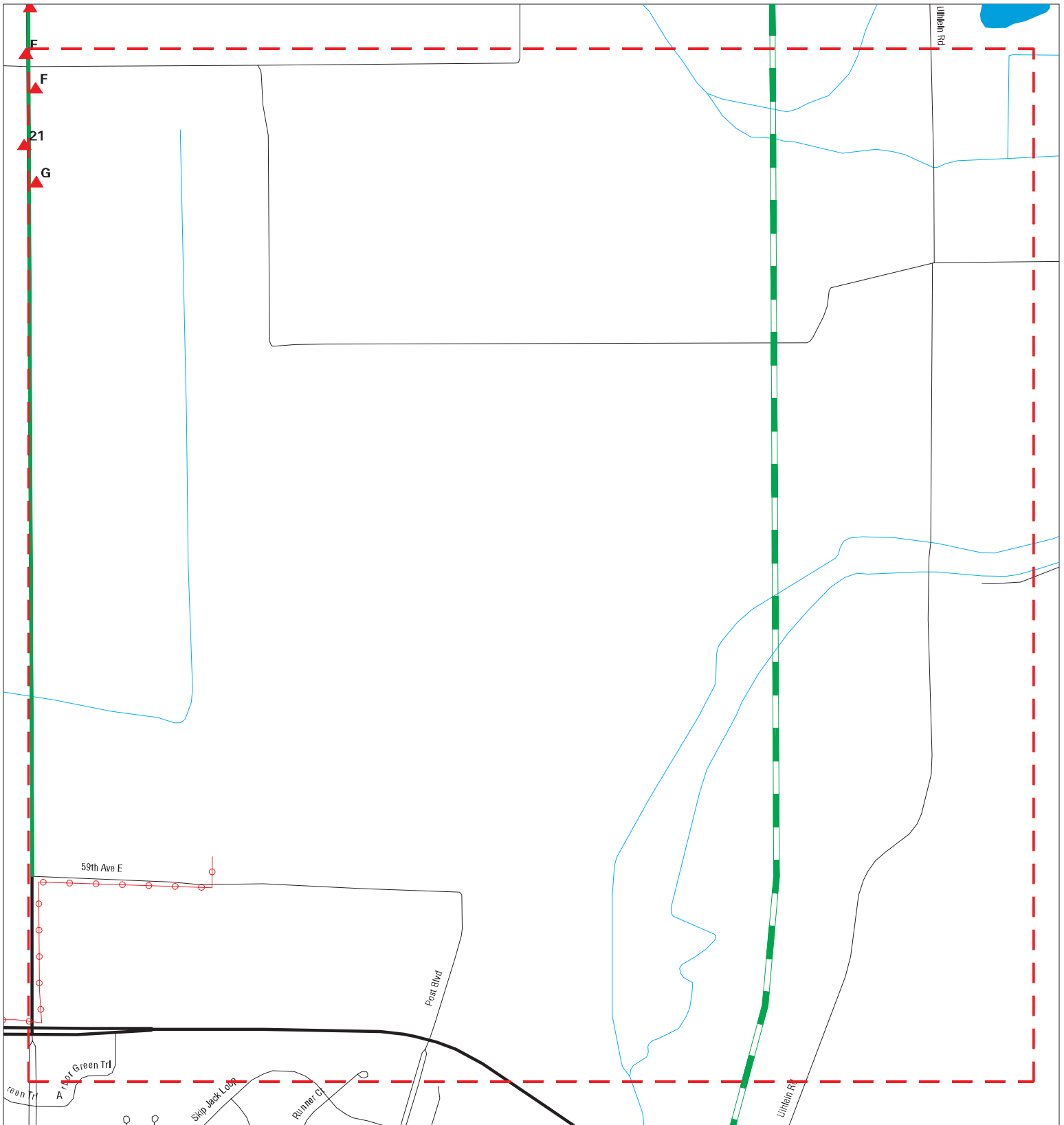
CLIENT: HDR Engineering Inc.
CONTACT: Chelsea Williams
INQUIRY #: 6558351.17s
DATE: 07/01/21

MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:
LORRAINE ROAD
BRADENTON, FL 34212

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
E12 / 5	SAVANNAH AT LAKEWOOD	4810 LORRAINE RD	ECHO	TP
E13 / 5	SAVANNAH AT LAKEWOOD	4810 LORRAINE RD	FINDS	TP
E14 / 5	SAVANNA AT LAKEWOOD	4810 LORRAINE RD	FINDS, ECHO	TP
E15 / 5	SAVANNA AT LAKEWOOD	4810 LORRAINE RD	NPDES	TP
E16 / 5	SAVANNAH AT LAKEWOOD	4810 LORRAINE RD	NPDES	TP
E17 / 5	SMR FARMS SHOP	4820 LORRAINE RD	Financial Assurance	TP
E18 / 5	SMR FARMS SHOP	4820 LORRAINE RD	AST	TP
21 / 5	CYPRESS BANKS PHASE	5000 W OF LORRAINE	FINDS	TP
24 / 5	LAKEWOOD RANCH SHELL	14315 E STATE ROAD 7	LUST, UST, DWM CONTAM, Financial Assuran...	1225 0.232 SSW

Focus Map - 6 - 6558351.17s



- | | | |
|----------------------|------------------------------|-------------------------|
| Sites | Focus Map - Sites | Dept. Defense Sites |
| Target Property | Power Line | Indian Reservations BIA |
| Search Buffer | Pipe Line | FL Brownfield |
| Focus Map - No Sites | National Priority List Sites | |



SITE NAME: Lorraine Road
ADDRESS: Lorraine Road
CITY/STATE: Bradenton FL
ZIP: 34212

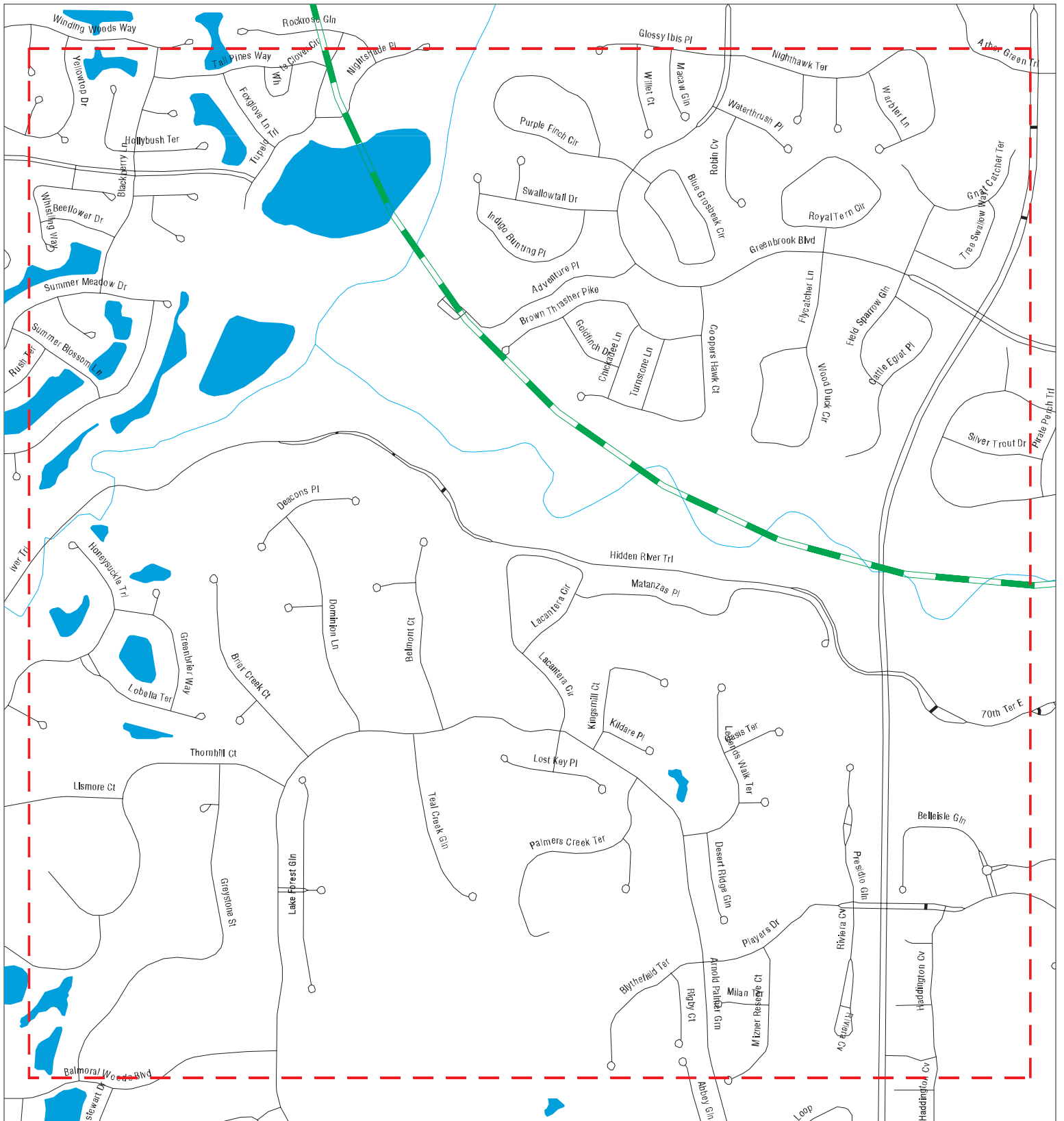
CLIENT: HDR Engineering Inc.
CONTACT: Chelsea Williams
INQUIRY #: 6558351.17s
DATE: 07/01/21

MAPPED SITES SUMMARY - FOCUS MAP 6

Target Property:
LORRAINE ROAD
BRADENTON, FL 34212

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
F19 / 6		4821 LORRAINE ROAD,	SPILLS	TP
F20 / 6	SMR FARMS - CITRUS G	4821 LORRAINE ROAD	TIER 2	TP
G22 / 6	NATE'S HONOR ANIMAL	4951 LORRAINE RD	NPDES	TP
G23 / 6	NATE'S HONOR ANIMAL	4951 LORRAINE RD	FINDS, ECHO	TP

Focus Map - 7 - 6558351.17s



- | | | |
|----------------------|------------------------------|-------------------------|
| Sites | Focus Map - Sites | Dept. Defense Sites |
| Target Property | Power Line | Indian Reservations BIA |
| Search Buffer | Pipe Line | FL Brownfield |
| Focus Map - No Sites | National Priority List Sites | |



SITE NAME: Lorraine Road
 ADDRESS: Lorraine Road
 CITY/STATE: Bradenton FL
 ZIP: 34212

CLIENT: HDR Engineering Inc.
 CONTACT: Chelsea Williams
 INQUIRY #: 6558351.17s
 DATE: 07/01/21

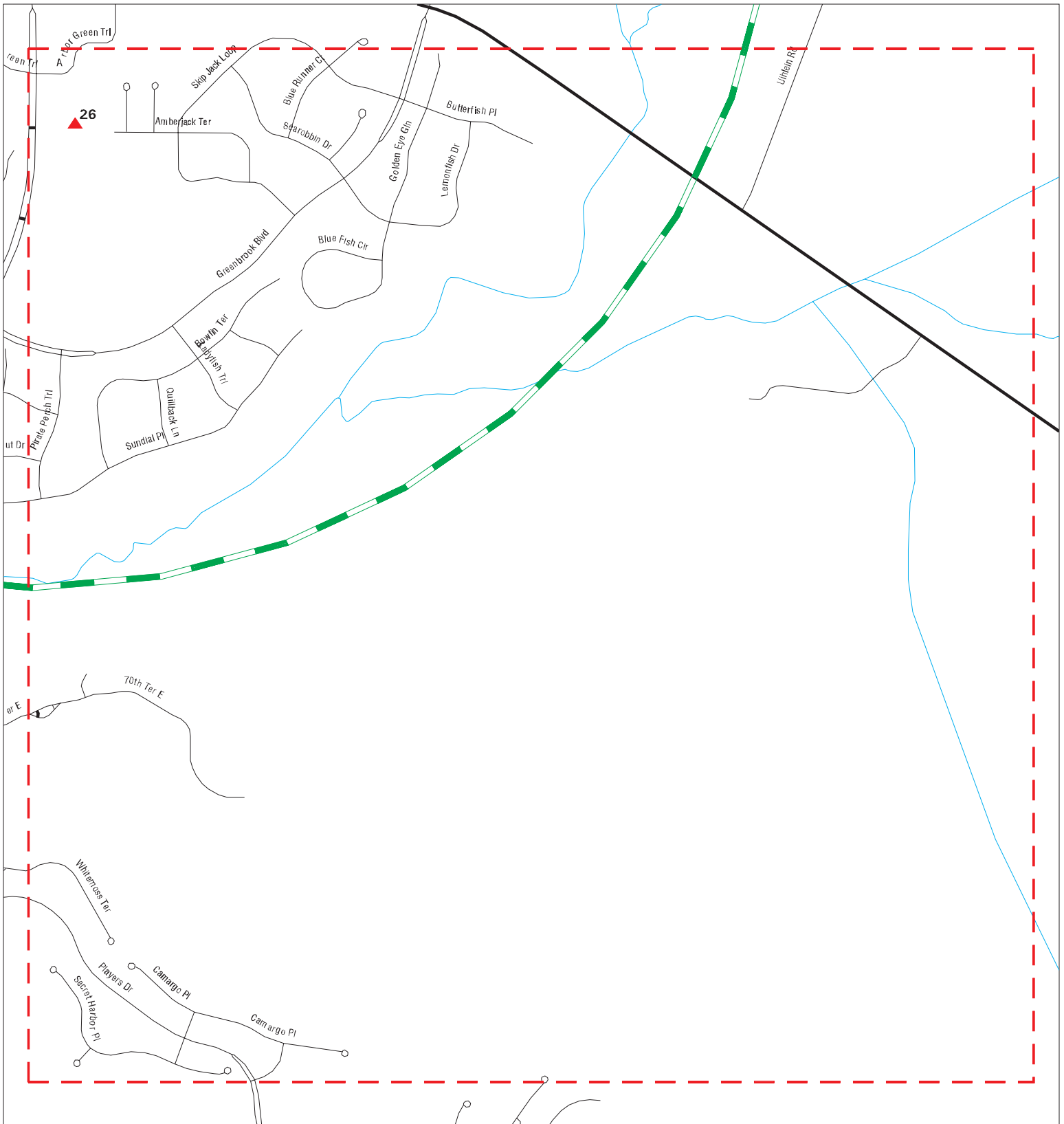
MAPPED SITES SUMMARY - FOCUS MAP 7

Target Property:
LORRAINE ROAD
BRADENTON, FL 34212

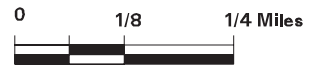
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

Focus Map - 8 - 6558351.17s



- ▲ Sites
- - - Target Property
- - - Search Buffer
- - - Focus Map - No Sites
- - - Focus Map - Sites
- - - Power Line
- - - Pipe Line
- Dept. Defense Sites
- Indian Reservations BIA
- FL Brownfield
- National Priority List Sites



SITE NAME: Lorraine Road
ADDRESS: Lorraine Road
CITY/STATE: Bradenton FL
ZIP: 34212

CLIENT: HDR Engineering Inc.
CONTACT: Chelsea Williams
INQUIRY #: 6558351.17s
DATE: 07/01/21

MAPPED SITES SUMMARY - FOCUS MAP 8

Target Property:
LORRAINE ROAD
BRADENTON, FL 34212

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
26 / 8	SCHROEDER MANATEE RA	6215 LORRAINE RD	LUST, AST, Financial Assurance	2470 0.468 South

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

A1 **MANATEE RIVER GROVES INC**
Target **2327 LORRAINE RD**
Property **BRADENTON, FL 34202**

AST **A100184008**
N/A

Site 1 of 2 in cluster A

Actual: **AST:**
35 ft. Name: MANATEE RIVER GROVES INC
Focus Map: Address: 2327 LORRAINE RD
3 Facility ID: 8737284
Facility Status: OPEN
Type Description: Agricultural
Facility Phone: 8137462175
DEP Contractor Own: P
Region: STATE
Positioning Method: ADDM
Lat/Long (dms): 27 28 29.756 / 82 23 44.192999

Owner:
Owner Id: 13470
Owner Name: MANATEE RIVER GROVES INC
Owner Address: PO BOX 1854
Owner Address 2: Not reported
Owner City,St,Zip: BRADENTON, FL 34206
Owner Contact: RON MCLEOD
Owner Phone: 8137262175

Tank Id: 1
Status: Removed
Status Date: 05/31/1988
Install Date: 3/1/1987
Substance: Unleaded gas
Content Description: Unleaded Gas
Gallons: 5000
Tank Location: ABOVEGROUND

Tank Id: 3
Status: In service
Status Date: Not reported
Install Date: Not reported
Substance: Vehicular diesel
Content Description: Vehicular Diesel
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: 2
Status: In service
Status Date: Not reported
Install Date: Not reported
Substance: Unleaded gas
Content Description: Unleaded Gas
Gallons: 550
Tank Location: ABOVEGROUND

[Click here for Florida Oculus:](#)

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

CABALLERO JESSIE (Continued)

A100184011

Tank Id: 1
Status: Removed
Status Date: 07/31/1987
Install Date: Not reported
Substance: Vehicular diesel
Content Description: Vehicular Diesel
Gallons: 1000
Tank Location: ABOVEGROUND

Tank Id: 2
Status: In service
Status Date: Not reported
Install Date: Not reported
Substance: Vehicular diesel
Content Description: Vehicular Diesel
Gallons: 550
Tank Location: ABOVEGROUND

Click here for Florida Oculus:

B4 **LDS PALMETTO, UNIVERSITY PARK, & SARASOTA FL STAKE**
Target **3704 LORRAINE RD**
Property **BRADENTON, FL 34211**

ECHO **1026739015**
N/A

Site 1 of 2 in cluster B

Actual: **ECHO:**
46 ft. Envid: 1026739015
Focus Map: Registry ID: 110070918020
3 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110070918020>
Name: LDS PALMETTO, UNIVERSITY PARK, & SARASOTA FL STAKE
Address: 3704 LORRAINE RD
City,State,Zip: BRADENTON, FL 34211

B5 **LDS PALMETTO, UNIVERSITY PARK, & SARASOTA FL STAKE**
Target **3704 LORRAINE RD**
Property **BRADENTON, FL**

NPDES **S127139447**
N/A

Site 2 of 2 in cluster B

Actual: **WASTEWATER:**
46 ft. Name: LDS PALMETTO, UNIVERSITY PARK, & SARASOTA FL STAKE
Focus Map: Address: 3704 LORRAINE RD
3 City,State,Zip: BRADENTON, FL
Facility ID: FLR10UC10
Facility Type: Construction Stormwater GP
Status: Active - Existing, permitted facility/site for which effluent, reclaimed water or wastewater residual discharge into the environment and/or monitoring is taking place.

District Office: TLST
NPDES Permitted Site: Not reported
Environmental Interest: Not reported
Owner Type: Private
Permit Capacity: Not reported
Party Name: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LDS PALMETTO, UNIVERSITY PARK, & SARASOTA FL STAKE (Continued)

S127139447

Company Name: Not reported
RP Address: Not reported
RP Address 2: Not reported
RP City,Stat,Zip: Not reported
Telephone: Not reported
Email: Not reported
Issue Date: Not reported
Effective Date: Not reported
Expiration Date: Not reported
DOC Description: Not reported
Latitude Degrees: 27
Latitude Minutes: 27
Latitude Seconds: 58.08
Longitude Degrees: 82
Longitude Minutes: 23
Longitude Seconds: 51.45
Treatment: Not reported
Decode For Fstatus: Active

6 **ESPLANDE AT AZARIO LAKEWOOD RANCH - GOLF MAINT**
Target **4025 LORRAINE RD**
Property **LAKEWOOD RANCH, FL 34211**

AST **A100511135**
N/A

Actual:
46 ft.
Focus Map:
4

AST:

Name: ESPLANDE AT AZARIO LAKEWOOD RANCH - GOLF MAINT
Address: 4025 LORRAINE RD
Facility ID: 9818275
Facility Status: OPEN
Type Description: Fuel user/Non-retail
Facility Phone: 9412532915
DEP Contractor Own: P
Region: STATE
Positioning Method: Not reported
Lat/Long (dms): Not reported

Owner:

Owner Id: 81347
Owner Name: ESPLANDE AT AZARIO LAKEWOOD RANCH HOA INC
Owner Address: 4016 SANTA CATERINA BLVD
Owner Address 2: ATTN: STORAGE TANK REGIS
Owner City,St,Zip: LAKEWOOD RANCH, FL 34211
Owner Contact: NATHAN STITH (HOA PRES)
Owner Phone: 9413741562

Tank Id: MAINT1
Status: In service
Status Date: 05/01/2020
Install Date: 5/1/2020
Substance: Unleaded gas
Content Description: Unleaded Gas
Gallons: 1000
Tank Location: ABOVEGROUND

[Click here for Florida Oculus:](#)

MAP FINDINGS

Map ID			EDR ID Number
Direction			EPA ID Number
Distance			
Elevation	Site	Database(s)	

C7	JH DIESEL AND 4X4	ECHO	1026507910
Target	4220 LORRAINE ROAD		N/A
Property	BRADENTON, FL 34211		

Site 1 of 2 in cluster C

Actual:	ECHO:		
44 ft.	Envid:		1026507910
	Registry ID:		110070832724
Focus Map:	DFR URL:		http://echo.epa.gov/detailed-facility-report?fid=110070832724
3	Name:		JH DIESEL AND 4X4
	Address:		4220 LORRAINE ROAD
	City,State,Zip:		BRADENTON, FL 34211

C8	JH DIESEL AND 4X4	FINDS	1026539790
Target	4220 LORRAINE ROAD		N/A
Property	BRADENTON, FL 34211		

Site 2 of 2 in cluster C

Actual:	FINDS:		
44 ft.	Registry ID:		110070832724
Focus Map:	Click Here:		
3			
	Environmental Interest/Information System:		AIR MINOR
			Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

D9	S M R FARMS - CITRUS GROVE	TIER 2	S109926230
Target	4715 LORRAINE ROAD		N/A
Property	BRADENTON, FL 34211		

Site 1 of 3 in cluster D

Actual:	TIER 2:		
50 ft.	Name:		S M R FARMS - CITRUS GROVE
Focus Map:	Address:		4715 LORRAINE ROAD
4	City,State,Zip:		BRADENTON, FL 34211
	Year:		2010
	Facility Id:		Not reported
	Active Date:		Not reported
	Inactive Date:		Not reported
	Sale Pending:		Not reported
	Original Date:		Not reported
	PLOT Source:		Not reported
	Latitude:		27.45475
	Longitude:		-82.39
	LEPC District:		Not reported
	Counties:		Not reported
	SERC:		Not reported
	Program Level:		Not reported
	PRIME:		Not reported
	SIC Code:		Not reported
	SIC Code 2:		Not reported
	NAICS Code:		Not reported
	Last Modified Date:		Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

S M R FARMS - CITRUS GROVE (Continued)

S109926230

First Submit Date: Not reported
Data Submitted By: Not reported
Company Name: Not reported
Comments: Not reported

Chemical Code: 63252
Chemical Name: Carbaryl [Arylam] [Carpolin] [Dicarbam] [Pomex] [Ravyon] [Sevin] [SOK]
Chemical State: LIQUID
Location Name: Entire Facility
Container Code: N
Pressure Code: 1
Temperature Code: 4
Average Quantity: 1
Maximum Quantity: 1900
Days On Site: 40

Name: S M R FARMS - CITRUS GROVE
Address: 4715 LORRAINE ROAD
City,State,Zip: BRADENTON, FL 34211

Year: 2010
Facility Id: Not reported
Active Date: Not reported
Inactive Date: Not reported
Sale Pending: Not reported
Original Date: Not reported
PLOT Source: Not reported
Latitude: 27.45475
Longitude: -82.39
LEPC District: Not reported
Counties: Not reported
SERC: Not reported
Program Level: Not reported
PRIME: Not reported
SIC Code: Not reported
SIC Code 2: Not reported
NAICS Code: Not reported
Last Modified Date: Not reported
First Submit Date: Not reported
Data Submitted By: Not reported
Company Name: Not reported
Comments: Not reported

Chemical Code: 330541
Chemical Name: Diuron [3-(3,4-Dichlorophenyl)-1,1-Dimethylurea]
Chemical State: LIQUID
Location Name: Entire Facility
Container Code: N
Pressure Code: 1
Temperature Code: 4
Average Quantity: 1
Maximum Quantity: 900
Days On Site: 90

Name: S M R FARMS - CITRUS GROVE
Address: 4715 LORRAINE ROAD
City,State,Zip: BRADENTON, FL 34211

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

S M R FARMS - CITRUS GROVE (Continued)

S109926230

Year: 2010
Facility Id: Not reported
Active Date: Not reported
Inactive Date: Not reported
Sale Pending: Not reported
Original Date: Not reported
PLOT Source: Not reported
Latitude: 27.45475
Longitude: -82.39
LEPC District: Not reported
Counties: Not reported
SERC: Not reported
Program Level: Not reported
PRIME: Not reported
SIC Code: Not reported
SIC Code 2: Not reported
NAICS Code: Not reported
Last Modified Date: Not reported
First Submit Date: Not reported
Data Submitted By: Not reported
Company Name: Not reported
Comments: Not reported

Chemical Code: 1910425
Chemical Name: Paraquat dichloride [Gramoxone Inteon]
Chemical State: LIQUID
Location Name: Entire Facility
Container Code: N
Pressure Code: 1
Temperature Code: 4
Average Quantity: 1
Maximum Quantity: 1350
Days On Site: 30

Name: S M R FARMS - CITRUS GROVE
Address: 4715 LORRAINE ROAD
City,State,Zip: BRADENTON, FL 34211
Year: Not reported
Facility Id: Not reported
Active Date: 01/01/2004
Inactive Date: Not reported
Sale Pending: False
Original Date: Not reported
PLOT Source: Incident Mapper
Latitude: 27.454750
Longitude: -82.389050
LEPC District: 8
Counties: Pinellas,Pasco,Manatee,Hillsborough,
SERC: 36176
Program Level: 0
PRIME: 26937
SIC Code: 0174
SIC Code 2: Not reported
NAICS Code: 11132

Other Chemical Data:
Report Year: 2007
Tier 2 Report ID: 109048

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

S M R FARMS - CITRUS GROVE (Continued)

S109926230

Chemical ID: 321320
CAS Number: 63252
Chemical Name: Carbaryl
Chemical Date: 7/24/2009
Average Amount: 1
Maximum Amount: 1900
Location ID: 523731
Chemical State: Liquid
Mixture: True
Mixture Percent: .00
Container: N - PLASTIC BOTTLES OR JUGS
Pressure: 1 - AMBIENT PRESSURE
Temperature: 4 - AMBIENT TEMPERATURE
Average Amount: 1
Maximum Amount: 1900
Days on Site: 40
Site Plan: True
Site Plan Document: Not reported
Private Location: False
Location: CARBARYL 4L - IN CHEMICAL SHED ON SOUTHEAST CORNER OF BUILDING

Report Year: 2005
Tier 2 Report ID: 109046
Chemical ID: 321318
CAS Number: 330541
Chemical Name: Diuron
Chemical Date: 7/24/2009
Average Amount: 1
Maximum Amount: 150
Location ID: 523729
Chemical State: Liquid
Mixture: True
Mixture Percent: .00
Container: N - PLASTIC BOTTLES OR JUGS
Pressure: 1 - AMBIENT PRESSURE
Temperature: 4 - AMBIENT TEMPERATURE
Average Amount: 1
Maximum Amount: 150
Days on Site: 3
Site Plan: True
Site Plan Document: Not reported
Private Location: False
Location: KARMEX DF - IN CHEMICAL SHED CENTER OF EAST WALL

Report Year: 2006
Tier 2 Report ID: 109047
Chemical ID: 321317
CAS Number: 330541
Chemical Name: Diuron
Chemical Date: 7/24/2009
Average Amount: 1
Maximum Amount: 900
Location ID: 523727
Chemical State: Liquid
Mixture: True

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

S M R FARMS - CITRUS GROVE (Continued)

S109926230

Mixture Percent: .00
Containter: N - PLASTIC BOTTLES OR JUGS
Pressure: 1 - AMBIENT PRESSURE
Temperature: 4 - AMBIENT TEMPERATURE
Average Amount: 1
Maximum Amount: 900
Days on Site: 90
Site Plan: True
Site Plan Document: Not reported
Private Location: False
Location: KARMEX DF - IN CHEMICAL SHED CENTER OF EAST WALL

Report Year: 2007
Tier 2 Report ID: 109048
Chemical ID: 321316
CAS Number: 330541
Chemical Name: Diuron
Chemical Date: 7/24/2009
Average Amount: 1
Maximum Amount: 900
Location ID: 523726
Chemical State: Liquid
Mixture: True
Mixture Percent: .00
Containter: N - PLASTIC BOTTLES OR JUGS
Pressure: 1 - AMBIENT PRESSURE
Temperature: 4 - AMBIENT TEMPERATURE
Average Amount: 1
Maximum Amount: 900
Days on Site: 90
Site Plan: True
Site Plan Document: Not reported
Private Location: False
Location: KARMEX DF - IN CHEMICAL SHED CENTER OF EAST WALL

Report Year: 2008
Tier 2 Report ID: 109049
Chemical ID: 321315
CAS Number: 330541
Chemical Name: Diuron
Chemical Date: 7/24/2009
Average Amount: 1
Maximum Amount: 900
Location ID: 523725
Chemical State: Liquid
Mixture: True
Mixture Percent: .00
Containter: N - PLASTIC BOTTLES OR JUGS
Pressure: 1 - AMBIENT PRESSURE
Temperature: 4 - AMBIENT TEMPERATURE
Average Amount: 1
Maximum Amount: 900
Days on Site: 90
Site Plan: True
Site Plan Document: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

S M R FARMS - CITRUS GROVE (Continued)

S109926230

Private Location: False
Location: KARMEX DF - IN CHEMICAL SHED CENTER OF EAST WALL

Report Year: 2009
Tier 2 Report ID: 109050
Chemical ID: 321313
CAS Number: 330541
Chemical Name: Diuron
Chemical Date: 7/24/2009
Average Amount: 1
Maximum Amount: 900
Location ID: 523724
Chemical State: Liquid
Mixture: True
Mixture Percent: .00
Container: N - PLASTIC BOTTLES OR JUGS
Pressure: 1 - AMBIENT PRESSURE
Temperature: 4 - AMBIENT TEMPERATURE
Average Amount: 1
Maximum Amount: 900
Days on Site: 90
Site Plan: True
Site Plan Document: Not reported
Private Location: False
Location: KARMEX DF - IN CHEMICAL SHED CENTER OF EAST WALL

Report Year: 2009
Tier 2 Report ID: 109050
Chemical ID: 321312
CAS Number: 1910425
Chemical Name: Paraquat dichloride
Chemical Date: 7/24/2009
Average Amount: 1
Maximum Amount: 1350
Location ID: 523723
Chemical State: Liquid
Mixture: True
Mixture Percent: .00
Container: N - PLASTIC BOTTLES OR JUGS
Pressure: 1 - AMBIENT PRESSURE
Temperature: 4 - AMBIENT TEMPERATURE
Average Amount: 1
Maximum Amount: 1350
Days on Site: 30
Site Plan: True
Site Plan Document: Not reported
Private Location: False
Location: GRAMOXONE INTEON - IN CHEMICAL SHED NEAR NORTHEAST CORNER

Company Info:
Company Name: SMR FARMS LLC
Company Address: 4715 LORRAINE ROAD
Company City,St,Zip: BRADENTON, FL 34211
Company Phone: 941-708-3322

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

S M R FARMS - CITRUS GROVE (Continued)

S109926230

Company Fax: 941-708-3391
Company Email: Steven.John@smrfarms.com
FEI Number: 261849161
Company Contact Name: STEVEN JOHN
Company Contact Phone: 941-708-3322
Reduced Fees: False
Exempt Fees: False
Electronic Filing: False
Employee: 0
Comments: Not reported

WASTEWATER:

Name: AZARIO
Address: 4715 LORRAINE RD
City,State,Zip: BRADENTON, FL
Facility ID: FLR20DO52
Facility Type: Construction Generic Dewatering
Status: Active - Existing, permitted facility/site for which effluent, reclaimed water or wastewater residual discharge into the environment and/or monitoring is taking place.

District Office: TLST
NPDES Permitted Site: Not reported
Environmental Interest: Not reported
Owner Type: Private
Permit Capacity: Not reported
Party Name: Justin Laurie, PMTE
Company Name: Taylor Morrison of Florida Inc
RP Address: 500 N Cattlemen Rd, Ste 205
RP Address 2: Not reported
RP City,Stat,Zip: Sarasota FL 34232
Telephone: 9415542855
Email: jlaurie@taylormorrison.com
Issue Date: 04/10/2020
Effective Date: 04/10/2020
Expiration Date: 04/09/2025
DOC Description: Generic Permit
Latitude Degrees: 27
Latitude Minutes: 27
Latitude Seconds: 19.6
Longitude Degrees: 82
Longitude Minutes: 23
Longitude Seconds: 43.9
Treatment: Not reported
Decode For Fstatus: Active

MAP FINDINGS

Map ID			EDR ID Number
Direction			EPA ID Number
Distance			
Elevation	Site	Database(s)	

D10	AZARIO	ECHO	1026185049
Target	4715 LORRAINE RD		N/A
Property	BRADENTON, FL 34211		

Site 2 of 3 in cluster D

Actual:	ECHO:		
50 ft.	Envid:		1026185049
Focus Map:	Registry ID:		110070743839
4	DFR URL:		http://echo.epa.gov/detailed-facility-report?fid=110070743839
	Name:		AZARIO
	Address:		4715 LORRAINE RD
	City,State,Zip:		BRADENTON, FL 34211

D11	AZARIO	FINDS	1026422148
Target	4715 LORRAINE RD		N/A
Property	BRADENTON, FL 34211		

Site 3 of 3 in cluster D

Actual:	FINDS:		
50 ft.	Registry ID:		110070743839
Focus Map:	Click Here:		
4			

Environmental Interest/Information System:

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

E12	SAVANNAH AT LAKEWOOD RANCH	ECHO	1018111381
Target	4810 LORRAINE RD		N/A
Property	BRADENTON, FL 34211		

Site 1 of 7 in cluster E

Actual:	ECHO:		
50 ft.	Envid:		1018111381
Focus Map:	Registry ID:		110064424680
5	DFR URL:		http://echo.epa.gov/detailed-facility-report?fid=110064424680
	Name:		SAVANNAH AT LAKEWOOD RANCH
	Address:		4810 LORRAINE RD
	City,State,Zip:		BRADENTON, FL 34211

MAP FINDINGS

Map ID Direction Distance Elevation		Database(s)	EDR ID Number EPA ID Number
--	--	-------------	--------------------------------

E13	SAVANNAH AT LAKEWOOD RANCH	FINDS	1017815440
Target	4810 LORRAINE RD		N/A
Property	BRADENTON, FL 34211		

Site 2 of 7 in cluster E

Actual: FINDS:
50 ft. Registry ID: 110064424680

Focus Map:
5 Click Here:

Environmental Interest/Information System:
 US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

E14	SAVANNA AT LAKEWOOD RANCH PHASE II	FINDS	1018375456
Target	4810 LORRAINE RD	ECHO	N/A
Property	LAKEWOOD RANCH, FL 34240		

Site 3 of 7 in cluster E

Actual: FINDS:
50 ft. Registry ID: 110069218796

Focus Map:
5 Click Here:

Environmental Interest/Information System:
 US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1018375456
Registry ID:	110069218796
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110069218796
Name:	SAVANNA AT LAKEWOOD RANCH PHASE II
Address:	4810 LORRAINE RD
City,State,Zip:	LAKEWOOD RANCH, FL 34240

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

E15 SAVANNA AT LAKEWOOD RANCH PHASE II
Target 4810 LORRAINE RD
Property LAKEWOOD RANCH, FL

NPDES S118560744
N/A

Site 4 of 7 in cluster E

Actual: 50 ft. WASTEWATER:
Focus Map: 5
Name: SAVANNA AT LAKEWOOD RANCH PHASE II
Address: 4810 LORRAINE RD
City,State,Zip: LAKEWOOD RANCH, FL
Facility ID: FLR10QA96
Facility Type: Construction Stormwater GP
Status: Active - Existing, permitted facility/site for which effluent, reclaimed water or wastewater residual discharge into the environment and/or monitoring is taking place.
District Office: TLST
NPDES Permitted Site: Not reported
Environmental Interest: Not reported
Owner Type: Unknown
Permit Capacity: Not reported
Party Name: Darin McMurray, PMTE
Company Name: Lennar Homes, LLC.
RP Address: 10481 Six Mile Cypress Pkwy
RP Address 2: Not reported
RP City,Stat,Zip: Fort Myers FL 33966
Telephone: 2392781177
Email: darin.mcmurray@lennar.com
Issue Date: 04/02/2016
Effective Date: 04/02/2016
Expiration Date: 04/01/2021
DOC Description: Generic Permit
Latitude Degrees: 27
Latitude Minutes: 28
Latitude Seconds: 13.22
Longitude Degrees: 82
Longitude Minutes: 23
Longitude Seconds: 56.15
Treatment: Not reported
Decode For Fstatus: Active

E16 SAVANNAH AT LAKEWOOD RANCH
Target 4810 LORRAINE RD
Property BRADENTON, FL

NPDES S120049022
N/A

Site 5 of 7 in cluster E

Actual: 50 ft. WASTEWATER:
Focus Map: 5
Name: SAVANNAH AT LAKEWOOD RANCH
Address: 4810 LORRAINE RD
City,State,Zip: BRADENTON, FL
Facility ID: FLR10QP01
Facility Type: Construction Stormwater GP
Status: Active - Existing, permitted facility/site for which effluent, reclaimed water or wastewater residual discharge into the environment and/or monitoring is taking place.
District Office: TLST
NPDES Permitted Site: Not reported
Environmental Interest: Not reported
Owner Type: Unknown
Permit Capacity: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SAVANNAH AT LAKEWOOD RANCH (Continued)

S120049022

Party Name: Tom Griggs, PMTE
Company Name: Meritage Homes
RP Address: 1010 Highland Manor Dr, Ste 120
RP Address 2: Not reported
RP City,Stat,Zip: Tampa FL 33610
Telephone: 8133868754
Email: thomas.griggs@meritagehomes.com
Issue Date: 11/07/2016
Effective Date: 11/07/2016
Expiration Date: 11/06/2021
DOC Description: Generic Permit
Latitude Degrees: 27
Latitude Minutes: 28
Latitude Seconds: 41.57
Longitude Degrees: 82
Longitude Minutes: 24
Longitude Seconds: 11.54
Treatment: Not reported
Decode For Fstatus: Active

E17 SMR FARMS SHOP
Target 4820 LORRAINE RD
Property BRADENTON, FL 34202

Financial Assurance S107932339
N/A

Site 6 of 7 in cluster E

Actual: FL Financial Assurance 3:
50 ft. Name: SMR FARMS SHOP
Focus Map: Address: 4820 LORRAINE RD
5 City,State,Zip: BRADENTON, FL 34202
Region: 3
Facility ID: 9102336
Facility Phone: 9417083322
Facility Status: OPEN
Facility Type: M
Type Description: Agricultural
DEP CO: P
Financial Responsibility: SELF-INSURANCE - LETTER FROM CHIEF FINANCIAL OFFIC
Insurance Company: Not reported
Effective Date: 01/01/2019
Expire Date: 12/31/2020
Owner ID: 77894
Owner Name: SMR FARMS LLC
Owner Address: 18900 E SR 64
Owner Address2: Not reported
Owner City,St,Zip: BRADENTON, FL 34212
Contact: MICHELLE RULE
Resp Party Phone: 9417083322

Name: SMR FARMS SHOP
Address: 4820 LORRAINE RD
City,State,Zip: BRADENTON, FL 34202
Region: 3
Facility ID: 9102336
Facility Phone: 9417083322
Facility Status: OPEN
Facility Type: M
Type Description: Agricultural

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SMR FARMS SHOP (Continued)

S107932339

DEP CO: P
Financial Responsibility: SELF-INSURANCE - LETTER FROM CHIEF FINANCIAL OFFIC
Insurance Company: Not reported
Effective Date: 01/04/2018
Expire Date: 01/24/2019
Owner ID: 77894
Owner Name: SMR FARMS LLC
Owner Address: 18900 E SR 64
Owner Address2: Not reported
Owner City,St,Zip: BRADENTON, FL 34212
Contact: MICHELLE RULE
Resp Party Phone: 9417083322

Name: SMR FARMS SHOP
Address: 4820 LORRAINE RD
City,State,Zip: BRADENTON, FL 34202
Region: 3
Facility ID: 9102336
Facility Phone: 9417083322
Facility Status: OPEN
Facility Type: M
Type Description: Agricultural
DEP CO: P
Financial Responsibility: SELF-INSURANCE - LETTER FROM CHIEF FINANCIAL OFFIC
Insurance Company: Not reported
Effective Date: 01/24/2018
Expire Date: 01/24/2019
Owner ID: 77894
Owner Name: SMR FARMS LLC
Owner Address: 18900 E SR 64
Owner Address2: Not reported
Owner City,St,Zip: BRADENTON, FL 34212
Contact: MICHELLE RULE
Resp Party Phone: 9417083322

Name: SMR FARMS SHOP
Address: 4820 LORRAINE RD
City,State,Zip: BRADENTON, FL 34202
Region: 3
Facility ID: 9102336
Facility Phone: 9417083322
Facility Status: OPEN
Facility Type: M
Type Description: Agricultural
DEP CO: P
Financial Responsibility: SELF-INSURANCE - LETTER FROM CHIEF FINANCIAL OFFIC
Insurance Company: Not reported
Effective Date: 02/01/2014
Expire Date: 01/31/2015
Owner ID: 77894
Owner Name: SMR FARMS LLC
Owner Address: 18900 E SR 64
Owner Address2: Not reported
Owner City,St,Zip: BRADENTON, FL 34212
Contact: MICHELLE RULE
Resp Party Phone: 9417083322

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SMR FARMS SHOP (Continued)

S107932339

Name: SMR FARMS SHOP
Address: 4820 LORRAINE RD
City,State,Zip: BRADENTON, FL 34202
Region: 3
Facility ID: 9102336
Facility Phone: 9417083322
Facility Status: OPEN
Facility Type: M
Type Description: Agricultural
DEP CO: P
Financial Responsibility: SELF-INSURANCE - LETTER FROM CHIEF FINANCIAL OFFIC
Insurance Company: Not reported
Effective Date: 12/19/2011
Expire Date: 12/19/2012
Owner ID: 77894
Owner Name: SMR FARMS LLC
Owner Address: 18900 E SR 64
Owner Address2: Not reported
Owner City,St,Zip: BRADENTON, FL 34212
Contact: MICHELLE RULE
Resp Party Phone: 9417083322

Name: SMR FARMS SHOP
Address: 4820 LORRAINE RD
City,State,Zip: BRADENTON, FL 34202
Region: 3
Facility ID: 9102336
Facility Phone: 9417083322
Facility Status: OPEN
Facility Type: M
Type Description: Agricultural
DEP CO: P
Financial Responsibility: SELF-INSURANCE - LETTER FROM CHIEF FINANCIAL OFFIC
Insurance Company: Not reported
Effective Date: 12/19/2014
Expire Date: 12/19/2015
Owner ID: 77894
Owner Name: SMR FARMS LLC
Owner Address: 18900 E SR 64
Owner Address2: Not reported
Owner City,St,Zip: BRADENTON, FL 34212
Contact: MICHELLE RULE
Resp Party Phone: 9417083322

Name: SMR FARMS SHOP
Address: 4820 LORRAINE RD
City,State,Zip: BRADENTON, FL 34202
Region: 3
Facility ID: 9102336
Facility Phone: 9417083322
Facility Status: OPEN
Facility Type: M
Type Description: Agricultural
DEP CO: P
Financial Responsibility: SELF-INSURANCE - LETTER FROM CHIEF FINANCIAL OFFIC
Insurance Company: Not reported
Effective Date: 12/19/2016

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SMR FARMS SHOP (Continued)

S107932339

Expire Date: 12/19/2017
Owner ID: 77894
Owner Name: SMR FARMS LLC
Owner Address: 18900 E SR 64
Owner Address2: Not reported
Owner City,St,Zip: BRADENTON, FL 34212
Contact: MICHELLE RULE
Resp Party Phone: 9417083322

Name: SMR FARMS SHOP
Address: 4820 LORRAINE RD
City,State,Zip: BRADENTON, FL 34202
Region: 3
Facility ID: 9102336
Facility Phone: 9417083322
Facility Status: OPEN
Facility Type: M
Type Description: Agricultural
DEP CO: P
Financial Responsibility: SELF-INSURANCE - LETTER FROM CHIEF FINANCIAL OFFIC
Insurance Company: Not reported
Effective Date: 12/21/2008
Expire Date: 12/21/2009
Owner ID: 77894
Owner Name: SMR FARMS LLC
Owner Address: 18900 E SR 64
Owner Address2: Not reported
Owner City,St,Zip: BRADENTON, FL 34212
Contact: MICHELLE RULE
Resp Party Phone: 9417083322

Name: SMR FARMS SHOP
Address: 4820 LORRAINE RD
City,State,Zip: BRADENTON, FL 34202
Region: 3
Facility ID: 9102336
Facility Phone: 9417083322
Facility Status: OPEN
Facility Type: M
Type Description: Agricultural
DEP CO: P
Financial Responsibility: SELF-INSURANCE - LETTER FROM CHIEF FINANCIAL OFFIC
Insurance Company: Not reported
Effective Date: 12/21/2009
Expire Date: 12/21/2010
Owner ID: 77894
Owner Name: SMR FARMS LLC
Owner Address: 18900 E SR 64
Owner Address2: Not reported
Owner City,St,Zip: BRADENTON, FL 34212
Contact: MICHELLE RULE
Resp Party Phone: 9417083322

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number
EPA ID Number

E18 **SMR FARMS SHOP**
Target **4820 LORRAINE RD**
Property **BRADENTON, FL 34202**

AST **A100010389**
N/A

Site 7 of 7 in cluster E

Actual:
50 ft.

Focus Map:
5

AST:
Name: SMR FARMS SHOP
Address: 4820 LORRAINE RD
Facility ID: 9102336
Facility Status: OPEN
Type Description: Agricultural
Facility Phone: 9417083322
DEP Contractor Own: P
Region: STATE
Positioning Method: AGPS
Lat/Long (dms): 27 27 17 / 82 23 48

Owner:
Owner Id: 77894
Owner Name: SMR FARMS LLC
Owner Address: 18900 E SR 64
Owner Address 2: Not reported
Owner City,St,Zip: BRADENTON, FL 34212
Owner Contact: MICHELLE RULE
Owner Phone: 9417083322

Tank Id: 1
Status: In service
Status Date: Not reported
Install Date: 3/1/1991
Substance: Unleaded gas
Content Description: Unleaded Gas
Gallons: 1000
Tank Location: ABOVEGROUND

Construction:
Tank Id: 1
Construction Category: Primary Construction
Construction Description: Steel

Tank Id: 1
Construction Category: Secondary Containment
Construction Description: AST containment

Monitoring:
Tank ID: 1
Monitoring Description: Visual inspection of ASTs

Piping:
Tank ID: 1
Piping Category: Miscellaneous Attributes
Piping Description: Abv, no soil contact

Tank ID: 1
Piping Category: Miscellaneous Attributes
Piping Description: Suction piping system

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SMR FARMS SHOP (Continued)

A100010389

[Click here for Florida Oculus:](#)

F19

Target 4821 LORRAINE ROAD, SCHROEDER MANATEE RANCH
Property BRADENTON, FL

SPILLS S105459447
N/A

Site 1 of 2 in cluster F

Actual: SPILLS:
50 ft. Name: Not reported
Focus Map: Address: 4821 LORRAINE ROAD, SCHROEDER MANATEE RANCH
6 City,State,Zip: BRADENTON, FL
OHMIT Incident Number: 16773
Incident Legacy: 98-04-0116
On-Scene Response: Yes
Criminal Indicator: No
Hurricane Indicator: No
Incident Date: 03/09/1998
Incident Status: Closed
Incident Report Date: Not reported

F20 **SMR FARMS - CITRUS GROVE**
Target 4821 LORRAINE ROAD
Property BRADENTON, FL 34211

TIER 2 S115596100
N/A

Site 2 of 2 in cluster F

Actual: TIER 2:
50 ft. Name: SMR FARMS - CITRUS GROVE
Focus Map: Address: 4821 LORRAINE ROAD
6 City,State,Zip: BRADENTON, FL 34211
Year: 2014
Facility Id: 5014286
Active Date: Not reported
Inactive Date: Not reported
Sale Pending: Not reported
Original Date: Not reported
PLOT Source: Not reported
Latitude: 27.454750
Longitude: -82.389050
LEPC District: Not reported
Counties: Not reported
SERC: Not reported
Program Level: Not reported
PRIME: Not reported
SIC Code: 0174
SIC Code 2: Not reported
NAICS Code: 111310
Last Modified Date: 07/29/2015
First Submit Date: 07/29/2015
Data Submitted By: Steve John / Citrus Supervisor
Company Name: SMR FARMS LLC
Comments: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SMR FARMS - CITRUS GROVE (Continued)

S115596100

Contact:
Contact ID: Not reported
Year: 2014
Facility Id: 5014286
Contact Type: Emergency Contact
Contact Name: Steve John
Contact Title: Not reported
Contact Phone: 941-812-9982
Contact 24Hr Phone: Not reported
Contact Telephone 2: 941-812-9982
Contact Telephone 3: Not reported
Contact Telephone 4: Not reported
Contact Telephone 5: Not reported
Contact Telephone 6: Not reported
Contact Email: Steve.John@SMRFarms.com

Name: SMR FARMS - CITRUS GROVE
Address: 4821 LORRAINE ROAD
City,State,Zip: BRADENTON, FL 34211

Year: 2013
Facility Id: 4516753
Active Date: Not reported
Inactive Date: Not reported
Sale Pending: Not reported
Original Date: Not reported
PLOT Source: Not reported
Latitude: 27.454750
Longitude: -82.389050
LEPC District: Not reported
Counties: Not reported
SERC: Not reported
Program Level: Not reported
PRIME: Not reported
SIC Code: 0174
SIC Code 2: Not reported
NAICS Code: 111310
Last Modified Date: 02/24/2014
First Submit Date: 02/24/2014
Data Submitted By: Steve John / Citrus Supervisor
Company Name: SMR FARMS LLC
Comments: Not reported

Contact:
Contact ID: Not reported
Year: 2013
Facility Id: 4516753
Contact Type: Emergency Contact
Contact Name: Steve John
Contact Title: Not reported
Contact Phone: 941-812-9982
Contact 24Hr Phone: Not reported
Contact Telephone 2: 941-812-9982
Contact Telephone 3: Not reported
Contact Telephone 4: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SMR FARMS - CITRUS GROVE (Continued)

S115596100

Contact Telephone 5: Not reported
Contact Telephone 6: Not reported
Contact Email: Steve.John@SMRFarms.com

Name: SMR FARMS - CITRUS GROVE
Address: 4821 LORRAINE ROAD
City,State,Zip: BRADENTON, FL 34211

Year: 2012
Facility Id: 4275195
Active Date: Not reported
Inactive Date: Not reported
Sale Pending: Not reported
Original Date: Not reported
PLOT Source: Not reported
Latitude: 27.454750
Longitude: -82.389050
LEPC District: Not reported
Counties: Not reported
SERC: Not reported
Program Level: Not reported
PRIME: Not reported
SIC Code: 0174
SIC Code 2: Not reported
NAICS Code: 111310
Last Modified Date: 07/03/2013
First Submit Date: 07/03/2013
Data Submitted By: Steve John / Citrus Supervisor
Company Name: SMR FARMS LLC
Comments: Not reported

Contact:

Contact ID: Not reported
Year: 2012
Facility Id: 4275195
Contact Type: Emergency Contact
Contact Name: Steve John
Contact Title: Not reported
Contact Phone: 941-812-9982
Contact 24Hr Phone: Not reported
Contact Telephone 2: 941-812-9982
Contact Telephone 3: Not reported
Contact Telephone 4: Not reported
Contact Telephone 5: Not reported
Contact Telephone 6: Not reported
Contact Email: Steve.John@SMRFarms.com

Contact ID: Not reported
Year: 2012
Facility Id: 4275195
Contact Type: Owner / Operator
Contact Name: SMR Farms LLC
Contact Title: Not reported
Contact Phone: 941-708-3322
Contact 24Hr Phone: Not reported
Contact Telephone 2: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SMR FARMS - CITRUS GROVE (Continued)

S115596100

Contact Telephone 3: Not reported
Contact Telephone 4: Not reported
Contact Telephone 5: Not reported
Contact Telephone 6: Not reported
Contact Email: Steve.John@SMRFarms.com

21 **CYPRESS BANKS PHASE 3 SUBPHASE FF THE DOMINION**
Target **5000 W OF LORRAINE ROAD**
Property **BRADENTON, FL 34202**

FINDS **1011439779**
N/A

FINDS:
Registry ID: 110035566287

Actual:
49 ft.

Click Here:

Focus Map:
5

Environmental Interest/Information System:
Florida Environmental System Today Application (FIESTA) Data Maintenance (FDM) system maintains entity, environmental interest and affiliation data for the State of Florida.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

G22 **NATE'S HONOR ANIMAL RESCUE**
Target **4951 LORRAINE RD**
Property **BRADENTON, FL**

NPDES **S127001867**
N/A

Site 1 of 2 in cluster G

Actual:
50 ft.

WASTEWATER:
Name: NATE'S HONOR ANIMAL RESCUE
Address: 4951 LORRAINE RD
City,State,Zip: BRADENTON, FL
Facility ID: FLR20DT57
Facility Type: Construction Generic Dewatering
Status: Active - Existing, permitted facility/site for which effluent, reclaimed water or wastewater residual discharge into the environment and/or monitoring is taking place.

Focus Map:
6

District Office: TLST
NPDES Permitted Site: Not reported
Environmental Interest: Not reported
Owner Type: Private
Permit Capacity: Not reported
Party Name: Irving Levy, Executive Director
Company Name: Foundation For Jewish Philanthropies
RP Address: 2640 N Forest Rd, Ste 200
RP Address 2: Not reported
RP City,Stat,Zip: Getzville NY 14068
Telephone: 7062041133
Email: todd.mathes@benderson.com
Issue Date: 07/11/2020
Effective Date: 07/11/2020
Expiration Date: 07/10/2025
DOC Description: Generic Permit
Latitude Degrees: 27

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NATE'S HONOR ANIMAL RESCUE (Continued)

S127001867

Latitude Minutes: 27
Latitude Seconds: 9
Longitude Degrees: 82
Longitude Minutes: 23
Longitude Seconds: 41
Treatment: Not reported
Decode For Fstatus: Active

G23 NATE'S HONOR ANIMAL RESCUE
Target 4951 LORRAINE RD
Property BRADENTON, FL 34211

FINDS 1026461027
ECHO N/A

Site 2 of 2 in cluster G

Actual: FINDS:
50 ft. Registry ID: 110070825377

Focus Map:
6 Click Here:

Environmental Interest/Information System:

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1026461027
Registry ID: 110070825377
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110070825377>
Name: NATE'S HONOR ANIMAL RESCUE
Address: 4951 LORRAINE RD
City,State,Zip: BRADENTON, FL 34211

24 LAKEWOOD RANCH SHELL
SSW 14315 E STATE ROAD 70
1/8-1/4 LAKEWOOD RANCH, FL 34202
0.232 mi.
1225 ft.

LUST U004240994
UST N/A
DWM CONTAM
Financial Assurance

Actual: LUST:
37 ft. Name: LAKEWOOD RANCH SHELL
Focus Map: Address: 14315 E STATE ROAD 70
5 City,State,Zip: LAKEWOOD RANCH, FL 34202
Region: STATE
Facility Id: 9806868
Facility Status: OPEN
Facility Type: A - Retail Station
Facility Phone: (813)917-8385
Facility Cleanup Rank: Not reported
District: Southwest District

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LAKWOOD RANCH SHELL (Continued)

U004240994

Lat/Long (dms): 27 25 57.4 / 82 23 49.14
Section: Not reported
Township: Not reported
Range: Not reported
Feature: Not reported
Method: Not reported
Datum: Not reported
Score: 10
Score Effective Date: 2013-07-01 00:00:00
Score When Ranked: Not reported
Operator: TOM BUTLER
Name Update: 2015-08-07 00:00:00
Address Update: 2016-03-01 00:00:00

Petroleum Cleanup PCT Facility Score:
Facility Cleanup Status: ONGO - ONGOING
Contact: ACCOUNTS PAYABLE
Contact Company: J H WILLIAMS OIL CO INC
Contact Address: PO BOX 439
Contact City/State/Zip: TAMPA, FL 33601
Phone: (813)917-8358
Bad Address Ind: N
State: FL
Zip: 34202, 9417
Score: 10
Score Effective Date: 2013-07-01 00:00:00
Related Party ID: 11229
Primary RP Role: ACCOUNT OWNER
RP Begin Date: 2015-08-07
RP Zip: 439
RP Extension: Not reported

Discharge Cleanup Summary:
Discharge Date: 1/23/2006
PCT Discharge Combined: Not reported
Cleanup Required: R - CLEANUP REQUIRED
Discharge Cleanup Status: RA - RA ONGOING
Disch Cleanup Status Date: 1/7/2008
Cleanup Work Status: ACTIVE
Information Source: D - DISCHARGE NOTIFICATION
Other Source Description: Not reported
Eligibility Indicator: I - INELIGIBLE
Site Manager: KIYALI_S
Site Mgr End Date: Not reported
Tank Office: PCSWD - SWD CLEANUP & COMPLIANCE ASSURANCE PROGRAM

Contaminated Media:
Discharge Date: 1/23/2006
Pct Discharge Combined With: Not reported
Cleanup Required: R - CLEANUP REQUIRED
Discharge Cleanup Status: RA - RA ONGOING
Disch Cleanup Status Date: 1/7/2008
Cleanup Work Status: INACTIVE
Information Source: D - DISCHARGE NOTIFICATION
Other Source Description: Not reported
Elig Indicator: I - INELIGIBLE
Site Manager: KIYALI_S
Site Mgr End Date: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LAKWOOD RANCH SHELL (Continued)

U004240994

Tank Office:	PCSWD - SWD CLEANUP & COMPLIAN
Contaminated Drinking Wells:	Not reported
Contaminated Monitoring Well:	No
Contaminated Soil:	Yes
Contaminated Surface Water:	No
Contaminated Ground Water:	No
Pollutant:	P - Generic Gasoline
Pollutant Other Description:	Not reported
Gallons Discharged:	25
Task Information:	
District:	SWD
Facility ID:	9806868
Facility Status:	OPEN
Facility Type:	A - Retail Station -
County:	MANATEE
County ID:	41
Cleanup Eligibility Status:	I
Source Effective Date:	Not reported
Discharge Date:	01-23-2006
Cleanup Required:	R - CLEANUP REQUIRED
Discharge Cleanup Status:	RA - RA ONGOING
Disch Cleanup Status Date:	01-07-2008
SRC Action Type:	-
SRC Submit Date:	Not reported
SRC Review Date:	Not reported
SRC Completion Status:	-
SRC Issue Date:	Not reported
SRC Comment:	Not reported
Cleanup Work Status:	INACTIVE
Site Mgr:	ROBINSON_VL
Site Mgr End Date:	Not reported
Tank Office:	PCSWD - Southwest District
SR Task ID:	Not reported
SR Cleanup Responsible:	-
SR Funding Eligibility Type:	-
SR Actual Cost:	Not reported
SR Completion Date:	Not reported
SR Payment Date:	Not reported
SR Oral Date:	Not reported
SR Written Date:	Not reported
SR Soil Removal:	Not reported
SR Free Product Removal:	Not reported
SR Soil Tonnage Removed:	Not reported
SR Soil Treatment:	Not reported
SR Other Treatment:	Not reported
SR Alternate Proc Received Date:	Not reported
SR Alternate Procedure Status:	Not reported
SR Alternate Procedure Status Date:	Not reported
SR Alternate Procedure Comments:	Not reported
SA Task ID:	79906
SA Cleanup Responsible:	-
SA Funding Eligibility Type:	-
SA Actual Cost:	Not reported
SA Completion Date:	Not reported
SA Payment Date:	Not reported
RAP Task ID:	81785
RAP Cleanup Responsible ID:	-

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LAKEWOOD RANCH SHELL (Continued)

U004240994

RAP Funding Eligibility Type: -
RAP Actual Cost: Not reported
RAP Completion Date: 09-26-2007
RAP Payment Date: Not reported
RAP Last Order Approved: Not reported
RA Task ID: 81793
RA Cleanup Responsible: -
RA Funding Eligibility Type: -
RA Years to Complete: Not reported
RA Actual Cost: Not reported

Click here for Florida Oculus:

UST:

Facility Id: 9806868
Facility Status: OPEN
Type Description: Retail Station
Facility Phone: 8139178385
Region: STATE
Positioning Method: Not reported
Lat/Long (dms): Not reported

Owner:

Owner Id: 11229
Owner Name: J H WILLIAMS OIL CO INC
Owner Address: PO BOX 439
Owner Address 2: ATTN: ACCOUNTS PAYABLE
Owner City,St,Zip: TAMPA, FL 33601
Owner Contact: ACCOUNTS PAYABLE
Owner Phone: 8139178358

Tank Info:

Name: LAKEWOOD RANCH SHELL
Address: 14315 E STATE ROAD 70
City: LAKEWOOD RANCH
Zip: 34202
Tank Id: 1
Status: In service
Status Date: 10/01/2004
Install Date: 9/1/2004
Substance: Unleaded gas
Content Description: Unleaded Gas
Gallons: 20000
Vessel Indicator: TANK
Tank Location: UNDERGROUND
DEP Contractor: C

Construction:

Tank Id: 1
Construction Category: Primary Construction
Construction Description: Fiberglass

Tank Id: 1
Construction Category: Overfill/Spill
Construction Description: Ball check valve

Tank Id: 1

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LAKEWOOD RANCH SHELL (Continued)

U004240994

Construction Category: Overfill/Spill
Construction Description: Spill containment bucket

Tank Id: 1
Construction Category: Overfill/Spill
Construction Description: Tight fill

Tank Id: 1
Construction Category: Secondary Containment
Construction Description: Double wall

Tank Id: 1
Construction Category: Overfill/Spill
Construction Description: Level gauges/alarms

Monitoring:

Tank ID: 1
Monitoring Description: Monitor dbl wall tank space

Tank ID: 1
Monitoring Description: Mechanical line leak detector

Tank ID: 1
Monitoring Description: Electronic monitor pipe sumps

Tank ID: 1
Monitoring Description: Visual inspect dispenser liners

Tank ID: 1
Monitoring Description: Visual inspect pipe sumps

Tank ID: 1
Monitoring Description: Monitor dbl wall pipe space

Piping:

Tank ID: 1
Piping Category: Miscellaneous Attributes
Piping Description: Pressurized piping system

Tank ID: 1
Piping Category: Miscellaneous Attributes
Piping Description: Dispenser liners

Tank ID: 1
Piping Category: Primary Construction
Piping Description: Approved synthetic material

Tank ID: 1
Piping Category: Secondary Containment
Piping Description: Double wall

Name: LAKEWOOD RANCH SHELL
Address: 14315 E STATE ROAD 70
City: LAKEWOOD RANCH
Zip: 34202

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LAKEWOOD RANCH SHELL (Continued)

U004240994

Tank Id: 2
Status: In service
Status Date: 10/01/2004
Install Date: 9/1/2004
Substance: Unleaded gas
Content Description: Unleaded Gas
Gallons: 20000
Vessel Indicator: TANK
Tank Location: UNDERGROUND
DEP Contractor: C

Construction:

Tank Id: 2
Construction Category: Primary Construction
Construction Description: Fiberglass

Tank Id: 2
Construction Category: Overfill/Spill
Construction Description: Ball check valve

Tank Id: 2
Construction Category: Overfill/Spill
Construction Description: Tight fill

Tank Id: 2
Construction Category: Overfill/Spill
Construction Description: Spill containment bucket

Tank Id: 2
Construction Category: Secondary Containment
Construction Description: Double wall

Tank Id: 2
Construction Category: Miscellaneous Attributes
Construction Description: Compartmented

Tank Id: 2
Construction Category: Overfill/Spill
Construction Description: Level gauges/alarms

Monitoring:

Tank ID: 2
Monitoring Description: Monitor dbl wall tank space

Tank ID: 2
Monitoring Description: Mechanical line leak detector

Tank ID: 2
Monitoring Description: Electronic monitor pipe sumps

Tank ID: 2
Monitoring Description: Visual inspect dispenser liners

Tank ID: 2
Monitoring Description: Monitor dbl wall pipe space

Tank ID: 2

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LAKEWOOD RANCH SHELL (Continued)

U004240994

Monitoring Description: Visual inspect pipe sumps

Piping:

Tank ID: 2
Piping Category: Secondary Containment
Piping Description: Double wall

Tank ID: 2
Piping Category: Miscellaneous Attributes
Piping Description: Pressurized piping system

Tank ID: 2
Piping Category: Primary Construction
Piping Description: Approved synthetic material

Tank ID: 2
Piping Category: Miscellaneous Attributes
Piping Description: Dispenser liners

[Click here for Florida Oculus:](#)

DWM CONTAM:

Name: LAKEWOOD RANCH SHELL
Address: 14315 E STATE ROAD 70
City,State,Zip: LAKEWOOD RANCH, FL 34202
Program Site Id: 9806868
Lat DD: 27
Lat MM: 25
Lat SS: 57.4
Long DD: 82
Long MM: 23
Long SS: 49.14
Office/ District: SWD
Program Area: STORAGE TANKS
Priority Score: 10
Datum: Not reported
Method: Not reported
Facility Status: OPEN
Facility Type: A - Retail Station
Score Effective Date: 2013-07-01 00:00:00
Score When Ranked: Not reported
Rank: Not reported
Operator: BILL HERR
Phone: (813)828-0465
Name Changed: 2002-12-30 00:00:00
Addr Changed: 2002-12-30 00:00:00
Related Party ID: 11229
Primary RP Role: ACCOUNT OWNER
RP Begin Date: 8/7/2015
RP Name: J H WILLIAMS OIL CO INC
RP Address1: PO BOX 439
RP Address2: ATTN: ACCOUNTS PAYABLE
RP City: TAMPA
RP State: FL

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LAKEWOOD RANCH SHELL (Continued)

U004240994

RP Zip5: 33601
RP Zip4: 439
Contact: ACCOUNTS PAYABLE
RP Phone: (813)917-8358
RP Extension: Not reported
Site Manager: Not reported

FL Financial Assurance 3:

Name: LAKEWOOD RANCH SHELL
Address: 14315 E STATE ROAD 70
City,State,Zip: LAKEWOOD RANCH, FL 34202
Region: 3
Facility ID: 9806868
Facility Phone: 8139178385
Facility Status: OPEN
Facility Type: A
Type Description: Retail Station
DEP CO: C
Financial Responsibility: INSURANCE
Insurance Company: ACE
Effective Date: 03/02/2010
Expire Date: 03/02/2011
Owner ID: 11229
Owner Name: J H WILLIAMS OIL CO INC
Owner Address: PO BOX 439
Owner Address2: ATTN: ACCOUNTS PAYABLE
Owner City,St,Zip: TAMPA, FL 33601
Contact: ACCOUNTS PAYABLE
Resp Party Phone: 8139178358

Name: LAKEWOOD RANCH SHELL
Address: 14315 E STATE ROAD 70
City,State,Zip: LAKEWOOD RANCH, FL 34202
Region: 3
Facility ID: 9806868
Facility Phone: 8139178385
Facility Status: OPEN
Facility Type: A
Type Description: Retail Station
DEP CO: C
Financial Responsibility: INSURANCE
Insurance Company: ACE
Effective Date: 03/02/2012
Expire Date: 03/02/2013
Owner ID: 11229
Owner Name: J H WILLIAMS OIL CO INC
Owner Address: PO BOX 439
Owner Address2: ATTN: ACCOUNTS PAYABLE
Owner City,St,Zip: TAMPA, FL 33601
Contact: ACCOUNTS PAYABLE
Resp Party Phone: 8139178358

Name: LAKEWOOD RANCH SHELL
Address: 14315 E STATE ROAD 70
City,State,Zip: LAKEWOOD RANCH, FL 34202
Region: 3
Facility ID: 9806868

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LAKEWOOD RANCH SHELL (Continued)

U004240994

Facility Phone: 8139178385
Facility Status: OPEN
Facility Type: A
Type Description: Retail Station
DEP CO: C
Financial Responsibility: INSURANCE
Insurance Company: COLONY
Effective Date: 01/13/2014
Expire Date: 01/13/2015
Owner ID: 11229
Owner Name: J H WILLIAMS OIL CO INC
Owner Address: PO BOX 439
Owner Address2: ATTN: ACCOUNTS PAYABLE
Owner City,St,Zip: TAMPA, FL 33601
Contact: ACCOUNTS PAYABLE
Resp Party Phone: 8139178358

Name: LAKEWOOD RANCH SHELL
Address: 14315 E STATE ROAD 70
City,State,Zip: LAKEWOOD RANCH, FL 34202
Region: 3
Facility ID: 9806868
Facility Phone: 8139178385
Facility Status: OPEN
Facility Type: A
Type Description: Retail Station
DEP CO: C
Financial Responsibility: INSURANCE
Insurance Company: COMMERCE & INDUSTRY
Effective Date: 03/03/2016
Expire Date: 03/03/2017
Owner ID: 11229
Owner Name: J H WILLIAMS OIL CO INC
Owner Address: PO BOX 439
Owner Address2: ATTN: ACCOUNTS PAYABLE
Owner City,St,Zip: TAMPA, FL 33601
Contact: ACCOUNTS PAYABLE
Resp Party Phone: 8139178358

Name: LAKEWOOD RANCH SHELL
Address: 14315 E STATE ROAD 70
City,State,Zip: LAKEWOOD RANCH, FL 34202
Region: 3
Facility ID: 9806868
Facility Phone: 8139178385
Facility Status: OPEN
Facility Type: A
Type Description: Retail Station
DEP CO: C
Financial Responsibility: INSURANCE
Insurance Company: COMMERCE & INDUSTRY
Effective Date: 03/03/2017
Expire Date: 03/03/2018
Owner ID: 11229
Owner Name: J H WILLIAMS OIL CO INC
Owner Address: PO BOX 439
Owner Address2: ATTN: ACCOUNTS PAYABLE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LAKWOOD RANCH SHELL (Continued)

U004240994

Owner City,St,Zip: TAMPA, FL 33601
Contact: ACCOUNTS PAYABLE
Resp Party Phone: 8139178358

Name: LAKEWOOD RANCH SHELL
Address: 14315 E STATE ROAD 70
City,State,Zip: LAKEWOOD RANCH, FL 34202
Region: 3
Facility ID: 9806868
Facility Phone: 8139178385
Facility Status: OPEN
Facility Type: A
Type Description: Retail Station
DEP CO: C
Finaincial Responsibility: INSURANCE
Insurance Company: COMMERCE & INDUSTRY
Effective Date: 03/03/2018
Expire Date: 03/03/2019
Owner ID: 11229
Onwer Name: J H WILLIAMS OIL CO INC
Owner Address: PO BOX 439
Owner Address2: ATTN: ACCOUNTS PAYABLE
Owner City,St,Zip: TAMPA, FL 33601
Contact: ACCOUNTS PAYABLE
Resp Party Phone: 8139178358

Name: LAKEWOOD RANCH SHELL
Address: 14315 E STATE ROAD 70
City,State,Zip: LAKEWOOD RANCH, FL 34202
Region: 3
Facility ID: 9806868
Facility Phone: 8139178385
Facility Status: OPEN
Facility Type: A
Type Description: Retail Station
DEP CO: C
Finaincial Responsibility: INSURANCE
Insurance Company: COMMERCE & INDUSTRY
Effective Date: 03/04/2015
Expire Date: 03/03/2016
Owner ID: 11229
Onwer Name: J H WILLIAMS OIL CO INC
Owner Address: PO BOX 439
Owner Address2: ATTN: ACCOUNTS PAYABLE
Owner City,St,Zip: TAMPA, FL 33601
Contact: ACCOUNTS PAYABLE
Resp Party Phone: 8139178358

Name: LAKEWOOD RANCH SHELL
Address: 14315 E STATE ROAD 70
City,State,Zip: LAKEWOOD RANCH, FL 34202
Region: 3
Facility ID: 9806868
Facility Phone: 8139178385
Facility Status: OPEN
Facility Type: A
Type Description: Retail Station

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LAKEWOOD RANCH SHELL (Continued)

U004240994

DEP CO: C
Financial Responsibility: INSURANCE
Insurance Company: ZURICH-AMERICAN
Effective Date: 03/02/2009
Expire Date: 03/02/2010
Owner ID: 11229
Owner Name: J H WILLIAMS OIL CO INC
Owner Address: PO BOX 439
Owner Address2: ATTN: ACCOUNTS PAYABLE
Owner City,St,Zip: TAMPA, FL 33601
Contact: ACCOUNTS PAYABLE
Resp Party Phone: 8139178358

25
West
1/4-1/2
0.298 mi.
1574 ft.

UNION 76-LORRAINE
14410 E SR 64
BRADENTON, FL 34212

LUST U001360398
UST N/A

Actual:
31 ft.
Focus Map:
3

LUST:
Name: UNION 76-LORRAINE
Address: 14410 E SR 64
City,State,Zip: BRADENTON, FL 34212
Region: STATE
Facility Id: 8510898
Facility Status: CLOSED
Facility Type: A - Retail Station
Facility Phone: (813)748-8824
Facility Cleanup Rank: 8533
District: Southwest District
Lat/Long (dms): 27 28 31.57 / 82 23 44.38
Section: Not reported
Township: Not reported
Range: Not reported
Feature: Not reported
Method: UNVR
Datum: 0
Score: 35
Score Effective Date: 2013-05-01 00:00:00
Score When Ranked: 10
Operator: HAMSTRA,JIM
Name Update: Not reported
Address Update: 2016-12-13 00:00:00

Petroleum Cleanup PCT Facility Score:

Facility Cleanup Status: CMPL - COMPLETED
Contact: DANNY J PHILLIPS
Contact Company: PIONEER OIL CO
Contact Address: PO BOX 9046
Contact City/State/Zip: BRADENTON, FL 33601
Phone: (813)684-8029
Bad Address Ind: N
State: FL
Zip: 34212
Score: 35
Score Effective Date: 2013-05-01 00:00:00
Related Party ID: 17057
Primary RP Role: ACCOUNT OWNER

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UNION 76-LORRAINE (Continued)

U001360398

RP Begin Date: 1986-01-01
RP Zip: Not reported
RP Extension: Not reported

Discharge Cleanup Summary:
Discharge Date: 3/18/1991
PCT Discharge Combined: Not reported
Cleanup Required: R - CLEANUP REQUIRED
Discharge Cleanup Status: SRCR - SRCR COMPLETE
Disch Cleanup Status Date: 5/7/2018
Cleanup Work Status: COMPLETED
Information Source: A - ABANDONED TANK RESTORATION
Other Source Description: Not reported
Eligibility Indicator: E - ELIGIBLE
Site Manager: KASSON_R
Site Mgr End Date: 5/7/2018
Tank Office: PCLP29 - HILLSBOROUGH ENVIRONMENTAL PROTECTION COMMISSION

Petroleum Cleanup Program Eligibility:
Facility ID: 8510898
Discharge Date: 3/18/1991
Pct Discharge Combined With: Not reported
Cleanup Required: R - CLEANUP REQUIRED
Discharge Cleanup Status: SRCR - SRCR COMPLETE
Disch Cleanup Status Date: 5/7/2018
Cleanup Work Status: COMPLETED
Information Source: Not reported
Other Source Description: Not reported
Application Received Date: Not reported
Cleanup Program: A - ABANDONED TANK RESTORATION PROGRAM
Eligibility Status: Not reported
Elig Status Date: Not reported
Letter Of Intent Date: Not reported
Redetermined: Not reported
Inspection Date: Not reported
Site Manager: KASSON_R
Site Mgr End Date: 5/7/2018
Tank Office: PCLP29 - HILLSBOROUGH ENVIRONMENTAL PROTECTION COMMISSION
Deductible Amount: Not reported
Deductible Paid To Date: Not reported
Co-Pay Amount: Not reported
Co-Pay Paid To Date: Not reported
Cap Amount: 0

Contaminated Media:
Discharge Date: 3/18/1991
Pct Discharge Combined With: Not reported
Cleanup Required: R - CLEANUP REQUIRED
Discharge Cleanup Status: SRCR - SRCR COMPLETE
Disch Cleanup Status Date: 5/7/2018
Cleanup Work Status: COMPLETED
Information Source: A - ABANDONED TANK RESTORATION
Other Source Description: Not reported
Elig Indicator: E - ELIGIBLE
Site Manager: KASSON_R
Site Mgr End Date: 5/7/2018
Tank Office: PCLP29 - HILLSBOROUGH ENVIRONM
Contaminated Drinking Wells: 0

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UNION 76-LORRAINE (Continued)

U001360398

Contaminated Monitoring Well:	Yes
Contaminated Soil:	Yes
Contaminated Surface Water:	No
Contaminated Ground Water:	Yes
Pollutant:	A - Leaded Gas
Pollutant Other Description:	Not reported
Gallons Discharged:	Not reported
Discharge Date:	3/18/1991
Pct Discharge Combined With:	Not reported
Cleanup Required:	R - CLEANUP REQUIRED
Discharge Cleanup Status:	SRCR - SRCR COMPLETE
Disch Cleanup Status Date:	5/7/2018
Cleanup Work Status:	COMPLETED
Information Source:	A - ABANDONED TANK RESTORATION
Other Source Description:	Not reported
Elig Indicator:	E - ELIGIBLE
Site Manager:	KASSON_R
Site Mgr End Date:	5/7/2018
Tank Office:	PCLP29 - HILLSBOROUGH ENVIRONM
Contaminated Drinking Wells:	0
Contaminated Monitoring Well:	Yes
Contaminated Soil:	Yes
Contaminated Surface Water:	No
Contaminated Ground Water:	Yes
Pollutant:	B - Unleaded Gas
Pollutant Other Description:	Not reported
Gallons Discharged:	Not reported
Discharge Date:	3/18/1991
Pct Discharge Combined With:	Not reported
Cleanup Required:	R - CLEANUP REQUIRED
Discharge Cleanup Status:	SRCR - SRCR COMPLETE
Disch Cleanup Status Date:	5/7/2018
Cleanup Work Status:	COMPLETED
Information Source:	A - ABANDONED TANK RESTORATION
Other Source Description:	Not reported
Elig Indicator:	E - ELIGIBLE
Site Manager:	KASSON_R
Site Mgr End Date:	5/7/2018
Tank Office:	PCLP29 - HILLSBOROUGH ENVIRONM
Contaminated Drinking Wells:	0
Contaminated Monitoring Well:	Yes
Contaminated Soil:	Yes
Contaminated Surface Water:	No
Contaminated Ground Water:	Yes
Pollutant:	D - Vehicular Diesel
Pollutant Other Description:	Not reported
Gallons Discharged:	Not reported
Task Information:	
District:	SWD
Facility ID:	8510898
Facility Status:	CLOSED
Facility Type:	A - Retail Station -
County:	MANATEE
County ID:	41
Cleanup Eligibility Status:	E
Source Effective Date:	04-12-2018
Discharge Date:	03-18-1991

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UNION 76-LORRAINE (Continued)

U001360398

Cleanup Required: R - CLEANUP REQUIRED
Discharge Cleanup Status: SRCR - SRCR COMPLETE
Disch Cleanup Status Date: 05-07-2018
SRC Action Type: SRCR - SITE REHABILITATION COMPLETION REPORT
SRC Submit Date: 08-25-2017
SRC Review Date: 10-18-2017
SRC Completion Status: A - APPROVED
SRC Issue Date: 05-07-2018
SRC Comment: Not reported
Cleanup Work Status: COMPLETED
Site Mgr: KASSON_R
Site Mgr End Date: 05-07-2018
Tank Office: PCLP29 - Hillsborough County
SR Task ID: Not reported
SR Cleanup Responsible: -
SR Funding Eligibility Type: -
SR Actual Cost: Not reported
SR Completion Date: Not reported
SR Payment Date: Not reported
SR Oral Date: Not reported
SR Written Date: Not reported
SR Soil Removal: Not reported
SR Free Product Removal: Not reported
SR Soil Tonnage Removed: Not reported
SR Soil Treatment: Not reported
SR Other Treatment: Not reported
SR Alternate Proc Received Date: Not reported
SR Alternate Procedure Status: Not reported
SR Alternate Procedure Status Date: Not reported
SR Alternate Procedure Comments: Not reported
SA Task ID: 50581
SA Cleanup Responsible: -
SA Funding Eligibility Type: -
SA Actual Cost: Not reported
SA Completion Date: Not reported
SA Payment Date: Not reported
RAP Task ID: Not reported
RAP Cleanup Responsible ID: -
RAP Funding Eligibility Type: -
RAP Actual Cost: Not reported
RAP Completion Date: Not reported
RAP Payment Date: Not reported
RAP Last Order Approved: Not reported
RA Task ID: 95307
RA Cleanup Responsible: -
RA Funding Eligibility Type: -
RA Years to Complete: 0
RA Actual Cost: Not reported

[Click here for Florida Oculus:](#)

UST:

Facility Id: 8510898
Facility Status: CLOSED
Type Description: Retail Station
Facility Phone: 8137488824
Region: STATE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UNION 76-LORRAINE (Continued)

U001360398

Positioning Method: UNVR
Lat/Long (dms): 27 28 26 / 82 23 44

Owner:
Owner Id: 17057
Owner Name: PIONEER OIL CO
Owner Address: PO BOX 9046
Owner Address 2: Not reported
Owner City,St,Zip: BRADENTON, FL 33601
Owner Contact: DANNY J PHILLIPS
Owner Phone: 8136848029

Tank Info:
Name: UNION 76-LORRAINE
Address: 14410 E SR 64
City: BRADENTON
Zip: 34212
Tank Id: 1
Status: Removed
Status Date: 03/31/1989
Install Date: Not reported
Substance: Leaded gas
Content Description: Leaded Gas
Gallons: 2000
Vessel Indicator: TANK
Tank Location: UNDERGROUND
DEP Contractor: P

Name: UNION 76-LORRAINE
Address: 14410 E SR 64
City: BRADENTON
Zip: 34212
Tank Id: 2
Status: Removed
Status Date: 03/31/1989
Install Date: Not reported
Substance: Leaded gas
Content Description: Leaded Gas
Gallons: 1000
Vessel Indicator: TANK
Tank Location: UNDERGROUND
DEP Contractor: P

Name: UNION 76-LORRAINE
Address: 14410 E SR 64
City: BRADENTON
Zip: 34212
Tank Id: 3
Status: Removed
Status Date: 03/31/1989
Install Date: Not reported
Substance: Unleaded gas
Content Description: Unleaded Gas
Gallons: 1000
Vessel Indicator: TANK
Tank Location: UNDERGROUND
DEP Contractor: P

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

UNION 76-LORRAINE (Continued)

U001360398

Name: UNION 76-LORRAINE
Address: 14410 E SR 64
City: BRADENTON
Zip: 34212
Tank Id: 4
Status: Removed
Status Date: 03/31/1989
Install Date: Not reported
Substance: Vehicular diesel
Content Description: Vehicular Diesel
Gallons: 2000
Vessel Indicator: TANK
Tank Location: UNDERGROUND
DEP Contractor: P

[Click here for Florida Oculus:](#)

26
South
1/4-1/2
0.468 mi.
2470 ft.

SCHROEDER MANATEE RANCH INC
6215 LORRAINE RD
BRADENTON, FL 34211

LUST S105540291
AST N/A
Financial Assurance

Actual:
42 ft.
Focus Map:
8

LUST:
Name: SCHROEDER MANATEE RANCH INC
Address: 6215 LORRAINE RD
City,State,Zip: BRADENTON, FL 34211
Region: STATE
Facility Id: 8510948
Facility Status: OPEN
Facility Type: C - Fuel user/Non-retail
Facility Phone: (941)755-1637
Facility Cleanup Rank: Not reported
District: Southwest District
Lat/Long (dms): 27 24 45.5508 / 82 21 39.2076
Section: 10
Township: 35S
Range: 19E
Feature: Not reported
Method: AGPS
Datum: 0
Score: Not reported
Score Effective Date: Not reported
Score When Ranked: Not reported
Operator: ROGER HILL
Name Update: Not reported
Address Update: 2002-05-03 00:00:00

Petroleum Cleanup PCT Facility Score:
Facility Cleanup Status: CMPL - COMPLETED
Contact: ROGER HILL, MANAGER
Contact Company: SCHROEDER MANATEE RANCH INC
Contact Address: 6215 LORRAINE RD
Contact City/State/Zip: BRADENTON, FL 34202
Phone: (813)755-1637
Bad Address Ind: N
State: FL

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHROEDER MANATEE RANCH INC (Continued)

S105540291

Zip: 34211
Score: Not reported
Score Effective Date: Not reported
Related Party ID: 19305
Primary RP Role: ACCOUNT OWNER
RP Begin Date: 1985-07-01
RP Zip: 9778
RP Extension: Not reported

Discharge Cleanup Summary:

Discharge Date: 12/12/1991
PCT Discharge Combined: Not reported
Cleanup Required: R - CLEANUP REQUIRED
Discharge Cleanup Status: NFA - NFA COMPLETE
Disch Cleanup Status Date: 2/19/1993
Cleanup Work Status: COMPLETED
Information Source: Z - OTHER
Other Source Description: Not reported
Eligibility Indicator: I - INELIGIBLE
Site Manager: Not reported
Site Mgr End Date: Not reported
Tank Office: -

Petroleum Cleanup Program Eligibility:

Facility ID: 8510948
Discharge Date: 12/12/1991
Pct Discharge Combined With: Not reported
Cleanup Required: R - CLEANUP REQUIRED
Discharge Cleanup Status: NFA - NFA COMPLETE
Disch Cleanup Status Date: 2/19/1993
Cleanup Work Status: COMPLETED
Information Source: Not reported
Other Source Description: Not reported
Application Received Date: Not reported
Cleanup Program: C - PETROLEUM CLEANUP PARTICIPATION PROGRAM
Eligibility Status: Not reported
Elig Status Date: Not reported
Letter Of Intent Date: Not reported
Redetermined: Not reported
Inspection Date: Not reported
Site Manager: Not reported
Site Mgr End Date: Not reported
Tank Office: -
Deductible Amount: Not reported
Deductible Paid To Date: Not reported
Co-Pay Amount: Not reported
Co-Pay Paid To Date: Not reported
Cap Amount: 0

Task Information:

District: SWD
Facility ID: 8510948
Facility Status: OPEN
Facility Type: C - Fuel user/Non-retail -
County: MANATEE
County ID: 41
Cleanup Eligibility Status: I
Source Effective Date: 02-19-1993

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHROEDER MANATEE RANCH INC (Continued)

S105540291

Discharge Date: 12-12-1991
Cleanup Required: R - CLEANUP REQUIRED
Discharge Cleanup Status: NFA - NFA COMPLETE
Disch Cleanup Status Date: 02-19-1993
SRC Action Type: NFA - NO FURTHER ACTION
SRC Submit Date: 01-28-1993
SRC Review Date: 02-08-1993
SRC Completion Status: A - APPROVED
SRC Issue Date: 02-19-1993
SRC Comment: Not reported
Cleanup Work Status: COMPLETED
Site Mgr: Not reported
Site Mgr End Date: Not reported
Tank Office: -
SR Task ID: Not reported
SR Cleanup Responsible: -
SR Funding Eligibility Type: -
SR Actual Cost: Not reported
SR Completion Date: Not reported
SR Payment Date: Not reported
SR Oral Date: Not reported
SR Written Date: Not reported
SR Soil Removal: Not reported
SR Free Product Removal: Not reported
SR Soil Tonnage Removed: Not reported
SR Soil Treatment: Not reported
SR Other Treatment: Not reported
SR Alternate Proc Received Date: Not reported
SR Alternate Procedure Status: Not reported
SR Alternate Procedure Status Date: Not reported
SR Alternate Procedure Comments: Not reported
SA Task ID: 50450
SA Cleanup Responsible: -
SA Funding Eligibility Type: -
SA Actual Cost: Not reported
SA Completion Date: 02-19-1993
SA Payment Date: Not reported
RAP Task ID: 50451
RAP Cleanup Responsible ID: OTHER - OTHER
RAP Funding Eligibility Type: -
RAP Actual Cost: Not reported
RAP Completion Date: Not reported
RAP Payment Date: Not reported
RAP Last Order Approved: Not reported
RA Task ID: 50452
RA Cleanup Responsible: OTHER - OTHER
RA Funding Eligibility Type: -
RA Years to Complete: Not reported
RA Actual Cost: Not reported

[Click here for Florida Oculus:](#)

AST:

Name: SCHROEDER MANATEE RANCH INC
Address: 6215 LORRAINE RD
Facility ID: 8510948
Facility Status: OPEN

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHROEDER MANATEE RANCH INC (Continued)

S105540291

Type Description: Fuel user/Non-retail
Facility Phone: 9417551637
DEP Contractor Own: P
Region: STATE
Positioning Method: AGPS
Lat/Long (dms): 27 25 26 / 82 23 48

Owner:

Owner Id: 19305
Owner Name: SCHROEDER MANATEE RANCH INC
Owner Address: 6215 LORRAINE RD
Owner Address 2: Not reported
Owner City,St,Zip: BRADENTON, FL 34202
Owner Contact: ROGER HILL, MANAGER
Owner Phone: 8137551637

Tank Id: 1
Status: Removed
Status Date: 06/28/2002
Install Date: 7/1/1981
Substance: Unleaded gas
Content Description: Unleaded Gas
Gallons: 1000
Tank Location: ABOVEGROUND

Tank Id: 10
Status: In service
Status Date: Not reported
Install Date: 7/1/1980
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: 11
Status: In service
Status Date: Not reported
Install Date: 7/1/1979
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: 12
Status: In service
Status Date: Not reported
Install Date: Not reported
Substance: Waste oil
Content Description: Waste Oil
Gallons: 300
Tank Location: ABOVEGROUND

Tank Id: 13
Status: In service
Status Date: Not reported
Install Date: Not reported
Substance: Fuel oil-on site heat

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHROEDER MANATEE RANCH INC (Continued)

S105540291

Content Description: Fuel Oil - Onsite Heat
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: 14
Status: In service
Status Date: Not reported
Install Date: 7/1/1981
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 300
Tank Location: ABOVEGROUND

Tank Id: 15
Status: In service
Status Date: Not reported
Install Date: Not reported
Substance: Unleaded gas
Content Description: Unleaded Gas
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: 16
Status: In service
Status Date: Not reported
Install Date: 4/1/1988
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: 17
Status: In service
Status Date: Not reported
Install Date: Not reported
Substance: Vehicular diesel
Content Description: Vehicular Diesel
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: 18
Status: Removed
Status Date: 02/01/1994
Install Date: 6/1/1990
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 1000
Tank Location: ABOVEGROUND

Tank Id: 19
Status: In service
Status Date: Not reported
Install Date: 6/1/1991
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 550
Tank Location: ABOVEGROUND

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHROEDER MANATEE RANCH INC (Continued)

S105540291

Tank Id: 2
Status: Removed
Status Date: 02/28/1994
Install Date: 7/1/1987
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 2000
Tank Location: ABOVEGROUND

Tank Id: 20
Status: In service
Status Date: Not reported
Install Date: 1/1/1991
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: 3
Status: In service
Status Date: Not reported
Install Date: 7/1/1980
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: A
Status: Removed
Status Date: 06/28/2002
Install Date: 7/1/1980
Substance: Vehicular diesel
Content Description: Vehicular Diesel
Gallons: 1000
Tank Location: ABOVEGROUND

Tank Id: 5
Status: In service
Status Date: Not reported
Install Date: Not reported
Substance: Vehicular diesel
Content Description: Vehicular Diesel
Gallons: 300
Tank Location: ABOVEGROUND

Tank Id: 6
Status: In service
Status Date: Not reported
Install Date: Not reported
Substance: Fuel oil-on site heat
Content Description: Fuel Oil - Onsite Heat
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: 7
Status: Deleted
Status Date: 03/01/1993

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHROEDER MANATEE RANCH INC (Continued)

S105540291

Install Date: Not reported
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 250
Tank Location: ABOVEGROUND

Tank Id: 8
Status: In service
Status Date: Not reported
Install Date: 7/1/1981
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: 9
Status: In service
Status Date: Not reported
Install Date: Not reported
Substance: Fuel oil-on site heat
Content Description: Fuel Oil - Onsite Heat
Gallons: 550
Tank Location: ABOVEGROUND

Tank Id: 21
Status: Deleted
Status Date: 01/01/1987
Install Date: 1/1/1987
Substance: Diesel-generator,pump
Content Description: Generator/Pump Diesel
Gallons: 1000
Tank Location: ABOVEGROUND

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FL Financial Assurance 3:

Name: SCHROEDER MANATEE RANCH INC
Address: 6215 LORRAINE RD
City,State,Zip: BRADENTON, FL 34211
Region: 3
Facility ID: 8510948
Facility Phone: 9417551637
Facility Status: OPEN
Facility Type: C
Type Description: Fuel user/Non-retail
DEP CO: P
Financial Responsibility: INSURANCE
Insurance Company: COMMERCE & INDUSTRY
Effective Date: 05/03/1995
Expire Date: 02/02/2002
Owner ID: 19305
Owner Name: SCHROEDER MANATEE RANCH INC
Owner Address: 6215 LORRAINE RD
Owner Address2: Not reported
Owner City,St,Zip: BRADENTON, FL 34202
Contact: ROGER HILL, MANAGER

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCHROEDER MANATEE RANCH INC (Continued)

S105540291

Resp Party Phone: 8137551637

Name: SCHROEDER MANATEE RANCH INC
Address: 6215 LORRAINE RD
City,State,Zip: BRADENTON, FL 34211
Region: 3
Facility ID: 8510948
Facility Phone: 9417551637
Facility Status: OPEN
Facility Type: C
Type Description: Fuel user/Non-retail
DEP CO: P
Financial Responsibility: INSURANCE
Insurance Company: FPLIPA
Effective Date: 05/03/1989
Expire Date: 05/03/1991
Owner ID: 19305
Owner Name: SCHROEDER MANATEE RANCH INC
Owner Address: 6215 LORRAINE RD
Owner Address2: Not reported
Owner City,St,Zip: BRADENTON, FL 34202
Contact: ROGER HILL, MANAGER
Resp Party Phone: 8137551637

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
BRADENTON	2004718100		MANATEE RIVER		ERNS
BRADENTON	2014104289		MANATEE RIVER		ERNS
BRADENTON	2017184573		2830 MANATEE		ERNS
BRADENTON	2016158212		WESTED OF MANATEE AVE.		ERNS
BRADENTON	2014079259		MANATEE RIVER		ERNS
BRADENTON	97380975		MANATEE RIVER WEST OF		ERNS
BRADENTON	98438633		MANATEE RIVER		ERNS
BRADENTON	S118427994		SR 70 / POPE RD / WHITE EAGLE BLVD		SPILLS
BRADENTON	S123491050		SR 64 AND W 59TH STREET		SPILLS
BRADENTON	S105186819		I-75, 2 MILES SOUTH OF STATE ROAD 64		SPILLS
BRADENTON	S105189451		I-75 AT STATE ROAD 64		SPILLS
BRADENTON	S105192383		MANATEE RIVER		SPILLS
BRADENTON	S105187040		MANATEE RIVER, NEAR BRIDGE AT SR 64		SPILLS
BRADENTON	S105459941		MANATEE RIVER, UNDER THE MIDDLE OF THE I-75 BRIDGE		SPILLS
BRADENTON	S121314537		MANATEE RIVER NEAR TWIN RIVERS TRAIL AND MUHOLLAND RD.		SPILLS
BRADENTON	S117899140		EAST S.R. 64 AND LORRAINE ROAD		SPILLS
BRADENTON	S121314535		4300 EAST MANATEE AVENUE		SPILLS
BRADENTON	S106804080		PARKING LOT, 75 STREET AND MANATEE AVENUE WEST		SPILLS
BRADENTON	S120045993		MANATEE RIVER, NEAR I-75 MM 223, TIDEWATER PRESERVE		SPILLS
BRADENTON	S118683328		MANATEE RIVER, AT ROSSI WATERFRONT PARK, 3RD AVE W		SPILLS
BRADENTON	S118685771		PORT MANATEE SPOIL ISLAND		SPILLS
BRADENTON	S118683919		MANATEE RIVER		SPILLS
BRADENTON	S118684934		MANATEE RIVER, BEHIND HOUSE AT 106 9TH ST		SPILLS
BRADENTON	S109007473		I-75 SOUTHBOUND, SOUTH SIDE MANATEE RIVER BRIDGE		SPILLS
BRADENTON	S108645689		STATE ROAD 64 E, WEST OF I-75		SPILLS
BRADENTON	S108645861		I-75 NB AT MM 224 OVER THE MANATEE RIVER BRIDGE		SPILLS
BRADENTON	S116711085		MANATEE RV RESORT, 800 KAY RD NE		SPILLS
BRADENTON	1025998023	7-ELEVEN 38991	NW CORNER OF SR-64 & 145TH STREET EAST	34212	FINDS
BRADENTON	1025923242	7-ELEVEN 38991	NW CORNER OF SR-64 & 145TH STREET EAST	34212	ECHO
BRADENTON	S115814401	THORNTONS - BRADENTON SR 64	STATE ROAD 64 AND 48TH STREET COURT EAST		NPDES
BRADENTON	S125443438	7-ELEVEN 38991	NW CORNER OF SR-64 & 145TH STREET EAST		NPDES
BRADENTON	S125443439	7-ELEVEN 38991	NW CORNER OF SR-64 & 145TH STREET EAST		NPDES
MANATEE COUNTY	2012999919		PORT MANATEE		ERNS
MANATEE COUNTY	2010935280		FORT MANATEE		ERNS
MANATEE COUNTY	2014077532		PORT MANATEE		ERNS
MANATEE COUNTY	M300001099	FLORIDA ROCK INDUSTRIES	PORT MANATEE		US MINES
MANATEE COUNTY	1012088025	ENERGY TRANSFER COMPANY/ETG	LORRAINE RD & SR 70	34202	FINDS, ECHO

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/27/2021	Source: EPA
Date Data Arrived at EDR: 05/03/2021	Telephone: N/A
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 16	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/27/2021	Source: EPA
Date Data Arrived at EDR: 05/03/2021	Telephone: N/A
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 16	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/30/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 04/27/2021	Source: EPA
Date Data Arrived at EDR: 05/03/2021	Telephone: 800-424-9346
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 16	Next Scheduled EDR Contact: 07/26/2021
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/22/2021	Source: EPA
Date Data Arrived at EDR: 03/23/2021	Telephone: 800-424-9346
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/21/2021
Number of Days to Update: 57	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/23/2021	Telephone: (404) 562-8651
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/21/2021
Number of Days to Update: 57	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/23/2021	Telephone: (404) 562-8651
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/21/2021
Number of Days to Update: 57	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/23/2021	Telephone: (404) 562-8651
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/21/2021
Number of Days to Update: 57	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/23/2021	Telephone: (404) 562-8651
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/21/2021
Number of Days to Update: 57	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/09/2021	Source: Department of the Navy
Date Data Arrived at EDR: 02/11/2021	Telephone: 843-820-7326
Date Made Active in Reports: 03/22/2021	Last EDR Contact: 05/05/2021
Number of Days to Update: 39	Next Scheduled EDR Contact: 08/23/2021
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/23/2021	Telephone: 703-603-0695
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 05/21/2021
Number of Days to Update: 85	Next Scheduled EDR Contact: 09/06/2021
	Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/23/2021	Telephone: 703-603-0695
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 05/21/2021
Number of Days to Update: 85	Next Scheduled EDR Contact: 09/06/2021
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/22/2021

Date Data Arrived at EDR: 03/24/2021

Date Made Active in Reports: 06/17/2021

Number of Days to Update: 85

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Last EDR Contact: 06/17/2021

Next Scheduled EDR Contact: 10/04/2021

Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

SHWS: Florida's State-Funded Action Sites

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 01/13/2020

Date Data Arrived at EDR: 02/19/2020

Date Made Active in Reports: 04/28/2020

Number of Days to Update: 69

Source: Department of Environmental Protection

Telephone: 850-488-0190

Last EDR Contact: 05/21/2020

Next Scheduled EDR Contact: 08/30/2021

Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facility Database

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/12/2021

Date Data Arrived at EDR: 04/13/2021

Date Made Active in Reports: 06/28/2021

Number of Days to Update: 76

Source: Department of Environmental Protection

Telephone: 850-922-7121

Last EDR Contact: 04/13/2021

Next Scheduled EDR Contact: 07/26/2021

Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST: Petroleum Contamination Detail Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/25/2021

Date Data Arrived at EDR: 01/27/2021

Date Made Active in Reports: 04/16/2021

Number of Days to Update: 79

Source: Department of Environmental Protection

Telephone: 850-245-8839

Last EDR Contact: 04/27/2021

Next Scheduled EDR Contact: 08/09/2021

Data Release Frequency: Quarterly

LAST: Leaking Aboveground Storage Tank Listing

The file for Leaking Aboveground Storage Tanks. Please remember STCM does not track the source of the discharge so the agency provides a list of facilities with an aboveground tank and an open discharge split by facilities with aboveground tanks only and facilities with aboveground and underground tanks.

Date of Government Version: 02/01/2021

Date Data Arrived at EDR: 02/02/2021

Date Made Active in Reports: 04/23/2021

Number of Days to Update: 80

Source: Department of Environmental Protection

Telephone: 850-245-8799

Last EDR Contact: 04/21/2021

Next Scheduled EDR Contact: 08/09/2021

Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/12/2020	Source: EPA Region 10
Date Data Arrived at EDR: 12/16/2020	Telephone: 206-553-2857
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/07/2020	Source: EPA, Region 5
Date Data Arrived at EDR: 12/16/2020	Telephone: 312-886-7439
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/01/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2020	Telephone: 415-972-3372
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/09/2020	Source: EPA Region 8
Date Data Arrived at EDR: 12/16/2020	Telephone: 303-312-6271
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/30/2020	Source: EPA Region 7
Date Data Arrived at EDR: 12/22/2020	Telephone: 913-551-7003
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/02/2020	Source: EPA Region 4
Date Data Arrived at EDR: 12/18/2020	Telephone: 404-562-8677
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/17/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/01/2020	Source: EPA Region 1
Date Data Arrived at EDR: 12/16/2020	Telephone: 617-918-1313
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020	Source: EPA Region 6
Date Data Arrived at EDR: 05/20/2020	Telephone: 214-665-6597
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 06/11/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/29/2021	Source: FEMA
Date Data Arrived at EDR: 02/17/2021	Telephone: 202-646-5797
Date Made Active in Reports: 03/22/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 33	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: Varies

FF TANKS: Federal Facilities Listing
A listing of federal facilities with storage tanks.

Date of Government Version: 03/29/2021	Source: Department of Environmental Protection
Date Data Arrived at EDR: 03/30/2021	Telephone: 850-245-8250
Date Made Active in Reports: 06/17/2021	Last EDR Contact: 06/15/2021
Number of Days to Update: 79	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

UST: Storage Tank Facility Information
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/26/2021	Source: Department of Environmental Protection
Date Data Arrived at EDR: 01/28/2021	Telephone: 850-245-8839
Date Made Active in Reports: 02/02/2021	Last EDR Contact: 04/21/2021
Number of Days to Update: 5	Next Scheduled EDR Contact: 08/09/2021
	Data Release Frequency: Quarterly

AST: Storage Tank Facility Information
Registered Aboveground Storage Tanks.

Date of Government Version: 01/26/2021	Source: Department of Environmental Protection
Date Data Arrived at EDR: 01/28/2021	Telephone: 850-245-8839
Date Made Active in Reports: 02/02/2021	Last EDR Contact: 04/21/2021
Number of Days to Update: 5	Next Scheduled EDR Contact: 08/09/2021
	Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/07/2020	Source: EPA Region 5
Date Data Arrived at EDR: 12/16/2020	Telephone: 312-886-6136
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020	Source: EPA Region 6
Date Data Arrived at EDR: 05/20/2020	Telephone: 214-665-7591
Date Made Active in Reports: 08/12/2020	Last EDR Contact: 06/11/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/09/2020	Source: EPA Region 8
Date Data Arrived at EDR: 12/16/2020	Telephone: 303-312-6137
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/30/2020	Source: EPA Region 7
Date Data Arrived at EDR: 12/22/2020	Telephone: 913-551-7003
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/01/2020	Source: EPA Region 9
Date Data Arrived at EDR: 12/16/2020	Telephone: 415-972-3368
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/01/2020	Source: EPA, Region 1
Date Data Arrived at EDR: 12/16/2020	Telephone: 617-918-1313
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/02/2020	Source: EPA Region 4
Date Data Arrived at EDR: 12/18/2020	Telephone: 404-562-9424
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/17/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/12/2020	Source: EPA Region 10
Date Data Arrived at EDR: 12/16/2020	Telephone: 206-553-2857
Date Made Active in Reports: 03/12/2021	Last EDR Contact: 06/11/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

TANKS: Storage Tank Facility List

This listing includes storage tank facilities that do not have tank information. The tanks have either be closed or removed from the site, but the facilities were still registered at some point in history.

Date of Government Version: 01/26/2021	Source: Department of Environmental Protection
Date Data Arrived at EDR: 01/28/2021	Telephone: 850-245-8841
Date Made Active in Reports: 02/02/2021	Last EDR Contact: 04/21/2021
Number of Days to Update: 5	Next Scheduled EDR Contact: 08/09/2021
	Data Release Frequency: Quarterly

State and tribal institutional control / engineering control registries

ENG CONTROLS: Institutional Controls Registry

The registry is a database of all contaminated sites in the state of Florida which are subject to engineering controls. Engineering Controls encompass a variety of engineered remedies to contain and/or reduce contamination, and/or physical barriers intended to limit access to property. ECs include fences, signs, guards, landfill caps, provision of potable water, slurry walls, sheet pile (vertical caps), pumping and treatment of groundwater, monitoring wells, and vapor extraction systems.

Date of Government Version: 03/29/2021	Source: Department of Environmental Protection
Date Data Arrived at EDR: 03/30/2021	Telephone: 850-245-8927
Date Made Active in Reports: 06/17/2021	Last EDR Contact: 06/24/2021
Number of Days to Update: 79	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Semi-Annually

Inst Control: Institutional Controls Registry

The registry is a database of all contaminated sites in the state of Florida which are subject to institutional and engineering controls.

Date of Government Version: 03/29/2021	Source: Department of Environmental Protection
Date Data Arrived at EDR: 03/30/2021	Telephone: 850-245-8927
Date Made Active in Reports: 06/17/2021	Last EDR Contact: 06/24/2021
Number of Days to Update: 79	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Semi-Annually

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 06/15/2021
Number of Days to Update: 142	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Sites

Listing of closed and active voluntary cleanup sites.

Date of Government Version: 12/13/2020
Date Data Arrived at EDR: 01/13/2021
Date Made Active in Reports: 03/29/2021
Number of Days to Update: 75

Source: Department of Environmental Protection
Telephone: 850-245-8705
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Sites Database

Brownfields are defined by the Florida Department of Environmental Protection (FDEP) as abandoned, idled, or underused industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.

Date of Government Version: 01/06/2021
Date Data Arrived at EDR: 03/30/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 79

Source: Department of Environmental Protection
Telephone: 850-245-8927
Last EDR Contact: 06/24/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

BSRA: Brownfield Site Rehabilitation Agreements Listing

The BSRA provides DEP and the public assurance that site rehabilitation will be conducted in accordance with Florida Statutes and DEP's Contaminated Site Cleanup Criteria rule. In addition, the BSRA provides limited liability protection for the voluntary responsible party. The BSRA contains various commitments by the voluntary responsible party, including milestones for completion of site rehabilitation tasks and submittal of technical reports and plans. It also contains a commitment by DEP to review technical reports according to an agreed upon schedule. Only those brownfield sites with an executed BSRA are eligible to apply for a voluntary cleanup tax credit incentive pursuant to Section 376.30781, Florida Statutes.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 09/29/2020
Date Made Active in Reports: 12/17/2020
Number of Days to Update: 79

Source: Department of Environmental Protection
Telephone: 850-245-8934
Last EDR Contact: 06/24/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

BROWNFIELDS AREAS: Brownfields Areas Database

A "brownfield area" means a contiguous area of one or more brownfield sites, some of which may not be contaminated, that has been designated as such by a local government resolution. Such areas may include all or portions of community redevelopment areas, enterprise zones, empowerment zones, other such designated economically deprived communities and areas, and Environmental Protection Agency (EPA) designated brownfield pilot projects. This layer provides a polygon representation of the boundaries of these designated Brownfield Areas in Florida.

Date of Government Version: 12/28/2020
Date Data Arrived at EDR: 03/30/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 79

Source: Department of Environmental Protection
Telephone: 850-245-8934
Last EDR Contact: 06/24/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/15/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/16/2021	Telephone: 202-566-2777
Date Made Active in Reports: 06/10/2021	Last EDR Contact: 06/10/2021
Number of Days to Update: 86	Next Scheduled EDR Contact: 09/27/2021
	Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Recycling Centers

A listing of recycling centers located in the state of Florida.

Date of Government Version: 12/03/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 01/15/2019	Telephone: 850-245-8718
Date Made Active in Reports: 03/14/2019	Last EDR Contact: 04/16/2021
Number of Days to Update: 58	Next Scheduled EDR Contact: 07/26/2021
	Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 04/22/2021
Number of Days to Update: 52	Next Scheduled EDR Contact: 08/09/2021
	Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009	Source: EPA, Region 9
Date Data Arrived at EDR: 05/07/2009	Telephone: 415-947-4219
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 04/14/2021
Number of Days to Update: 137	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/29/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 83

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/22/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

PRIORITYCLEANERS: Priority Ranking List

The Florida Legislature has established a state-funded program to cleanup properties that are contaminated as a result of the operations of a drycleaning facility.

Date of Government Version: 10/26/2020
Date Data Arrived at EDR: 11/10/2020
Date Made Active in Reports: 01/27/2021
Number of Days to Update: 78

Source: Department of Environmental Protection
Telephone: 850-245-8927
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

FL SITES: Sites List

This summary status report was developed from a number of lists including the Eckhardt list, the Moffitt list, the EPA Hazardous Waste Sites list, EPA's Emergency & Remedial Response information System list (RCRA Section 3012) & existing department lists such as the obsolete uncontrolled Hazardous Waste Sites list. This list is no longer updated.

Date of Government Version: 12/31/1989
Date Data Arrived at EDR: 05/09/1994
Date Made Active in Reports: 08/04/1994
Number of Days to Update: 87

Source: Department of Environmental Protection
Telephone: 850-245-8705
Last EDR Contact: 03/24/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 83

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Quarterly

PFAS: PFOS and PFOA stand for perfluorooctane sulfonate and perfluorooctanoic acid

PFOS and PFOA stand for perfluorooctane sulfonate and perfluorooctanoic acid, respectively. Both are fluorinated organic chemicals, part of a larger family of compounds referred to as perfluoroalkyl substances (PFASs).

Date of Government Version: 10/26/2020
Date Data Arrived at EDR: 10/27/2020
Date Made Active in Reports: 11/06/2020
Number of Days to Update: 10

Source: Department of Environmental Protection
Telephone: 850-245-8690
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 04/27/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/03/2021	Telephone: 202-564-6023
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 16	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/22/2021	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 03/24/2021	Telephone: 202-366-4555
Date Made Active in Reports: 06/17/2021	Last EDR Contact: 06/17/2021
Number of Days to Update: 85	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Quarterly

SPILLS: Oil and Hazardous Materials Incidents

Statewide oil and hazardous materials inland incidents.

Date of Government Version: 04/05/2021	Source: Department of Environmental Protection
Date Data Arrived at EDR: 04/06/2021	Telephone: 850-245-2010
Date Made Active in Reports: 06/24/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 79	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: Semi-Annually

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 12/10/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 03/04/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 60	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

SPILLS 80: SPILLS80 data from FirstSearch

Spills 80 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 80.

Date of Government Version: 09/01/2001	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 03/06/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 62	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 47

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/05/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014	Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014	Last EDR Contact: 04/30/2021
Number of Days to Update: 88	Next Scheduled EDR Contact: 08/16/2021
	Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/08/2018	Telephone: 703-308-4044
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 05/07/2021
Number of Days to Update: 73	Next Scheduled EDR Contact: 08/16/2021
	Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016	Source: EPA
Date Data Arrived at EDR: 06/17/2020	Telephone: 202-260-5521
Date Made Active in Reports: 09/10/2020	Last EDR Contact: 06/17/2021
Number of Days to Update: 85	Next Scheduled EDR Contact: 09/27/2021
	Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018	Source: EPA
Date Data Arrived at EDR: 08/14/2020	Telephone: 202-566-0250
Date Made Active in Reports: 11/04/2020	Last EDR Contact: 05/17/2021
Number of Days to Update: 82	Next Scheduled EDR Contact: 08/30/2021
	Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 01/20/2021	Source: EPA
Date Data Arrived at EDR: 01/21/2021	Telephone: 202-564-4203
Date Made Active in Reports: 03/22/2021	Last EDR Contact: 04/20/2021
Number of Days to Update: 60	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/27/2021	Source: EPA
Date Data Arrived at EDR: 05/03/2021	Telephone: 703-416-0223
Date Made Active in Reports: 05/19/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 16	Next Scheduled EDR Contact: 09/13/2021
	Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 01/22/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/18/2021	Telephone: 202-564-8600
Date Made Active in Reports: 05/11/2021	Last EDR Contact: 04/19/2021
Number of Days to Update: 82	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 12/30/2020	Source: EPA
Date Data Arrived at EDR: 01/14/2021	Telephone: 202-564-6023
Date Made Active in Reports: 03/05/2021	Last EDR Contact: 06/29/2021
Number of Days to Update: 50	Next Scheduled EDR Contact: 08/16/2021
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/19/2020	Source: EPA
Date Data Arrived at EDR: 01/08/2021	Telephone: 202-566-0500
Date Made Active in Reports: 03/22/2021	Last EDR Contact: 04/09/2021
Number of Days to Update: 73	Next Scheduled EDR Contact: 07/19/2021
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 06/29/2021
Number of Days to Update: 79	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/08/2021	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 03/11/2021	Telephone: 301-415-7169
Date Made Active in Reports: 05/11/2021	Last EDR Contact: 04/16/2021
Number of Days to Update: 61	Next Scheduled EDR Contact: 08/02/2021
	Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019	Source: Department of Energy
Date Data Arrived at EDR: 12/01/2020	Telephone: 202-586-8719
Date Made Active in Reports: 02/09/2021	Last EDR Contact: 05/27/2021
Number of Days to Update: 70	Next Scheduled EDR Contact: 09/13/2021
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/05/2019	Telephone: N/A
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 05/27/2021
Number of Days to Update: 251	Next Scheduled EDR Contact: 09/13/2021
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/06/2019	Telephone: 202-566-0517
Date Made Active in Reports: 02/10/2020	Last EDR Contact: 05/07/2021
Number of Days to Update: 96	Next Scheduled EDR Contact: 08/16/2021
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2019	Telephone: 202-343-9775
Date Made Active in Reports: 09/23/2019	Last EDR Contact: 06/22/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 10/11/2021
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 01/28/2020	Telephone: 202-366-4595
Date Made Active in Reports: 04/17/2020	Last EDR Contact: 04/27/2021
Number of Days to Update: 80	Next Scheduled EDR Contact: 08/09/2021
	Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 01/13/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 68

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/05/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/06/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 04/28/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/01/2021
Date Data Arrived at EDR: 02/24/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 84

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 05/27/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 14

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 05/26/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011	Source: USGS
Date Data Arrived at EDR: 06/08/2011	Telephone: 703-648-7709
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 05/27/2021
Number of Days to Update: 97	Next Scheduled EDR Contact: 09/06/2021
	Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/23/2021	Source: Department of Interior
Date Data Arrived at EDR: 03/25/2021	Telephone: 202-208-2609
Date Made Active in Reports: 06/17/2021	Last EDR Contact: 06/14/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 09/20/2021
	Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/03/2021	Source: EPA
Date Data Arrived at EDR: 03/03/2021	Telephone: (404) 562-9900
Date Made Active in Reports: 04/05/2021	Last EDR Contact: 05/18/2021
Number of Days to Update: 33	Next Scheduled EDR Contact: 09/13/2021
	Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 11/03/2020	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/17/2020	Telephone: 202-564-0527
Date Made Active in Reports: 02/09/2021	Last EDR Contact: 05/21/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 09/06/2021
	Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/04/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/06/2021	Telephone: 202-564-2280
Date Made Active in Reports: 06/25/2021	Last EDR Contact: 04/06/2021
Number of Days to Update: 80	Next Scheduled EDR Contact: 07/19/2021
	Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/13/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/17/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Quarterly

AIRS: Permitted Facilities Listing

A listing of Air Resources Management permits.

Date of Government Version: 01/26/2021
Date Data Arrived at EDR: 01/28/2021
Date Made Active in Reports: 02/03/2021
Number of Days to Update: 6

Source: Department of Environmental Protection
Telephone: 850-921-9558
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

ASBESTOS: Asbestos Notification Listing

Asbestos sites

Date of Government Version: 02/16/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/07/2021
Number of Days to Update: 79

Source: Department of Environmental Protection
Telephone: 850-717-9086
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

CLEANUP SITES: DEP Cleanup Sites - Contamination Locator Map Listing

This listing includes the locations of waste cleanup sites from various programs. The source of the cleanup site data includes Hazardous Waste programs, Site Investigation Section, Compliance and Enforcement Tracking, Drycleaning State Funded Cleanup Program (possibly other state funded cleanup), Storage Tank Contamination Monitoring.

Date of Government Version: 02/23/2021
Date Data Arrived at EDR: 02/24/2021
Date Made Active in Reports: 05/14/2021
Number of Days to Update: 79

Source: Department of Environmental Protection
Telephone: 866-282-0787
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Quarterly

DEDB: Ethylene Dibromide Database Results

Ethylene dibromide (EDB), a soil fumigant, that has been detected in drinking water wells. The amount found exceeds the maximum contaminant level as stated in Chapter 62-550 or 520. It is a potential threat to public health when present in drinking water.

Date of Government Version: 12/09/2020
Date Data Arrived at EDR: 12/10/2020
Date Made Active in Reports: 02/25/2021
Number of Days to Update: 77

Source: Department of Environmental Protection
Telephone: 850-245-8335
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Varies

DRYCLEANERS: Drycleaning Facilities

The Drycleaners database, maintained by the Department of Environmental Protection, provides information about permitted dry cleaner facilities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/09/2021
Number of Days to Update: 79

Source: Department of Environmental Protection
Telephone: 850-245-8927
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Semi-Annually

DWM CONTAM: DWM CONTAMINATED SITES

A listing of active or known sites. The listing includes sites that need cleanup but are not actively being working on because the agency currently does not have funding (primarily petroleum and drycleaning).

Date of Government Version: 11/13/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 02/10/2021
Number of Days to Update: 85

Source: Department of Environmental Protection
Telephone: 850-245-7503
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

A list of hazardous waste facilities required to provide financial assurance under RCRA.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/27/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 77

Source: Department of Environmental Protection
Telephone: 850-245-8793
Last EDR Contact: 04/26/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Semi-Annually

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities.

Date of Government Version: 01/07/2021
Date Data Arrived at EDR: 02/26/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 82

Source: Department of Environmental Protection
Telephone: 850-245-8743
Last EDR Contact: 04/26/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Semi-Annually

Financial Assurance 3: Financial Assurance Information Listing

A listing of financial assurance information for storage tanks sites.

Date of Government Version: 01/26/2021
Date Data Arrived at EDR: 01/28/2021
Date Made Active in Reports: 02/03/2021
Number of Days to Update: 6

Source: Department of Environmental Protection
Telephone: 850-245-8853
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

FL Cattle Dip. Vats: Cattle Dipping Vats

From the 1910's through the 1950's, these vats were filled with an arsenic solution for the control and eradication of the cattle fever tick. Other pesticides, such as DDT, were also widely used. By State law, all cattle, horses, mules, goats, and other susceptible animals were required to be dipped every 14 days. Under certain circumstances, the arsenic and other pesticides remaining at the site may present an environmental or public health hazard.

Date of Government Version: 09/27/2019
Date Data Arrived at EDR: 01/10/2020
Date Made Active in Reports: 02/11/2020
Number of Days to Update: 32

Source: Department of Environmental Protection
Telephone: 850-245-4444
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: No Update Planned

HW GEN: Hazardous Waste Generators

Small Quantity Hazardous Waste Generators are regulated under the federal Resource Conservation and Recovery Act (RCRA) and applicable state regulations as generators of hazardous wastes in quantities greater than 100 Kg but less than 1,000 Kg in any one calendar month. Large Quantity Generators of Hazardous Waste are tracked in this coverage based on their notification to the Department of Environmental Protection as to their handler status, or based on inspections conducted at their facilities. These facilities are regulated under the federal Resource Conservation and Recovery Act (RCRA) and applicable state regulations as generators of hazardous wastes in quantities equal to or greater than 1,000 Kg in any one calendar month.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/23/2021
Date Data Arrived at EDR: 03/24/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 78

Source: Department of Environmental Protection
Telephone: 850-245-8758
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

RESP PARTY: Responsible Party Sites Listing
Open, inactive and closed responsible party sites

Date of Government Version: 03/29/2021
Date Data Arrived at EDR: 03/30/2021
Date Made Active in Reports: 06/21/2021
Number of Days to Update: 83

Source: Department of Environmental Protection
Telephone: 850-245-8758
Last EDR Contact: 06/28/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

SITE INV SITES: Site Investigation Section Sites Listing
Statewide coverage of Site Investigation Section (SIS) sites. Site Investigation is a Section within the Bureau of Waste Cleanup, Division of Waste Management. SIS provides technical support to FDEP District Waste Cleanup Programs and conducts contamination assessments throughout the state.

Date of Government Version: 02/16/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/07/2021
Number of Days to Update: 79

Source: Department of Environmental Protection
Telephone: 850-245-8953
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Quarterly

TIER 2: Tier 2 Facility Listing
A listing of facilities which store or manufacture hazardous materials that submit a chemical inventory report.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 06/05/2020
Date Made Active in Reports: 08/19/2020
Number of Days to Update: 75

Source: Department of Environmental Protection
Telephone: 850-413-9970
Last EDR Contact: 06/02/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

UIC: Underground Injection Wells Database Listing
A listing of Class I wells. Class I wells are used to inject hazardous waste, nonhazardous waste, or municipal waste below the lowermost USDW.

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/21/2021
Date Made Active in Reports: 04/12/2021
Number of Days to Update: 81

Source: Department of Environmental Protection
Telephone: 850-245-8655
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

WASTEWATER: Wastewater Facility Regulation Database
Domestic and industrial wastewater facilities.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 02/02/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 80

Source: Department of Environmental Protection
Telephone: 850-245-8600
Last EDR Contact: 04/30/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

MINES MRDS: Mineral Resources Data System Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Protection in Florida.

Date of Government Version: N/A	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 12/30/2013	Last EDR Contact: 06/01/2012
Number of Days to Update: 182	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Protection in Florida.

Date of Government Version: N/A	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/10/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 193	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Protection in Florida.

Date of Government Version: N/A	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 12/30/2013	Last EDR Contact: 06/01/2012
Number of Days to Update: 182	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

COUNTY RECORDS

ALACHUA COUNTY:

FACILITY LIST ALACHUA: Facility List

List of all regulated facilities in Alachua County.

Date of Government Version: 03/19/2021	Source: Alachua County Environmental Protection Department
Date Data Arrived at EDR: 03/23/2021	Telephone: 352-264-6800
Date Made Active in Reports: 06/09/2021	Last EDR Contact: 06/15/2021
Number of Days to Update: 78	Next Scheduled EDR Contact: 10/04/2021
	Data Release Frequency: Annually

BROWARD COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AST BROWARD: Aboveground Storage Tanks

Aboveground storage tank locations in Broward County.

Date of Government Version: 02/12/2021
Date Data Arrived at EDR: 06/10/2021
Date Made Active in Reports: 06/11/2021
Number of Days to Update: 1

Source: Broward County Environmental Protection Department
Telephone: 954-818-7509
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

UST BROWARD: Underground Storage Tanks

All known regulated storage tanks within Broward County, including those tanks that have been closed

Date of Government Version: 02/12/2021
Date Data Arrived at EDR: 06/10/2021
Date Made Active in Reports: 06/11/2021
Number of Days to Update: 1

Source: Broward County Environmental Protection Department
Telephone: 954-818-7509
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

HILLSBOROUGH COUNTY:

LF HILLSBOROUGH: Hillsborough County LF

Hillsborough county landfill sites.

Date of Government Version: 04/07/2021
Date Data Arrived at EDR: 04/07/2021
Date Made Active in Reports: 06/24/2021
Number of Days to Update: 78

Source: Hillsborough County Environmental Protection Commission
Telephone: 813-627-2600
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

MIAMI-DADE COUNTY:

DADE CO AP: Air Permit Sites

Facilities that release or have a potential to release pollutants.

Date of Government Version: 02/23/2021
Date Data Arrived at EDR: 02/23/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 78

Source: Department of Environmental Resources Management
Telephone: 305-372-6755
Last EDR Contact: 05/24/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Semi-Annually

DADE CO AW: Agricultural Waste Listing

A listing of agricultural waste sites

Date of Government Version: 02/23/2021
Date Data Arrived at EDR: 02/23/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 78

Source: Miami-Dade County Division of Environmental Resources Management
Telephone: 305-372-6715
Last EDR Contact: 05/24/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

DADE CO LW: Liquid Waste Transporter List

The Liquid Waste Transporter permit regulates the transportation of various types of liquid and solid waste, including hazardous waste, waste oil and oily waste waters, septic and grease trap waste, biomedical waste, spent radiator fluid, photo chemical waste, dry sewage sludge, and other types of non-hazardous industrial waste. The Liquid Waste Transporter permits needed to protect the environment and the public from improperly handled and transported waste.

Date of Government Version: 02/23/2021
Date Data Arrived at EDR: 02/23/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 78

Source: DERM
Telephone: 305-372-6755
Last EDR Contact: 05/24/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DADE GTO: Grease Trap Sites

Any non-residential facility that discharges waste to a sanitary sewer.

Date of Government Version: 02/23/2021

Date Data Arrived at EDR: 02/23/2021

Date Made Active in Reports: 05/12/2021

Number of Days to Update: 78

Source: Dade County Dept. of Env. Resources Mgmt.

Telephone: 305-372-6508

Last EDR Contact: 05/24/2021

Next Scheduled EDR Contact: 09/06/2021

Data Release Frequency: Semi-Annually

DADE MOP: Marine Facilities Operating Permit

What is this permit used for? Miami-Dade County Ordinance 89-104 and Section 24-18 of the Code of Miami-Dade County require the following types of marine facilities to obtain annual operating permits from DERM: All recreational boat docking facilities with ten (10) or more boat slips, moorings, davit spaces, and vessel tie-up spaces. All boat storage facilities contiguous to tidal waters in Miami-Dade County with ten (10) or more dry storage spaces including boatyards and boat manufacturing facilities.

Date of Government Version: 02/23/2021

Date Data Arrived at EDR: 02/23/2021

Date Made Active in Reports: 05/12/2021

Number of Days to Update: 78

Source: DERM

Telephone: 305-372-3576

Last EDR Contact: 05/24/2021

Next Scheduled EDR Contact: 09/06/2021

Data Release Frequency: Quarterly

DADE MRE: Maimi River Enforcement

The Miami River Enforcement database files were created for facilities and in some instances vessels that were inspected by a workgroup within the Department that was identified as the Miami River Enforcement Group. The files do not all necessarily reflect enforcement cases and some were created for locations that were permitted by other Sections within the Department.

Date of Government Version: 06/05/2013

Date Data Arrived at EDR: 06/06/2013

Date Made Active in Reports: 08/06/2013

Number of Days to Update: 61

Source: DERM

Telephone: 305-372-3576

Last EDR Contact: 05/24/2021

Next Scheduled EDR Contact: 09/06/2021

Data Release Frequency: Quarterly

DADE_IW2_4: Industrial Waste Type 2-4 Sites

IW2s are facilities having reclaim or recycling systems with no discharges, aboveground holding tanks or spill prevention and countermeasure plans. IW4s are facilities that discharge an effluent to the ground.

Date of Government Version: 02/23/2021

Date Data Arrived at EDR: 02/23/2021

Date Made Active in Reports: 05/12/2021

Number of Days to Update: 78

Source: Department of Environmental Resources Management

Telephone: 305-372-6700

Last EDR Contact: 05/24/2021

Next Scheduled EDR Contact: 09/06/2021

Data Release Frequency: Semi-Annually

DADE_IW5: Industrial Waste Type 5 Sites

Generally these facilities fall under the category of "conditionally exempt small quantity generator" or "small quantity generator".

Date of Government Version: 02/23/2021

Date Data Arrived at EDR: 02/23/2021

Date Made Active in Reports: 05/12/2021

Number of Days to Update: 78

Source: Department of Environmental Resources Management

Telephone: 305-372-6700

Last EDR Contact: 05/24/2021

Next Scheduled EDR Contact: 09/06/2021

Data Release Frequency: Semi-Annually

DADE_IW6: Industrial Waste Type 6

Permits issued to those non-residential land uses located within the major drinking water wellfield protection areas that are not served by sanitary sewers. These facilities do not handle hazardous materials but are regulated because of the env. sensitivity of the areas where they are located.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/23/2021
Date Data Arrived at EDR: 02/23/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 78

Source: Department of Environmental Resources Management
Telephone: 305-372-6700
Last EDR Contact: 05/24/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Semi-Annually

DADE_IWP: Industrial Waste Permit Sites

Facilities that either generate more than 25,000 of wastewater per day to sanitary sewers or are pre-defined by EPA.

Date of Government Version: 02/23/2021
Date Data Arrived at EDR: 02/23/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 78

Source: Department of Environmental Resources Management
Telephone: 305-372-6700
Last EDR Contact: 05/24/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Semi-Annually

ENF: Enforcement Case Tracking System Sites

Enforcement cases monitored by the Dade County Department of Environmental Resources Management.

Date of Government Version: 02/25/2021
Date Data Arrived at EDR: 02/26/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 82

Source: Department of Environmental Resources Management
Telephone: 305-372-6755
Last EDR Contact: 05/24/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Semi-Annually

SPILLS DADE: Fuel Spills Cases

DERM documents fuel spills of sites that are not in a state program.

Date of Government Version: 01/08/2009
Date Data Arrived at EDR: 01/13/2009
Date Made Active in Reports: 02/05/2009
Number of Days to Update: 23

Source: Department of Environmental Resources Management
Telephone: 305-372-6755
Last EDR Contact: 05/24/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Semi-Annually

UST DADE: Storage Tanks

A listing of aboveground and underground storage tank site locations.

Date of Government Version: 06/03/2019
Date Data Arrived at EDR: 11/19/2020
Date Made Active in Reports: 02/03/2021
Number of Days to Update: 76

Source: Department of Environmental Resource Management
Telephone: 305-372-6700
Last EDR Contact: 05/24/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Semi-Annually

PALM BEACH COUNTY:

LF PALM BEACH: Palm Beach County LF

Palm Beach County Inventory of Solid Waste Sites.

Date of Government Version: 09/01/2011
Date Data Arrived at EDR: 09/20/2011
Date Made Active in Reports: 10/10/2011
Number of Days to Update: 20

Source: Palm Beach County Solid Waste Authority
Telephone: 561-640-4000
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 10/05/2020
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 82

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/19/2021
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 04/30/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/09/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 02/24/2021
Number of Days to Update: 13

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/13/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Department of Children & Families

Source: Provider Information

Telephone: 850-488-4900

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory

Source: Department of Environmental Protection

Telephone: 850-245-8238

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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Appendix F – Pond Siting Memo

Pond Siting Technical Memorandum

Lorraine Road

Project Development and Corridor Study Report

October 2021



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Executive Summary

HDR Engineering, Inc. has been retained by Manatee County Government for conducting a Project Development and Corridor Study for Lorraine Road from 59th Avenue East to SR 64. This Preliminary Drainage and Pond Site Location Analysis is conducted for the project corridor study using Manatee County Roadway and Drainage Design Standards, and Florida Department of Transportation (FDOT) 2021 Drainage Manual and Drainage Design Guide, Chapter 9.1 “Selecting a Pond Site” as references. The focus of this analysis is for estimating preliminary corridor drainage requirements and stormwater management pond site locations and sizes (volume and area), based on corridor topography, development, proximity to outfalls and SWFWMD / Manatee County water quality and water quantity criteria applicable to the receiving watershed. In addition, corridor drainage system and floodplain mitigation site (FMS) needs are investigated for a future design phase.

The Lorraine Road corridor study limits is segmented into six (6) corridor drainage basins, resulting from hydraulic divides associated with three (3) cross drains, topographic ridges, and watershed divides. Due to the degree of development occurring along the corridor, only two (2) pond site alternates per corridor basin are evaluated, with the exception of a third site evaluated where joint use of an existing pond is an alternate. The resulting twelve (12) preliminary pond site investigations are summarized by watershed in **Tables 1 and 2** below and categorized as the “Preferred Site”, “2nd Alternate Site” or “3rd Alternate site” ranking based on conditions further outlined in this preliminary analysis.

Table 1 | Summary of Preliminary Pond Sites (Wolf Slough – Braden River Watershed)

SUMMARY OF PRELIMINARY POND SITES (WOLF SLOUGH – BRADEN RIVER WATERSHED)						
CORRIDOR BASIN	POND SITE	LOCATION OFFSET	POND SITE AREA (ACRES)	PREFERRED SITE	2 nd ALTERNATE SITE	3 rd ALTERNATE SITE
1	1W / FMS	LT.	2.46	X		
	1E	RT.	5.00		X	
	FMS 1E	RT.	0.10		X	
2	2W	LT.	5.14		X	
	2E1 (EXISTING POND FOR JOINT USE)	RT.	6.24	X		
	2E2	RT.	5.63			X

Table 2 | Summary of Preliminary Pond Sites (Mill Creek - Manatee River Watershed – Below Dam)

SUMMARY OF PRELIMINARY POND SITES (MILL CREEK – MANATEE RIVER WATERSHED – BELOW DAM)					
CORRIDOR BASIN	POND SITE	LOCATION OFFSET	POND SITE AREA (ACRES)	PREFERRED SITE	2 nd ALTERNATE SITE
	3W / FMS	LT.	2.97	X	
	FMS 3W	LT.	1.30	X	

3	3E (EXISTING POND FOR JOINT USE)	RT.	9.80		X (*)
4	4W1	LT.	2.98		X
	4W2	LT.	2.98	X	
	FMS 4E	RT.	1.30		X
5	5W1	LT.	3.13		X
	5W2	LT.	3.13	X	
6	6W1	LT.	1.58	X	
	6W2	LT.	1.58		X

(*) Pond 3E (existing development pond for joint use potential) is evaluated to not be hydraulically feasible for accepting Lorraine Road Basin 3.

1.0 Introduction

Manatee County Government is conducting a Project Development and Corridor Study for Lorraine Road. The purpose of the Corridor Study is to develop corridor alternatives for reducing congestion, improving safety and operational performance, and addressing future transportation needs. Proposed improvements also include intersection improvements at Rangeland Parkway, 44th Avenue East, and connection to the future roundabout at SR 70 proposed by the FDOT.

This Preliminary Drainage and Pond Site Location Analysis is included within the Lorraine Road Corridor Study to assess right of way acquisition alternatives for required stormwater ponds and floodplain impact mitigation. The analysis follows Southwest Florida Water Management District (SWFWMD), Florida Department of Transportation (FDOT) and Manatee County requirements and guidelines. The stormwater and pond site sizing analysis herein are preliminary and does not benefit from detailed survey or geotechnical investigation.

The existing segment of Lorraine Road is typically a two-lane (one-lane-each-way) north-south rural roadway with flush shoulders and roadside grassed conveyance ditches. Existing two-lane Lorraine Road has no formal stormwater treatment or attenuation systems, with roadside grassed conveyance ditches that discharge directly into lateral open channel outfalls.

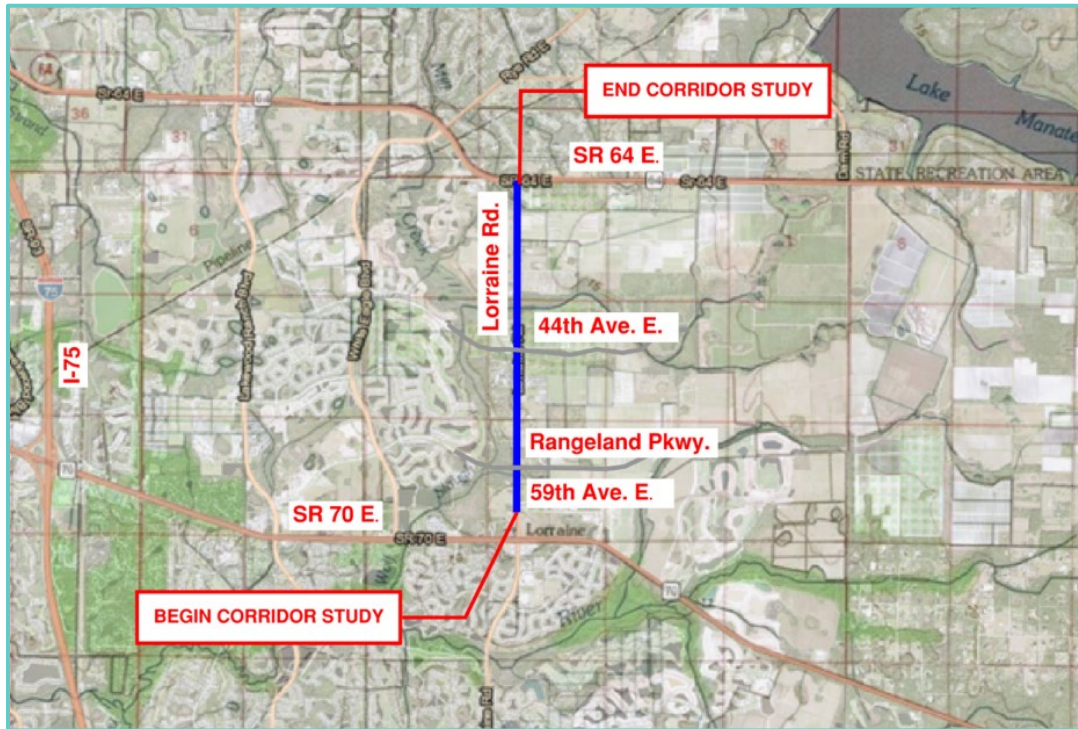
Drainage Maps are found in **Appendix A**. The study corridor is situated within two (2) watershed basins with six (6) stormwater runoff basins. Basins 1 and Basin 2 outfall to Wolf Slough (WBID 1909) tributary to the Braden River – Evers Reservoir Watershed. Basins 3 through 6 outfall to the Mill Creek Tributaries (WBID 1872B) within the Manatee River (Below Dam) Watershed. No corridor basins are impaired for nutrients or dissolved oxygen; however, the watersheds may be subject to Tampa Bay Estuary “Reasonable Assurance” water quality criteria (see **Section 10.2**). The proposed project requires an Environmental Resource Permit (ERP) from SWFWMD.

The preliminary pond siting analysis is based on the Lorraine Road Typical Section, with presumption of the entire 120-ft right-of-way width as impervious for conservatively accounting for median turn lanes, driveway connections and accepting minor areas of “back of sidewalk” offsite flows to the stormwater treatment and attenuation volumes. Two pond site alternatives are evaluated for each runoff basin where right of way acquisition is triggered by the need for a stormwater facility. A third alternate site is evaluated where joint use of an existing pond is an alternate.

1.1 Project Location

The Lorraine Road corridor study is located east of I-75 within Sections 3, 10 and 15, Township 35S, Range 19E of eastern unincorporated Manatee County, (See **Figure 1**). The project limits include approximately 2.75 miles of Lorraine Road from 59th Avenue East (1,350-ft north of SR 70) to SR 64.

Figure 1 | Location Map



1.2 Project Description

The future project resulting from this corridor study will add vehicular capacity and shared use access to Lorraine Road. The proposed improvements to Lorraine Road will increase north-south vehicular capacity between four east-west roadways – SR 70 E. to Rangeland Parkway, Rangeland Parkway to 44th Avenue East, and from 44th Avenue East to SR 64 E.

2.0 CUDEM Elevations Data / Vertical Datum

For the purposes of the preliminary analysis, approximate elevations used in estimating elevations for pond sites and roadway grades are based on Continuously Updated Digital Elevation Model (CUCUDEM) data from the National Oceanic Atmospheric Administration (NOAA), updated on 3/1/2020. All analysis herein is based on North American Vertical Datum 1988 (NAVD88). Data sources in National Geodetic Vertical Datum 1929 (NGVD29) including the FEMA effective FIS and FIRMs, historical plans and SWFWMD existing permit records are converted to NAVD88 as required. The conversion from NGVD29 to NAVD88 used in this report is:

NAVD88 = NGVD29 – 1.00-FT. Datum conversion estimated by Corpscon6 software (see Appendix D).

3.0 Land Use

The existing land use conditions along the Lorraine Road corridor study limits include agricultural -cattle range lands transitioning to residential developments with mixed commercial use. Based on Manatee County Future

Land Use (FLU) Mapping, the Lorraine Road corridor study limits includes Retail Office / Residential (ROR) at SR 70, Urban Fringe low to mid-density residential and short term agricultural (UF-3) to the west side of the corridor and mixed-use commercial with medium to high density residential bordering the east side of the corridor.

4.0 Soils

A preliminary soils and seasonal high groundwater table (SHGWT) evaluation of the Lorraine Road corridor study limits has been performed, based on evaluation of the Natural Resources Conservation Service (NRCS) Soil Survey for Manatee County, Florida (see Figure 2). The NRCS soils information is used to estimate SCS hydrologic soil groups of in situ soils for basin stormwater runoff estimates, and pond site SHGWT for estimating pond control elevations. A summary of NRCS soil types, hydrologic soil groups and SHGWT depths is provided in Table 3.

Figure 2 | NRCS Soil Survey Map

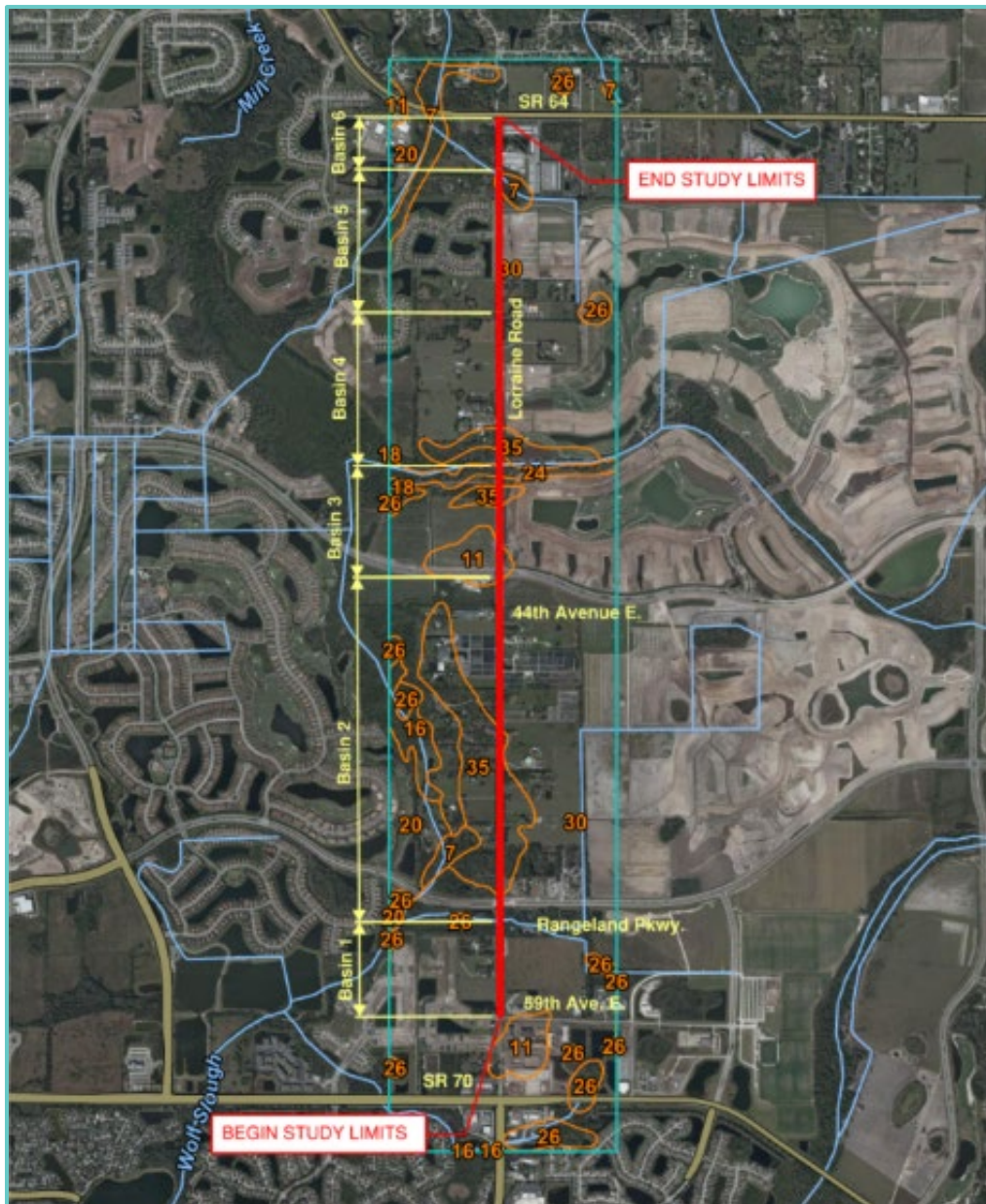


Table 3 | NRCS Soil Hydrologic Groups and SHGWT

Map Unit	Map Unit Name	HSG	Depth to SHGWT (in.)
7	Canova, Anclote, Okeelanta soils	A/D	0 – 6
11	Cassia fine sand	A	18 - 42
24	Felda - Wabasso	A/D, C/D	0 - 12
26	Floridana, Immokalee, Okeelanta soils	C/D, B/D, A/D	0
30	Myakka fine sands	A/D	6 - 18
35	Ona fine sand	B/D	6 - 18

5.0 Storm Surge Hazard / Evacuation Zones

The National Oceanic and Atmospheric Administration (NOAA), in conjunction with the National Hurricane Center (NHC), simulates storm surge inundation from tropical cyclones utilizing the hydrodynamic computer model “Sea, Lake and Overland Surges for Hurricanes” (SLOSH). The NHC provides storm surge information to Federal, State, and local partners to assist in planning processes and risk assessment studies. The SLOSH model simulates hypothetical “near worst-case” scenarios for each hurricane category (1-5). The SLOSH is a composite of the maximum storm surge from numerous hypothetical storm scenarios. Manatee County Emergency Management references hurricane coastal evacuation zones which roughly correspond to the SLOSH-2009 storm tide (surge) limit delineations (see **Figure 3**).

Lorraine Road serves as a north-south connector between two hurricane evacuation routes; SR 64 to the south and SR 70 to the north. In addition, Lorraine Road serves as a primary connection route between Rangeland Parkway and 44th Avenue East. The proposed four-lane improvements to Lorraine Road should enhance the effectiveness of the roads functionality and lessen risks to the traveling public during an emergency evacuation. Based on NOAA National Storm Surge Hazard Maps, Lorraine Road project limits would be subject to the following storm surge probability:

Category 5 (Evacuation Zone E): Storm surge (greater than 3-feet) would likely encroach the highest reaches of the Mill Creek Tributary 1, to the north of 44th Avenue. Based on review of FEMA FIRM, located immediately upstream of riverine Zone AE 100-YR EL. 31; compared with CUDEM EL. 38 of Lorraine Road at the cross drain, existing Lorraine Road is preliminarily estimated to not overtop from backwater conditions resulting from a Category 5 storm surge.

7.0 Floodplains

7.1 FEMA / Manatee County 100-Year Floodplain

The Federal Emergency Management Agency (FEMA) provides Flood Insurance Rate Maps (FIRMs) to estimate a community’s flooding risks. FEMA provides ongoing coordination with regulatory agencies and municipalities for establishing FIRM coverage of floodplain boundaries and base flood elevations. There are three (3) FIRM panels defining floodplains and floodways along the Lorraine Road corridor study limits. The FIRMs are a result of coordination between FEMA and the Southwest Florida Water Management District (SWFWMD) in concert with Manatee County. A summarized review of the FEMA FIRM coverage indicates the Lorraine Road corridor lies within Zone X (Areas above 0.2% annual chance flood) from 59th Avenue E through SR 70, except for Zone AE (100-yr. EL. 31+/-) within the Wolf Slough crossing and Zone A (100-yr. elevation undetermined) within Mill Creek Tributary 1, to the north of 44th Avenue E. The Manatee County 100-year floodplain coverage appears to superimpose the FEMA 100-year floodplain, as presumably both are derived from the County watershed models. **Table 4** below provides a summary of FEMA Flood Insurance Rate Maps (FIRM) coverage for the Lorraine Road corridor study limits.

Table 4 | FEMA Flood Insurance Rate Maps (FIRM)

SUMMARY OF FEMA FLOOD INSURANCE RATE MAPS (FIRM)		
LORRAINE ROAD CORRIDOR		
FIRM PANEL NO.	FROM	TO
12081C0345E	Sarasota -Manatee County Line	0.13 mile north of 59 th Avenue East.
12081C0334E	0.13 mile north of 59 th Avenue E.	0.1-mile south of SR 64
12081C0332E	0.1-mile. south of SR 64	3.4-miles north of SR 64

7.2 Manatee County 25-Year Floodplain

Manatee County Public Works provides mapped delineation of the 25-Year Floodplain. The 25-Year Floodplain, based on modeled conveyances within Wolf Slough and Mill Creek parallels Lorraine Road corridor to the west, and encroaches Wolf Slough and Mill Creek tributaries up to the Lorraine Road cross drains.

Section 717.3.1 of the Manatee County Land Development Code (LDL) indicates that “within any twenty-five (25) year floodplain defined by the County, it shall be a condition of any permit to provide equal excavation on the same lot to compensate for any filling. This prohibition of habitable structure applies only to areas where the mapping of the twenty-five (25) year floodplain has been completed, or where existing water surface profiles can permit the identification of the twenty-five (25) year floodplain”. Therefore, the evaluation of the hydraulic adequacy of cross-drains and storm drains will apply the intent of the LDL by demonstrating no adverse impacts to the documented 25-Year floodplain stage, in concert with “cup-for-cup” volume mitigation.

Based on the 25-year floodplain extents map provided by Manatee County, there is likelihood of impacts resulting from cross drain extensions or reconstruction from the 4-lane widening of Lorraine Road. Floodplain impact mitigation sites are considered to compensate for impacts to the 25-year floodplain.

8.0 Right of Way

The Lorraine Road existing right-of-way has variable width, but it is typically 66-ft wide along the study limits. Consequently, frontage right-of-way acquisition will be required for the proposed four-lane urban typical section with 120-ft. wide right-of-way. In addition, there are no publicly owned lands available for stormwater management ponds or floodplain mitigation sites. Therefore, acquisition of privately owned parcels will be required. It is anticipated that pond site acquisitions will typically include frontage acquisition for the proposed roadway corridor expansion.

9.0 Existing Cross Drains

The Lorraine Road corridor study limits includes three (3) major cross drains, with locations shown on the drainage maps in **Appendix A**:

Cross Drain 1 is a recently constructed 100 LF of double 7-ft x 7-ft concrete box culvert for the Wolf Slough crossing. This cross drain will remain in place and extended as needed for the Lorraine Road improvements.

Cross Drain 2 is a two-lane bridge for the Mill Creek Tributary 1 crossing, which has been designated as functionally obsolete and will be replaced with the Lorraine Road four-lane improvements.

Cross Drain 3 is a two-lane bridge for the Mill Creek Tributary 2 crossing, which has also been designated as functionally obsolete and will be replaced with the Lorraine Road four-lane improvements.

10.0 Existing Drainage

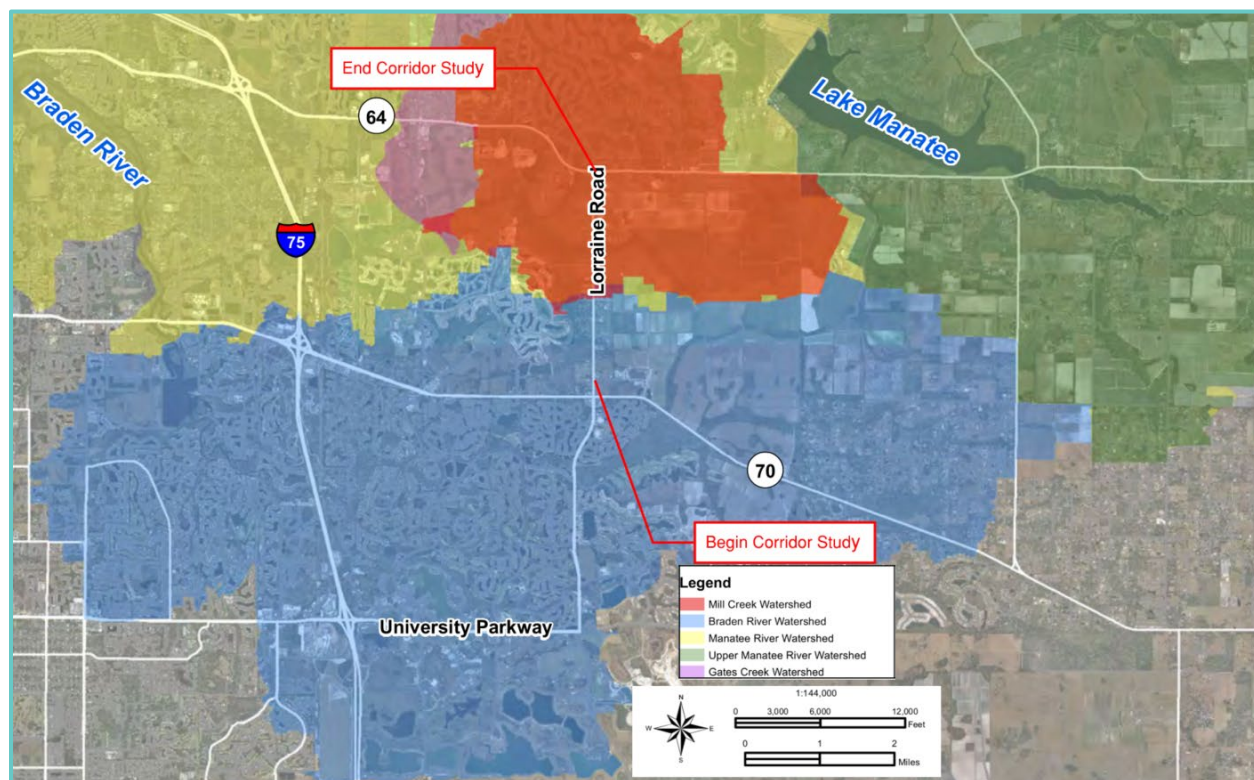
Corridor drainage patterns can be found on the **Appendix A** Drainage Maps. Runoff basins are delineated using LiDar contours, historical plans, permit documents, and aeriels.

The Lorraine Road existing corridor is a two-lane two-way rural arterial road, with flush shoulders, driveway side drains and open grassed conveyance ditches. The Lorraine Road study corridor has no existing stormwater treatment or attenuation systems. Offsite drainage patterns typically flow east to west, intercepted by the easterly roadside ditches, although a certain amount of offsite flow is received on both sides of Lorraine Road. The ditch grades follow the existing topography, ultimately draining to the three primary later outfall crossings; Wolf Slough, Mill Creek Tributary 1 and Tributary 2.

10.1 Watersheds

The Lorraine Road corridor study is situated within two (2) open basin watersheds; The Braden River Watershed (Wolf Slough tributary) from Begin Corridor Study limits to approximately 44th Avenue E. The Mill Creek Watershed (tributaries 1 and 2) extend north from 44th Avenue to End Corridor Study Limits (see **Figure 4**).

Figure 4 | Watershed Map



The Braden River Watershed covers approximately 57 square miles in southern Manatee County, extending into northern Sarasota County. The Braden River is the largest tributary to the Manatee River and flows through the Bill Evers Reservoir (Ward Lake), a primary source of water supply for the City of Bradenton. The Braden River watershed includes nine tributaries, the Wolf Slough tributary, is a natural stream within the Lorraine Road corridor study limits, which drains an area of approximately 3.4 square miles.

The Mill Creek Watershed is in central Manatee County and encompasses approximately 16 square miles within the overall Manatee River Watershed. The Mill Creek Watershed is bounded to the north by the Manatee River, to the east by the Lake Manatee Watershed, to the south by the Braden River Watershed and to the west by the Gates Creek Watershed. The watershed discharges to the Manatee River approximately seven miles downstream of the Manatee Reservoir dam.

Both the Braden River Watershed and the Mill Creek Watershed have been thoroughly evaluated and modeled by Manatee County, in partnership with the Southwest Florida Water Management District. Each watershed tributary basin has differing stormwater management water quality and water quantity criteria (see Section 13 Pond Design Criteria in this technical memorandum. Manatee County Watershed Management staff offered the *following recommendations for implementation of the watershed models in the future design phase of Lorraine Road:*

- Post stormwater management would be integrated into post-condition watershed models to demonstrate no stage increase over pre-condition throughout the models.
- Watershed models should be used to set pond control elevations to match initial stage of receiving nodes, considered lowest SHW for pond design.

- Use watershed models to analyze existing crossings and areas of inundation, including improvements to receiving outfalls if warranted.

10.2 FDEP Impaired Waters

The Florida Department of Environmental Protection has established a Waterbody Identification System (WBID) for monitoring and addressing water quality impairment. There are two (2) WBID basins covering the Lorraine Road corridor study limits, each under the group 2 Tampa Bay Tributaries designation:

WBID 1909 represents the Wolf Slough basin coverage, which extends from south of SR 70 to 44th Avenue E. The FDEP 2021 Comprehensive Verified List for WBIDs does not identify WBID 1909 for impairment.

WBID 1872B represents Mill Creek (Freshwater Segment), which extends north of 44th Avenue E. to north of SR 64. The FDEP classifies this WBID as "Waters Not Attaining Standards" (WNAS) and is assessed as being Impaired by Fecal Coliform Bacteria.

No corridor basins are impaired for nutrients or dissolved oxygen, and therefore do not require demonstration of pre/post pollutant loading net improvement at the time of this study.

10.3 Drainage Conveyance

Internal Storm drain System Design Event: Lorraine Road, being designated as part of the Manatee County "Major Thoroughfare Plan" shall have the roadway's internal drainage system design for the 25-year Rational event (instead of the standard 10-year Rational event), critical duration based on project site's time of concentration.

Inlet Spacing: Inlets to be spaced as to limit the spread from a 10-year frequency rainfall to have five -feet measured longitudinally on a continuous grade. Inlet spacing based on a maximum of 400-foot gutter flow.

Urban curb and gutter roadways require a minimum 0.3% longitudinal grade in conjunction with the curb inlet storm drain systems.

Tailwater Effect: Tailwater effects shall be included in storm drain design - receiving pond tailwater computed by routing storm frequency commensurate with the storm drain design event. In all cases, the hydraulic grade line shall not be higher than 0.25-feet below the gutter line elevation at any structure. All energy losses (entrance, exit, friction, structure, etc.) must be considered.

Storm drain Pipes: Where possible, place pipes on minimum grade of 0.2 percent and provide $V = 2.5$ fps (full or half full). Minimum pipe size is 15" for longitudinal pipe runs 75-feet or less. Minimum pipe size 18" for low points on roadways.

Existing offsite drainage interception within the roadway corridor storm drains or ditches must be maintained and is anticipated with this project. Roadway grading may consider accepting minor areas of offsite runoff over the sidewalks to be received by the internal storm drain system. Alternatively, offsite drainage may require back of sidewalk inlet interception to the internal storm drain or a separate offsite conveyance system with direct discharge to the existing condition outfall. Offsite sheet flow toward the corridor may require back of sidewalk swale interception, in conjunction with inlet / storm drain collector systems.

10.4 Roadway Design High Water

New streets shall be designed with traffic lanes a minimum of six-inches free board above the design storm base flood elevation measured from the crown of the road: Streets, bridges, and culverts of arterial and collector

facilities not within the published 100-year floodplain, the design storm shall be the fifty (50) year return frequency. Multi-lane roads shall have the outside lane with one-half of the lane width clear of the 100-year base flood.

10.5 Roadway Base Clearance

Roadway FDOT Context Classifications C4 Urban General may be designed to provide a minimum of 1-foot Base Clearance Water Elevation (BCWE) between base course of the roadway and the seasonal high groundwater table. However, BCWE less than 3-feet will require reduction in pavement design resilient modulus per FDOT criteria. In all situations, the crown of the proposed roadway shall be no lower than 18-inches below the elevation of the adjacent ground after development.

10.6 Environmental Resource Permits

The Southwest Florida Water Management District (SWFWMD) existing Environmental Resource Permits (ERPs) listed in **Table 5** were used as resources for drainage basin patterns, permitted control elevations and design highwater stages considered in the preliminary pond site sizing analysis

Table 5 | Environmental Resource Permits

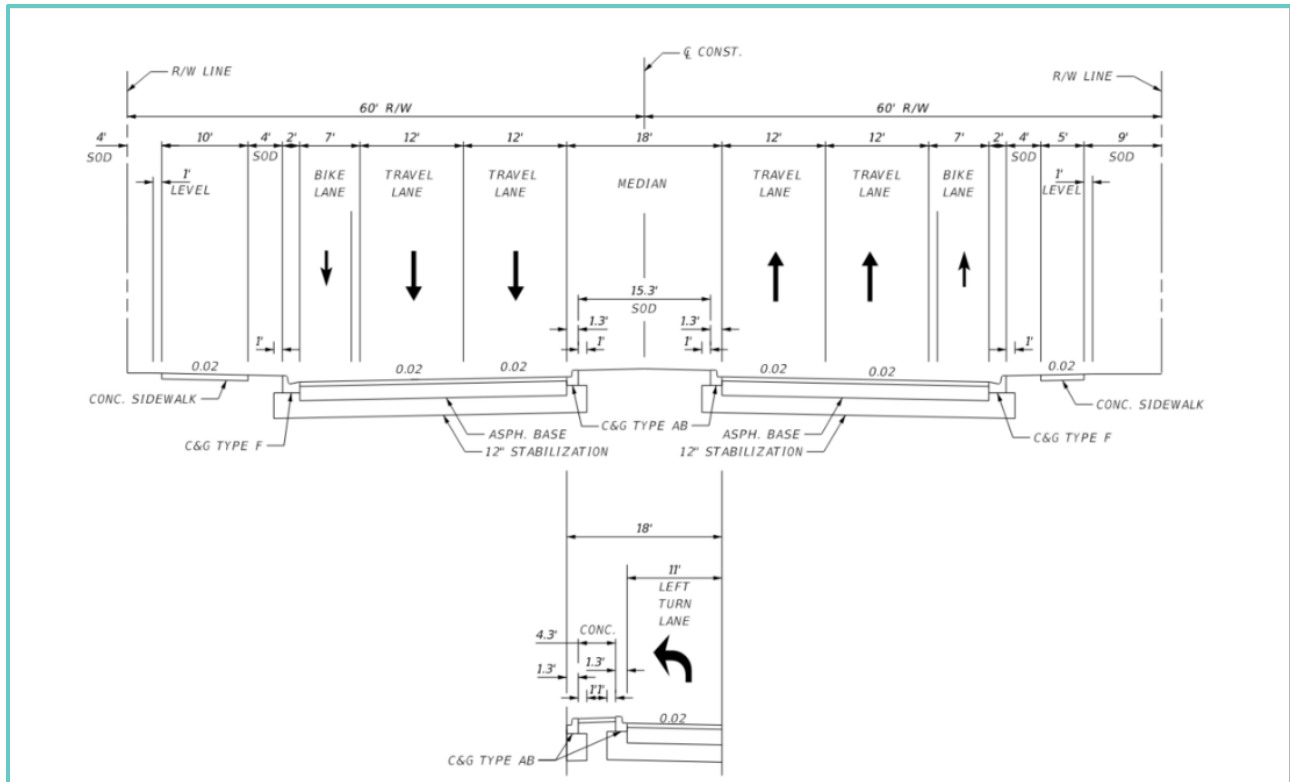
Permit Number	Project
43033170.007	Savanna at Lakewood Ranch – Phase 1
43033170.027	Savanna at Lakewood Ranch
43033170.000	Lakewood Ranch NW Sector Drainage Study
43043286.012	Azario (f.k.a Lakewood Ranch 1000)
43003052.270	Rangeland Parkway (Lorraine Road to Uihlein Road)
43034220.000	Risen Savior Lutheran Church
43033170.019	44 th Avenue Phase IV
43042929.000	KB Homes Lakewood Estates
43033170.000	Lakewood Ranch Formal Determination
43029962.008	Schroeder Manatee Ranch 2016 Permit Ext.
43043286.008	Schroeder Manatee Ranch
43045269.000	Schroeder Lakewood Gardens

11.0 Proposed Typical Section

The Lorraine Road Corridor study is based on implementation of one typical section throughout the study limits. The typical section is based on a proposed 120-ft right-of-way corridor which will require property acquisition to expand the existing right-of-way average width of 66-ft. The proposed typical section provides four 12-ft lanes, with 7-ft bike lanes, 5-ft sidewalk, and 10-ft multi-use path. The typical section includes urban curb and gutter

which will be drained by curb inlet longitudinal storm drain system connections to the proposed stormwater management ponds. The Lorraine Road Typical Section is depicted in **Figure 5**.

Figure 5 / Proposed Typical Section



12.0 Floodplain Impacts

Minor areas of floodplain impact may occur at the Wolf Slough Tributary 1, as a result of the cross drain widening required for the four-lane improvements to Lorraine Road. The preferred Pond Site 1W includes onsite floodplain mitigation with direct connection to the Wolf Slough floodplain. **Floodplain impacts within Wolf Slough as a result of the cross drain extension is preliminarily estimated at 0.10-acre.**

Minor areas of floodplain impact may occur at the Mill Creek Tributary 1, as a result of the cross drain widening required for the four-lane improvements to Lorraine Road. Floodplain mitigation could be pursued by demonstrating adjacent stormwater ponds with conservation pool weir elevation at the seasonal high groundwater table (SHGWT), could create floodplain storage volume compensation between the SHGWT and the excavated existing groundline in the site. Otherwise, the Basin 3 pond site could be expanded as necessary to provide floodplain impact mitigation. **Floodplain impacts within Mill Creek Tributary 1 as a result of the cross drain extension is preliminarily estimated at 1.30-acres.**

13.0 Pond Design Criteria

Coordination / Pre-application meetings were held with Manatee County and the Southwest Florida Water Management District (SWFWMD), respectively for the purpose of outlining pond design criteria and regulatory permitting requirements (see meeting notes in the **Master Study Report**). The pond design criteria provided by Manatee County and SWFWMD criteria is summarized in **Tables 6** and **7** for Wolf Slough and Mill Creek, respectively. Manatee County's Watershed Management Plan criteria for additional water quality volume and water quantity rate attenuation derived from watershed modeling exceeds SWFWMD presumptive criteria for the future design phase and is applied to the preliminary pond sizing analysis in this study.

There are two (2) primary watersheds within the Lorraine Road corridor study limits; Wolf Slough tributary to the Braden River Watershed / Evers Reservoir from 59th Ave. E. to 44th Ave. E., and Mill Creek tributary for the Manatee River (Below Dam) watershed from north of 44th Avenue E. to SR 64. Each watershed has specific criteria for SWFWMD presumptive water quality and water quantity, as derived by the County's Watershed Management Plans. Each preliminary pond site analysis includes a cursory hydraulic feasibility analysis. The purpose of the analysis is to estimate if a reasonable hydraulic gradient slope for a storm drain system projected from the pond's design high water stage will result in freeboard below a predicted critical low edge of travel lane at the top of the basin.

The preliminary pond sizing analysis in this study conservatively estimates water quality requirements based on treating the entire 120-foot proposed corridor width as impervious area. However, for the future design phase, the SWFWMD allows presumptive water quality to be based on the area of new impervious only, including equivalent treatment of comingled existing and new impervious areas to the pond. Except for Pond Site 3W, the Preferred Pond Sites are based on use of the SWFWMD's "Wet Retention Conservation Pool" criteria.

The preliminary pond sizing analysis in this study estimates water quantity attenuation based on Manatee County criteria for post-runoff volume minus seventy-five percent of Pre. Runoff volume for Wolf Slough and post-runoff volume minus fifty percent of pre. Runoff volume for Mill Creek basins, respectively. Demonstration of water quantity rate attenuation for the design phase will require hydro-dynamic modeling of the SWFWMD 25-Yr, 24 Hr. (FLMOD Rainfall Distribution) design storm based on the Manatee County water quantity rate attenuation criteria. Based on review of existing permits along the corridor, off-site areas discharging to the site are not subject to the Manatee County criteria. As such, the SWFWMD criterion that the post-development rate not to exceed the pre-development rate can be the sum of combined discharge from onsite Manatee County criteria attenuation and offsite flows.

As discussed in the SWFWMD Pre-application meeting, WBIDs 1909 and 1872B for Wolf Slough and Mill Creek, respectively are outside of the basins requiring National Estuary Program (NEP) demonstration of "Reasonable Assurance" water quality standards related to nutrients in Tampa Bay. Therefore, at the time of this study, the stormwater management ponds for Lorraine Road do not require demonstrating net improvement of nutrient loads.

None of the pond site alternates are estimated to be within the radius of influences for private water supply wells (75-feet) or public water supply wells (100-feet) identified on the SWFWMD permitting website. However, the SWFWMD has three (3) known data collection monitoring wells located at Wolf Slough and Mill Creek Tributary crossings within the corridor study limits. Construction impacts to these data collection sites will require SWFWMD coordination during the design phase.

Table 6 | Pond Design Criteria – Wolf Slough (Braden River / Evers Reservoir)

Preliminary Pond Sizing Criteria – Wolf Slough (Braden River / Evers Reservoir Watershed)		
Design Element	Source	Criteria
Water Quality, Wet Detention	SWFWMD Applicant's Handbook Vol. II, Part IV, Section 4.1a.	SWFWMD wet detention water quality one inch of runoff from the contributing area.
	Manatee County Watershed Master Plan	SWFWMD wet detention water quality one and one-half inches of runoff from the contributing area.
Water Quality Conservation Pool	SWFWMD TP/SWP022 (Alt. 3), June 1997 / Manatee County Watershed Master Plan	Design pool volume below the control elevation to eight feet depth must be equal to 50-percent additional one inch of runoff plus the calculated volume based on the average residence time of 14 days and average total rainfall during the wet season (122 days, June through September), and must be no less than 1.667 inches from contributing area.
Water Quantity, Rate Control	SWFWMD Applicant's Handbook Vol. II, Part III,	SWFWMD 25-Yr, 24 Hr. (FLMOD Rainfall Distribution) Post Rate ≤ Pre. Rate Attenuation (Criteria full description truncated).
	SWFWMD Manatee County Watershed Master Plan	SWFWMD 25-Yr, 24 Hr. (FLMOD Rainfall Distribution) Post Rate ≤ seventy-five percent of Pre. Rate Attenuation (Criteria full description truncated as applied to this preliminary pond sizing analysis based on pond size detention volume equal to post-runoff volume – 75% of pre-runoff volume).
Pond Geometry	SWFWMD Applicant's Handbook Vol. II, Part V, Section 5.4.1 / TP/SWP022 (Alt. 3), June 1997	1:4 pond slopes down to 2-ft below control elevation, 1:2 slopes in conservation pool down to 8-ft max. depth.
	Manatee County Stormwater Management Design Manual, Section 2.3.16	Retention basins constructed for flow attenuation purposes must have sufficient volume to contain the volume of post development runoff from the design storm rainfall, or shall have sufficient volume to contain said runoff volume with a minimum of one (1) foot of freeboard.
	Manatee County Stormwater	Detention and retention basins shall have an unobstructed access route at least 20-feet wide from

	Management Design Manual, Section 2.4.11	the nearest street and shall have unobstructed maintenance access area a minimum of 20-feet from the top of bank completely around their perimeter.
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Table 7 | Pond Design Criteria – Mill Creek (Manatee River below dam)

Preliminary Pond Sizing Criteria – Mill Creek (Manatee River Below Dam Watershed)		
Design Element	Source	Criteria
Water Quality, Wet Detention	SWFWMD Applicant's Handbook Vol. II, Part IV, Section 4.1a. / Manatee County Watershed Master Plan	SWFWMD wet detention water quality one inch of runoff from the contributing area.
Water Quality Conservation Pool	SWFWMD TP/SWP022 (Alt. 3), June 1997 / Manatee County Watershed Master Plan	Design pool volume below the control elevation to eight feet depth must be equal to one inch of runoff plus the calculated volume based on the average residence time of 14 days and average total rainfall during the wet season (122 days, June through September), and must be no less than 1.667 inches from contributing area.
Water Quantity, Rate Control	SWFWMD Applicant's Handbook Vol. II, Part III, Section 3.1/ Manatee County Watershed Master Plan	SWFWMD 25-Yr, 24 Hr. (FLMOD Rainfall Distribution) Post Rate <= fifty percent of Pre. Rate Attenuation (Criteria full description truncated as applied to this preliminary pond sizing analysis based on pond size detention volume equal to post-runoff volume – 50% of pre-runoff volume).
Pond Geometry	SWFWMD Applicant's Handbook Vol. II, Part V, Section 5.4.1 / TP/SWP022 (Alt. 3), June 1997	1:4 pond slopes down to 2-ft below control elevation, 1:2 slopes in conservation pool down to 8-ft max. depth.
	Manatee County Stormwater Management Design Manual, Section 2.3.16	Retention basins constructed for flow attenuation purposes must have sufficient volume to contain the volume of post development runoff from the design storm rainfall, or shall have sufficient volume to contain said runoff volume with a minimum of one (1) foot of freeboard.

	Manatee County Stormwater Management Design Manual, Section 2.4.11	Detention and retention basins shall have an unobstructed access route at least 20-feet wide from the nearest street and shall have unobstructed maintenance access area a minimum of 20-feet from the top of bank completely around their perimeter.
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14.0 Permitting Requirements

Anticipated permit requirements include the following.

- An Environmental Resource Permit (ERP) from the SWFWMD per F.A.C. 62-330.
- Florida Department of Environmental Protection (FDEP) State 404 Program per F.A.C. 62-331.
- A National Pollutant Discharge Elimination System (NPDES) permit from the Environmental Protection Agency (EPA) per the Clean Water Act.

15.0 Proposed Drainage

The Lorraine Road corridor study limits is segmented into six (6) corridor drainage basins, resulting from hydraulic divides associated with three (3) cross drains, topographic ridges, and watershed divides. For the purposes of estimating basin limits along the corridor, an assumed stationing beginning at Sta. 112+80.00 at the north edge of 59th Avenue East is referenced for Stormwater Basins in **Table 8**:

Table 8 | Proposed Basins

Basin / Pond	Begin Station	End Station	Prelim. Water Quality (ac-ft)	Prelim. Water Quantity (ac-ft)	Prelim. Control EL.
1	112+80	129+48	0.67	1.77	34.50
2 (*)	129+48	184+66	2.69	7.48	35.00
3	184+66	202+43	0.51	3.23	35.00
4	202+43	226+35	0.64	3.98	37.90
5	226+35	250+04	0.65	3.99	33.00
6	250+04	255+40	0.21	1.15	33.00

(*) Includes estimated treatment volumes for Rangeland Pkwy. Joint use pond expansion.

16.0 Preliminary Pond Site Analysis

The preliminary pond site sizing analysis are included in **Appendix B**. A formal cost estimate for pond site parcel acquisition or site construction was not available for this preliminary pond site selection process. Therefore, the preliminary pond site selection process used in this analysis is based on evaluation of the following variables for estimating site suitability:

- Proximity to existing outfall.
- Hydraulic feasibility for recipient basin
- Preference for use of publicly owned lands (none were identified)
- Joint Use Pond potential
- Opportunity for shared onsite floodplain mitigation
- Minimization of number of parcels required or parcel splitting.
- Avoidance of wetlands and floodplain limits.
- Avoidance of high-risk contamination sites.
- Review of cultural resource evaluations
- Review of threatened and endangered species evaluations.

16.1 Basin 1

The Lorraine Road Basin 1 extends 1568-ft from 59th Avenue East to the Wolf Slough crossing and outfall. The existing corridor is estimated to have an 0.3% average slope toward Wolf Slough.

Two preliminary pond sites are evaluated for Basin 1 (See **Figure 6**).

Pond Site 1E is estimated as a 5.00-acre total acquisition need of Parcel 582310259. This site is located along the east side of Lorraine Road between approximately Sta. 118+69 to Sta. 123+53, RT. The following are the key variables considered in ranking the suitability this site:

- This parcel was evaluated to be vacant and under single ownership.
- The parcel is located approximately 550-ft. south of Wolf Slough on higher ground. Consequently, a wet detention pond on this site is estimated to require a larger footprint, additional cost and constructability requirements for a deep excavated impermeable liner to lower the pond design high water enough to receive the lower basin limits without flooding the estimated low edge of travel lanes.
- The perceived need for an impermeable liner precludes the use of conservation wet pool methodology which could have reduced the area footprint for the wet detention pond.
- The stormwater treatment and requirements require the entire parcel for the pond size. Therefore, floodplain impact mitigation requirements for Wolf Slough require acquisition of a second site for FMS 1E.
- Pond Site 1E would require the added expense of an offline storm drain system with the pond's control structure as a diversion weir in line with the storm drain located at the Wolf Slough outfall.

Pond Site 1W is estimated as a 2.46-acre partial acquisition need of Parcel 579900579, including a 2.21-acre pond site and 0.25-acre site for floodplain impact mitigation. This site is located along the west side of Lorraine Road between approximately Sta. 126+78 to Sta. 128+99, LT. The following are the key variables considered in ranking the suitability this site:

- This parcel was evaluated to be undeveloped and under single ownership.
- The parcel is located immediately adjacent to the Wolf Slough outfall. Consequently, a wet detention pond on this site is estimated to receive the lower basin limits without flooding the estimated low edge of travel lanes.
- Pond Site 1W would not require a separate storm drain outfall, anticipating the pond could discharge to the contiguous mitigation site as an outfall to Wolf Slough.

16.2 Basin 2

The Lorraine Road Basin 2 extends 5518-feet from the Wolf Slough crossing and outfall at Sta. 129+48 to the south side of 44th Avenue East at Sta. 184+66, coinciding with the Mill Creek watershed divide. The existing corridor is estimated to have an 0.28% average slope toward Wolf Slough.

Three preliminary pond sites are evaluated for Basin 2 (See **Figure 7**).

Pond Site 2W is estimated as a 5.14-acre pond site, with partial 3.26-acre acquisition of the 4.71-acre occupied residential Parcel 58210004, and approximately 1.88-acre partial acquisition within adjacent 5.45-acre vacant Parcel 582210159. This site is located along the west side of Lorraine Road between approximately Sta. 137+43 to Sta. 144+59, LT. The following are the key variables considered in ranking the suitability this site:

- The parcels are located approximately 795-ft. north of Wolf Slough on higher ground. Approximately 825-ft. of Lorraine Road will have to be drained north (opposite of the prevailing basin slope) to drain back to Pond 2W. This condition could require the pond to have a special diversion weir structure in line with this drainage system to outfall to Wolf Slough.
- Pond 2W is evaluated to border wetlands and the fringe areas of the Manatee County 25-year and FEMA 100-year floodplains.

Pond Site 2E1 is estimated as a 6.24-acre joint use pond opportunity, by merging two existing permitted ponds serving Rangeland Parkway to the east of Lorraine Road. The two existing ponds are nested within the privately owned 6.26-acre mol Parcel 581910169. This site is located along at the southeast corner of the Lorraine Road intersection with Rangeland Parkway. The following are the key variables considered in ranking the suitability this site:

- This parcel was evaluated to be used for stormwater management under single ownership.
- This site is preliminarily estimated to accommodate joint use by expanding the existing ponds into one stormwater management pond occupying the entire parcel.
- The preliminary sizing of this joint use pond is based on combining Lorraine Road Basin 2 with 4.48-acres of impervious treatment for Rangeland Road, in addition to attenuation for the entire site.
- The parcel is located adjacent to the Wolf Slough outfall. Consequently, a wet detention pond on this site is estimated to receive the lower basin limits without flooding the estimated low edge of travel lanes.
- Onsite minor fringe area impacts to floodplain could be mitigated onsite by demonstrating the pond, with conservation pool weir elevation at the seasonal high groundwater table (SHGWT), would create floodplain storage volume between the SHGWT and the excavated existing groundline in the site.

Due to one of the pond site alternates involving joint use pursuit with the expansion of existing ponds for Rangeland Boulevard, a third alternate Pond Site 2E2 is investigated for Basin 2. Pond Site 2E2 is estimated as a 5.63-acre pond site, involving two privately owned parcels. The following are the key variables considered in ranking the suitability this site:

- Pond Site 2E2 is evaluated to be hydraulically feasible as it is located approximately 400-feet north of Wolf Slough.

- This pond site is outside of the floodplains and wetland preliminary delineations.
- There is no preliminary identification of contamination within the involved parcels.
- Pond Site 2E2 would require the total acquisition of 4.92-acre parcel 581910403, a frontage parcel located at the northeast corner of Rangeland Parkway and Lorraine Road. This parcel involves one occupied residence under single ownership. This site is viewed for potential as a prime commercial site, with approximately 680-feet of frontage along Rangeland Parkway, and roughly 400-feet of corner frontage along Lorraine Road.
- Pond Site 2E2 is also estimated to require approximately 0.71-acre partial acquisition into parcel 581910452. This parcel is one of six contiguous frontage parcels under single ownership that are currently under ERP 4345269 application by SWFWMD for the proposed Lakewood Gardens residential development. Parcel acquisition for Pond 2E2 would likely be unfavorable due to the impending development.

Based on the above comparative evaluation, Joint use **Pond Site 2E1 is ranked as the Preferred Alternate**, based on hydraulic suitability due to proximity to the outfall, and optimization of an existing stormwater management site with no impacts to occupied dwellings.

Pond Site 2W is ranked as the 2nd Alternate based on less suitable hydraulic conditions, requirement for partial acquisition of a second parcel and the potential for fringe encroachment into the Manatee County 25-year floodplain and FEMA 100-year floodplain. Otherwise, Pond 2W is evaluated to be a viable pond site for Basin 2.

Pond Site 2E2 is ranked as the 3rd Alternate based on the total acquisition of a frontage parcel at the Rangeland Boulevard intersection that is viewed as a prime location for commercial development, and encroachment into a second parcel that is currently under permit review for a residential development. Otherwise, Pond 2E2 is evaluated to be a viable pond site for Basin 2.

Figure 7 | Basin 2 Preliminary Pond Sites



16.3 Basin 3

The Lorraine Road Basin 3 extends 1777-feet from the south side of 44th Avenue East at Sta. 184+66, coinciding with the Mill Creek watershed divide, to the Mill Creek Tributary 1 crossing at Sta. 202+43. The existing corridor is estimated to have an 0.8% average slope toward Mill Creek Tributary 1.

Two preliminary pond sites are evaluated for Basin 3 (See **Figure 8**).

Pond Site 3E is estimated as a 9.80-acre permitted pond site, currently under construction within the Lakewood Ranch 1000 development (ERP 43043286.012). Because this development occupies the entire eastern limits of Basin 3, this pond was given a cursory evaluation for joint use potential with Lorraine Road four-lane improvements. However, based on evaluation of the permitted plans, this development will have built-up sites and pond design high water stages that would be too high to accept the north half of Lorraine Road Basin 3.

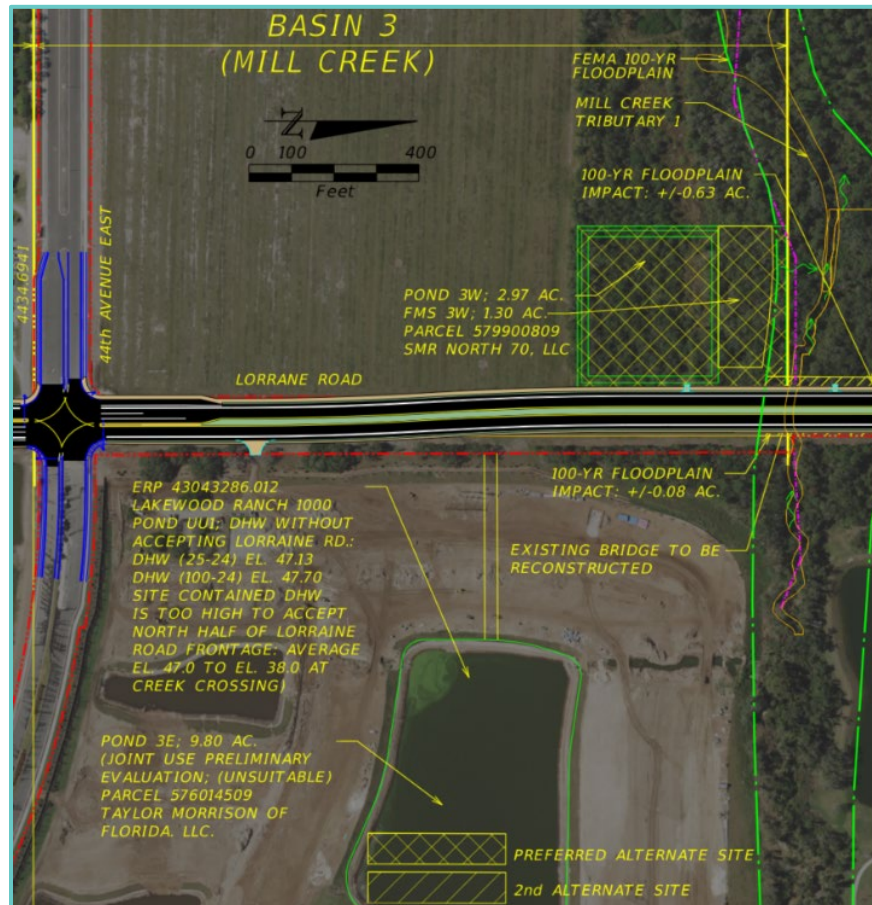
Therefore, potential joint use Pond 3E has been deemed hydraulically incompatible for Lorraine Road and is dismissed from further consideration.

Pond Site 3W is estimated as a 2.97-acre partial acquisition from Parcel 579900809, located between Sta. 198+96 to Sta. 202+43, LT. The parent tract under single ownership occupies the entire western frontage of Lorraine Road Basin 3. In addition, this site includes 1.30-acre area for mitigating impacts to the 100-year floodplain within Mill Creek that could result from the road widening. The following are the key variables considered in ranking the suitability this site:

- This parcel was evaluated to be vacant and under single ownership.
- The Pond 3W site is hydraulically feasible as it is located immediately adjacent to the Mill Creek Tributary 1, and at the lowest reaches of the basin
- The site would be located outside of the Manatee County 25-year floodplain and FEMA 100-year floodplain.
- This site also accommodates estimated floodplain mitigation impacts without the need for a second parcel acquisition.

Based on the above comparative evaluation, **Pond Site 3W is ranked as the only feasible pond site for this basin.**

Figure 8 | Basin 3 Preliminary Pond Sites



16.4 Basin 4

The Lorraine Road Basin 4 extends 2392-ft from the Mill Creek Tributary 1 crossing at Sta. 202+43 to the estimated topographical crest at Sta. 226+35. The existing corridor is estimated to have an average slope less than 0.2% sloping toward Mill Creek Tributary 1.

Two preliminary pond sites are evaluated for Basin 4 (See **Figure 9**).

Pond Site 4W1 is estimated as a 2.98-acre site, requiring total acquisition of Parcel 57721057, and a partial acquisition from adjacent Parcel 5771140174. This site is located along the west side of Lorraine Road between approximately Sta. 206+03 to Sta. 207+30, LT. The following are the key variables considered in ranking the suitability this site:

- The total acquisition parcel was evaluated to include a single occupied residence, and the second partial acquisition parcel is immediately west of the frontage parcel, with questionable access to Lorraine Road.
- The parcel is located hydraulically suitable being located immediately adjacent to the Mill Creek Tributary 1 outfall.
- The total acquisition parcel has been identified as a medium risk for contamination, requiring a Level II investigation as part of a design phase scenario.
- Pond Site 4W1 is evaluated to be outside of the Manatee County 25-year floodplain and FEMA 100-year floodplain.

Pond Site 4W2 is estimated as a 2.98-acre pond site requiring total acquisition need of Parcel 577210107, involving one active residence under single ownership.

This site is located along the west side of Lorraine Road between approximately Sta. 207+77 to Sta. 212+74, LT. The following are the key variables considered in ranking the suitability this site:

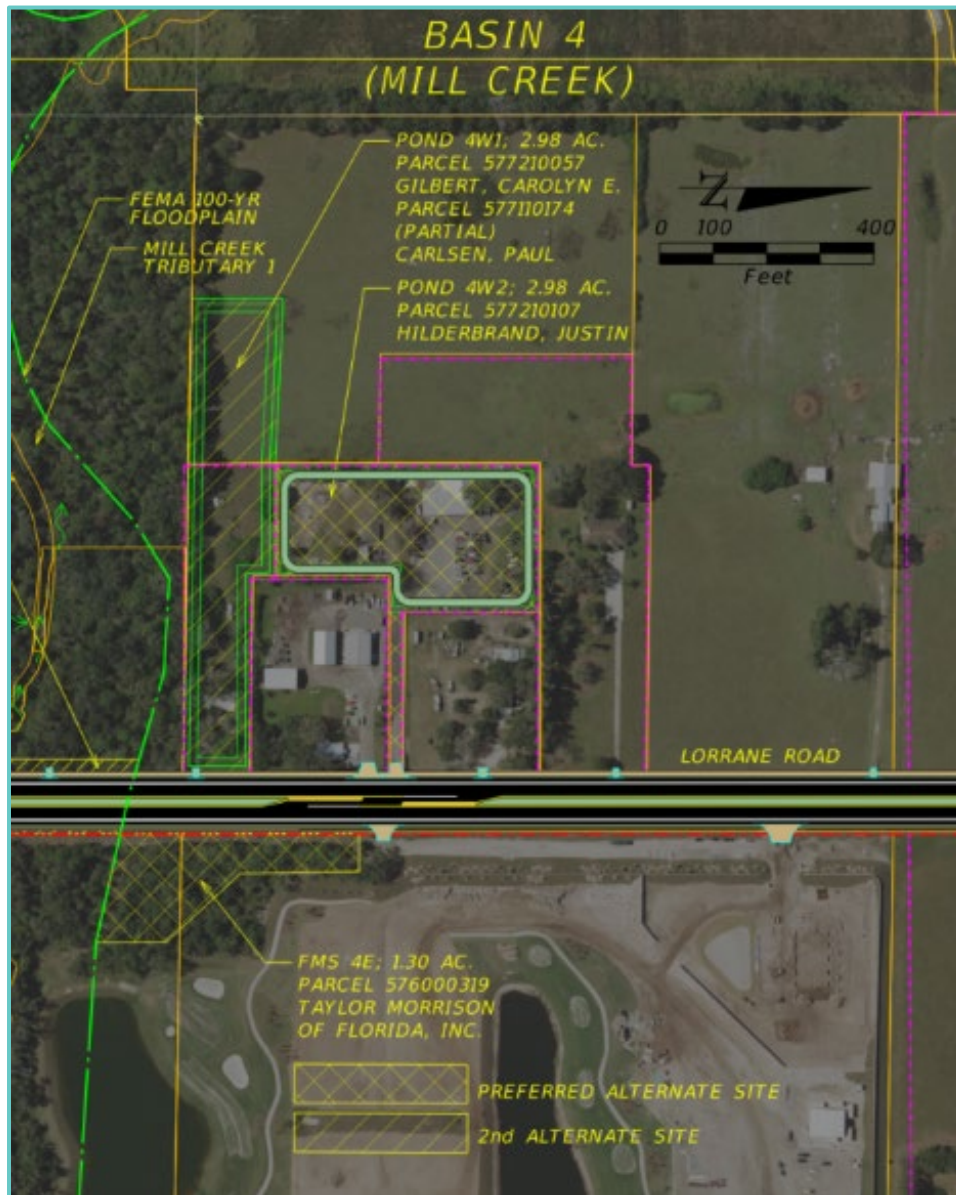
- This pond site would involve total acquisition of a single parcel.
- The parcel is deemed hydraulically feasible as it is located approximately 750-ft. north of the Mill Creek Tributary 1 outfall.
- Pond Site 4W2 is in a back parcel and would require approximately 350- of lateral storm drain connection to the Lorraine Road corridor.
- Pond Site 4W2 has been identified for a low risk for contamination, not requiring a Level II investigation.
- Pond Site 4W2 is evaluated to be outside of the Manatee County 25-year floodplain and FEMA 100-year floodplain.

If impacts to the 100-Year floodplain within Mill Creek Tributary 1 cannot be addressed in Basin 3, Alternate FMS 4E is estimated as a 1.30-acre floodplain impact site partial acquisition within Parcel 576000319, located at the northeast corner of the Mill Creek crossing.

Based on the above comparative evaluation, **Pond Site 4W2 is ranked as the Preferred Alternate**, based on hydraulic suitability due to proximity to the outfall, total acquisition of a single parcel and lower risk for contamination.

Pond Site 4W1 is ranked as the 2nd Alternate based on the requirement of a second parcel partial acquisition and higher risk for contamination. However, the Pond 4W1 site is evaluated to be a viable pond site for Basin 4.

Figure 9 | Basin 4 Preliminary Pond Sites



16.5 Basin 5

The Lorraine Road Basin 5 extends 2369-feet from the estimated topographical crest at Sta. 226+35 to the Mill Creek Tributary 2 at Sta. 250+04. The existing corridor is estimated to have an average slope less than 0.3% sloping toward Mill Creek Tributary 2.

Two preliminary pond sites are evaluated for Basin 5 (See **Figure 10**).

Pond Site 5W1 is estimated as a 3.13-acre site, requiring total acquisition of Parcel 576700058, and occupied residential / business site under single ownership, and a partial acquisition from adjacent Parcel 576710057, an occupied residential site. This site is located along the west side of Lorraine Road between approximately Sta. 133+25 to Sta. 134+89 LT. The following are the key variables considered in ranking the suitability this site:

- The total acquisition parcel was evaluated to include a single occupied residence, and the second partial acquisition parcel is immediately west of the frontage parcel, with questionable access to Lorraine Road.
- The parcel is hydraulically suitable being located approximately 260-ft. south of the Mill Creek Tributary 2 outfall.
- Pond Site 5W1 is evaluated to be outside of the Manatee County 25-year floodplain and FEMA 100-year floodplain.

Pond Site 5W2 is estimated as a 3.13-acre pond site requiring a partial acquisition within the 9.98-acre Parcel 57660001. This parcel was undeveloped under single ownership at the time of this preliminary evaluation. Manatee County identified this parcel currently under plans for future development, and that early coordination with this site could seek potential joint use pond opportunity.

This site is located along the west side of Lorraine Road between approximately Sta. 249+34 to Sta. 250+99, LT. The following are the key variables considered in ranking the suitability this site:

- This pond site would involve partial acquisition within a single vacant parcel.
- The parcel is deemed hydraulically feasible as it is located immediately adjacent to the Mill Creek Tributary 2 outfall.
- Pond Site 5W2 is evaluated to be outside of the Manatee County 25-year floodplain and FEMA 100-year floodplain.
- Vacant parcel with future development plans, with potential joint use pond opportunity

Based on the above comparative evaluation, **Pond Site 5W2 is ranked as the Preferred Alternate**, based on hydraulic suitability and involvement with of a single vacant parcel with future joint use potential.

Pond Site 5W1 is ranked as the 2nd Alternate based on the requirement of a second parcel partial acquisition and impacts two active residences / business. However, Pond 5W1 site is evaluated to be a viable pond site for Basin 5.

Figure 10 | Basin 5 Preliminary Pond Sites



16.6 Basin 6

The Lorraine Road Basin 6 extends 536-ft from the Mill Creek Tributary 2 at Sta. 250+04 to the estimated Sta. 255+40 connection to the SR 64 roundabout proposed by the FDOT. The existing corridor is estimated to have an average slope less than 0.8% sloping north and away from Mill Creek Tributary 2 crossing with Lorraine Road.

Two preliminary pond sites are evaluated for Basin 6 (See **Figure 11**).

Pond Site 6W2 is estimated as a 1.58-acre site, requiring partial acquisition of Parcel 576900005, a 4.90-acre occupied residential site under single ownership. This site is located approximately 560-ft west of Lorraine Road along the EB SR 64 frontage. Pond Site 6W2 would require impacts to the proposed FDOT pond site along EB SR 64 for the roundabout. Specifically, a hydraulic connection from Lorraine Road to Pond 6W2 could require either a storm drain pipe system below the FDOT linear pond within the FDOT right-of-way or hydraulically unifying /

Pond 6W2 with the proposed FDOT roadside linear pond for creating a combined joint use pond connection for Lorraine Road and the SR 64 roundabout. The following are the key variables considered in ranking the suitability this site:

- The Pond 6W2 parcel has less hydraulic suitability, as it is located away from Lorraine Road and would require storm drain construction within the FDOT right-of-way, resulting in impacts to the FDOT's proposed roundabout stormwater management system and permit.
- The pond site could require constructing an outfall storm drain within the FDOT right-of-way for connecting to the Mill Creek Tributary 2 outfall crossing SR 64 to the west.
- Pond Site 6W2 is in close proximity to the FEMA 100-year floodplain.
- Pond 6W2 would require a Chapter 14-86 FAC Drainage Connection Permit through the FDOT for works within the FDOT's SR 64 right-of-way.

Pond Site 6W1 is estimated as a 1.58-acre pond site requiring a partial acquisition within the 4.46-acre Parcel 576900104. This parcel was undeveloped under single ownership at the time of this preliminary evaluation. This parcel is under the same ownership as the Pond 5W2 site, in which Manatee County identified the current owner's plans for future development, and that early coordination with this site could seek potential joint use pond opportunity.

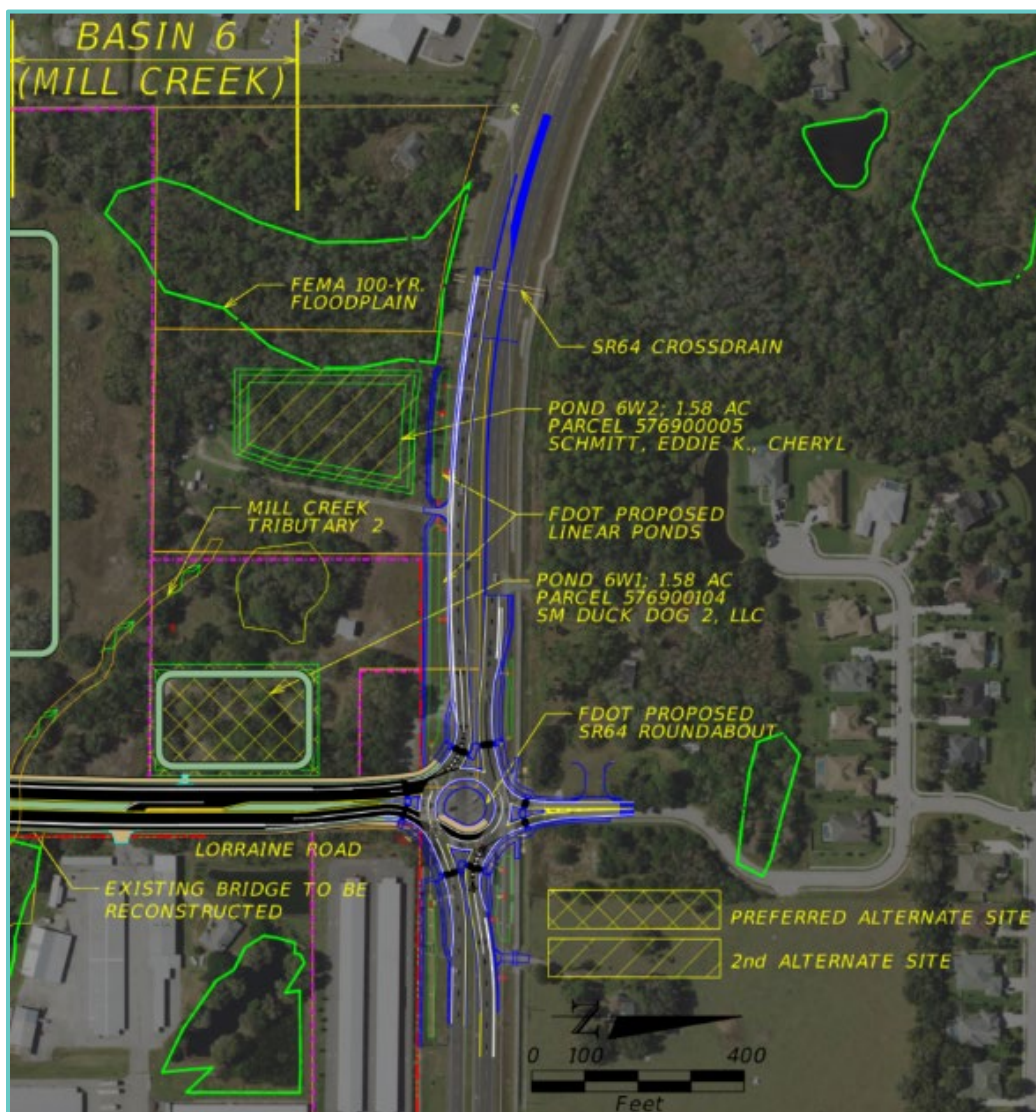
This site is located along the west side of Lorraine Road between approximately Sta. 252+61 to Sta. 255+79, LT. The following are the key variables considered in ranking the suitability this site:

- This pond site would involve partial acquisition within a single vacant parcel.
- The parcel is deemed hydraulically feasible as it is located immediately adjacent to the Mill Creek Tributary 2 outfall, and contiguous with the Lorraine Road corridor.
- Pond Site 6W1 is evaluated to be outside of the Manatee County 25-year floodplain and FEMA 100-year floodplain.
- Vacant parcel with future development plans, with potential joint use pond opportunity

Based on the above comparative evaluation, **Pond Site 6W1 is ranked as the Preferred Alternate**, based on hydraulic suitability, involvement with of a single vacant parcel with future joint use potential and no impacts to the FDOT's right-of-way.

Pond Site 6W2 is ranked as the 2nd Alternate based on less hydraulically suitable for Lorraine Road, and would require additional construction costs and impacts to the FDOT right-of-way and proposed pond for the SR 64 roundabout. Otherwise, the Pond 6W2 site could be a viable pond site for Basin 6.

Figure 11 | Basin 6 Preliminary Pond Sites



17.0 Wetlands, T&E Species, Cultural Resource and Contamination Pond Site Assessments

Pond Site preliminary assessments for Wetlands, threatened and endangered (T&E) Species, Cultural Resources and Contamination Screening are included in separate technical memorandums with this corridor Study. **Table 9** below provides a summary these preliminary assessments.

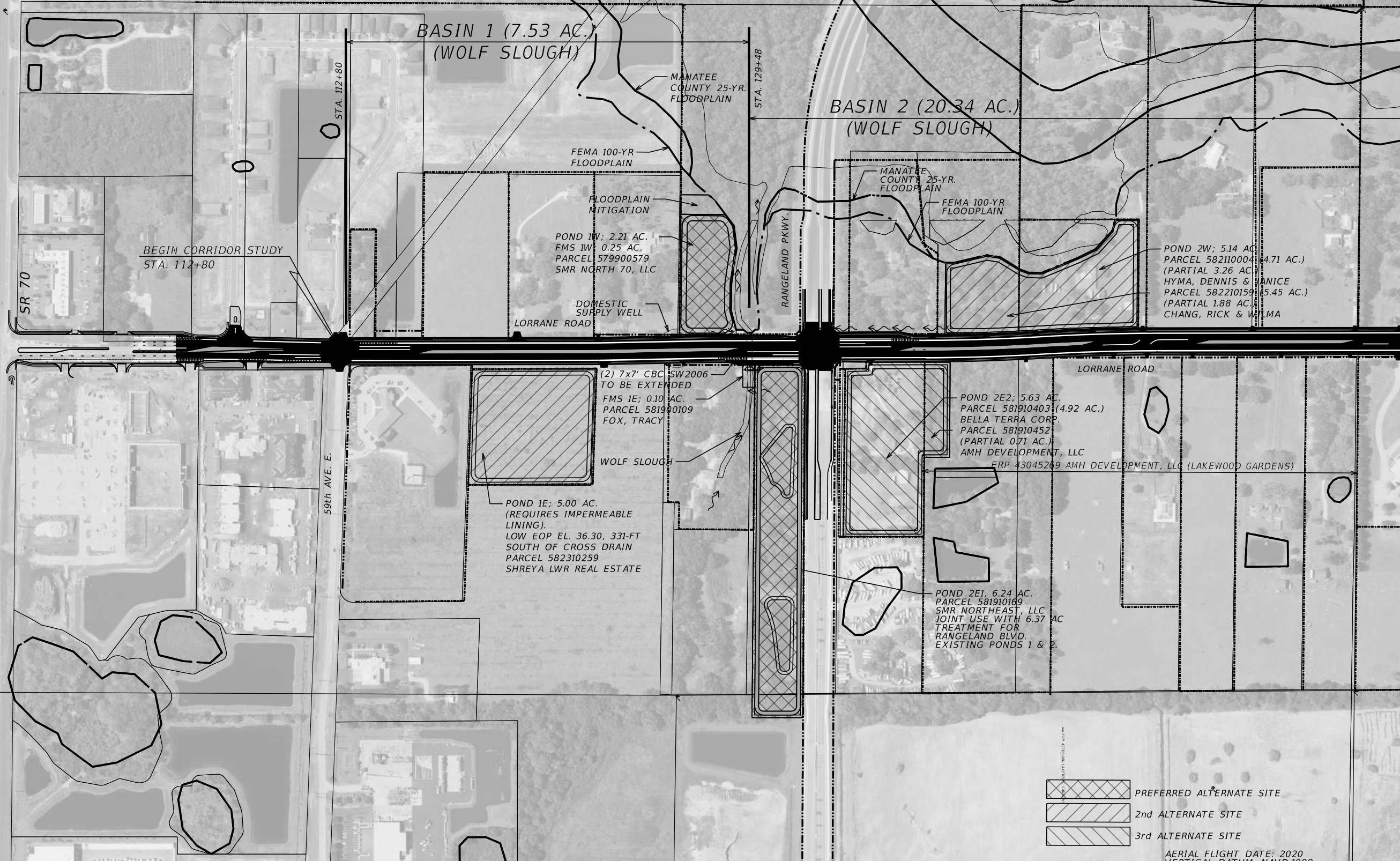
Table 9 | Pond Site Wetlands, T&E Species, Cultural Resources and Contamination

Pond Site	Wetland Impact (acres)	T&E Species Involvement	Cultural Resources	Contaminating Screening
1W / FMS 1W	0	Low	Low	None
1E	0	Low	Low	None
2E1	0	Low	Low	None
2E2	0	Low	Low	None
2W	0	Low	Low	None
3W / FMS 3W	0	Low	Low	None
4W1	0	Low	Low	Medium
4W2	0	Low	Low	Low
FMS 4E	0	Low	Low	Low
5W1	0	Low	Low	None
5W2	0	Low	Low	None
6W1	0	Low	Low	None
6W2	0	Low	Low	None

18.0 Conclusion

The Lorraine Road corridor study limits is preliminarily evaluated to have sufficient pond siting opportunities for providing stormwater management and floodplain mitigation for meeting design and permitting requirements set forth by Manatee County and the Regulatory Agencies.

Appendix A – Drainage Maps



- PREFERRED ALTERNATE SITE
- 2nd ALTERNATE SITE
- 3rd ALTERNATE SITE

AERIAL FLIGHT DATE: 2020
VERTICAL DATUM: NAVD-1988

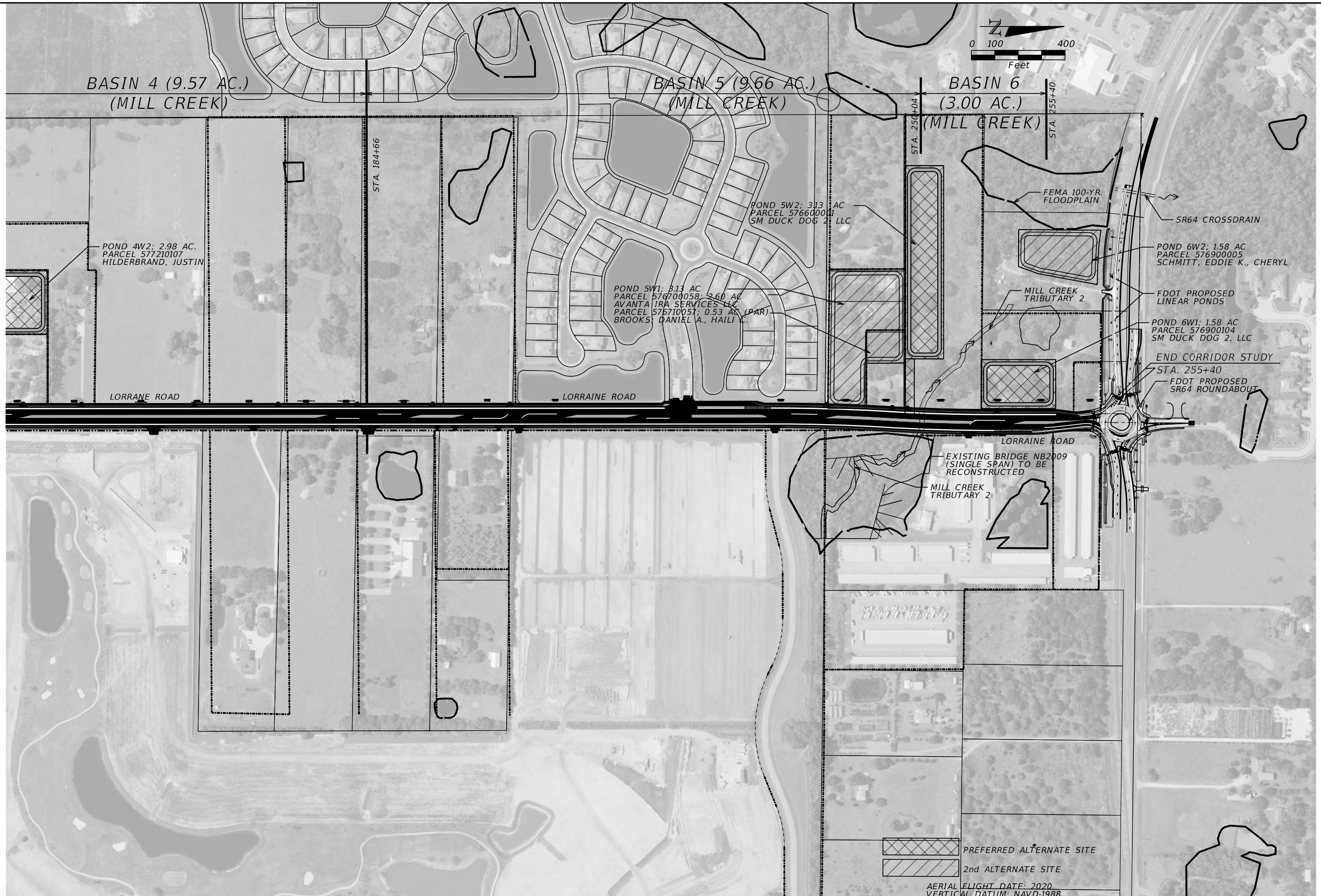
	SCALE AS NOTED	HDR ENGINEERING, INC. 2601 CATTLEMEN ROAD, SUITE 400 SARASOTA, FLORIDA 34232	DATE 09/2021	MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER JUAN C. LOPEZ	DRAINAGE MAP LORRAINE ROAD	SHEET NO.
	DESIGNED BY SE		PROJECT NO. 6107660	FL. LICENSE NO. 41084	PW:\		1 OF 3
No.	REVISIONS	DATE	BY	BR			


THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



SCALE AS NOTED		HDR ENGINEERING, INC.		DATE 09/2021		DESIGN ENGINEER JUAN C. LOPEZ		SHEET NO. 2 OF 3	
DESIGNED BY SE		2601 CATTLEMEN ROAD, SUITE 400		PROJECT NO. 6107660		FL. LICENSE NO. 41084			
DRAWN BY SE		SARASOTA, FLORIDA 34232		2:42:51 PM		10/14/2021			
CHECKED BY BR				2:42:51 PM		10/14/2021			
No.	REVISIONS	DATE	BY						

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



No.		REVISIONS		DATE	BY	SCALE	AS NOTED	HDR ENGINEERING, INC.	DATE	09/2021	 MANATEE COUNTY PUBLIC WORKS	DESIGN ENGINEER	JUAN C. LOPEZ	DRAINAGE MAP LORRAINE ROAD	SHEET NO.	3 OF 3
						DESIGNED BY	SE	2601 CATTLEMEN ROAD, SUITE 400	PROJECT NO.	6107660		FL. LICENSE NO.	41084			
						DRAWN BY	SE	SARASOTA, FLORIDA 34232								
						CHECKED BY	BR									

2:44:49 PM

10/14/2021

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THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

Appendix B – Preliminary Pond Site Sizing Analysis

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	8/26/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 1: POND 1E (PARCEL 582310259)						
EXISTING BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	113+80.00	117+80.00	400.00	32.00	0.29	59th Ave. E. to Wolf Slough
Impervious	117+80.00	129+48.00	1168.00	20.00	0.54	
Open Space (Good)	113+80.00	117+80.00	400.00	88.00	0.81	
Open Space (Good)	117+80.00	129+48.00	1168.00	100.00	2.68	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Site					5.00	

Proposed BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	113+80.00	117+80.00	400.00	120.00	1.10	59th Ave. E. to Wolf Slough
Impervious	117+80.00	129+48.00	1168.00	120.00	3.22	
Open Space (Good)					0.00	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Berm					2.00	
Pond Control					3.00	

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	8/26/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 1: POND 1E (PARCEL 582310259)

BASIN NO. 1: POND 1E (PARCEL 582310259)

Existing CN

	Soil Type	CN	C	Area
Impervious	-	98	0.95	0.83
Open Space (Good)	B/D	80	0.20	3.49
Open Space (Poor)	B/D	89	0.20	0.00
Wetlands	D	83	0.20	0.00
Pond Site	B/D	80	0.20	5.00
Total				9.32 ac.
			CN	81.6
			C	0.27

25-year, 24-hour rainfall, P = **8.72** in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 2.25 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 6.50 ac-ft

Proposed CN and Runoff Coefficient

	Soil Type	CN	C	Area
Impervious	-	98	0.95	4.32
Pond Surface	-	100	1.00	3.00
Open Space (Good)	B/D	80	0.20	2.00
Total				9.32 ac.
			CN	94.8
			C	0.81

25-year, 24-hour rainfall, P = 8.72 in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 0.55 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 8.09 in

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	8/26/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 1: POND 1E (PARCEL 582310259)

Required Treatment Volume (Wet Detention) (Peak Sensitive Criteria)

Min. Water Quality Treatment Volume (1.5" of Runoff) *SWFWMD App. Handbook Vol. II, Section 4.1*
 $TV = \text{Basin Area} \times 1.5" \times (1 \frac{1}{12})$
 TV = 0.79 ac-ft

Required Attenuation Volume (Peak Sensitive Criteria)

Required attenuation volume = proposed 25-year, 24-hour runoff - existing 25-year, 24-hour runoff
 Required attenuation volume = 3.22 ac-ft

Required Pond Volume

Required pond volume = required attenuation volume + required treatment volume
 Required pond volume = 4.01 ac-ft

Proposed Pond (Wet Detention)

Existing Ground = 41.0 ft (NAVD-88)
 Top of bank = 42.0 ft (NAVD-88)
 Groundwater elevation = 36.5 ft (NAVD-88) *NRCS: 1.5' Depth*
 Control elevation = 34.5 ft (NAVD-88) **Requires Impermeable Pond Liner**

Max allowable peak stage = Control elevation + treatment stack
 Max allowable peak stage = 35.8 ft (NAVD-88)

Treatment depth + attenuation depth = Max allowable peak stage - normal water elevation
 Treatment depth + attenuation depth = 1.3 ft

Cubed pond footprint = required pond volume / (treatment depth + attenuation depth)

Cubed pond footprint = 3.08 ac
 Cubed side length = 367 ft

Bank length at Control El. = 361 ft
 Area at Control El. = 3.00 ac

Top of bank length = 397 ft
 Maintenance berm width = 20 ft
 Back of maintenance berm length = 437 ft
 Back of maintenance berm area = 4.37 ac

Factor of safety = 5%
 Back of maintenance berm area = 4.59 ac
 Back of maintenance berm length = 447 ft

Pond site length = **Back of maintenance berm length + 10' on each side**
 Square Pond site lengths = 466 ft x ft
 Rectangular Pond Alternative Width = 477 ft (Pool width = 350.00 ft)
 Rectangular Pond Alternative Length = 456 ft

Pond site area = 5.00 ac

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	8/26/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 1: POND 1E (PARCEL 582310259)

Estimated Peak Stage =	35.8	ft (NAVD-88))
Assumed Hydraulic Slope=	0.0008	ft / ft
Critical Low EOP Stage =	36.3	ft (NAVD-88))
Hydraulic Length (ft) =	625.0	Intercepted corridor length from pond
Notes:		Wolf Slough 100-YR El. 34.33

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	10/12/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	10/13/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 1: POND 1W Parcel 579900579)						
EXISTING BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	113+80.00	117+80.00	400.00	32.00	0.29	59th Ave. E. to Wolf Slough
Impervious	117+80.00	129+48.00	1168.00	20.00	0.54	
Open Space (Good)	113+80.00	117+80.00	400.00	88.00	0.81	
Open Space (Good)	117+80.00	129+48.00	1168.00	100.00	2.68	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Site					2.21	

Proposed BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	113+80.00	117+80.00	400.00	120.00	1.10	59th Ave. E. to Wolf Slough
Impervious	117+80.00	129+48.00	1168.00	120.00	3.22	
Open Space (Good)					0.00	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Berm					1.00	
Pond Control					1.21	

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	10/12/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	10/13/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 1: POND 1W Parcel 579900579)

BASIN NO. 1: POND 1W Parcel 579900579)

Existing CN

	Soil Type	CN	C	Area
Impervious	-	98	0.95	0.83
Open Space (Good)	B/D	80	0.20	3.49
Open Space (Poor)	B/D	89	0.20	0.00
Wetlands	D	83	0.20	0.00
Pond Site	B/D	80	0.20	2.21
Total				6.53 ac.
			CN	82.3
			C	0.30

25-year, 24-hour rainfall, P = **8.72** in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 2.15 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 6.58 in
 25-year, 24-hour runoff volume = 3.58 ac-ft

Proposed CN and Runoff Coefficient

	Soil Type	CN	C	Area
Impervious	-	98	0.95	4.32
Pond Surface	-	100	1.00	1.21
Open Space (Good)	B/D	80	0.20	1.00
Total				6.53 ac.
			CN	95.6
			C	0.84

25-year, 24-hour rainfall, P = 8.72 in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 0.46 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 8.19 in
 25-year, 24-hour runoff volume = 4.46 ac-ft

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	10/12/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	10/13/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 1: POND 1W Parcel 579900579)

Required Treatment Volume (Wet Conservation Pool) (Peak Sensitive Criteria)

Min. Water Quality Treatment Volume (1.5" of Runoff) *SWFWMD App. Handbook Vol. II, Section 4.1*

$$TV = \text{Basin Area} \times 1.5" \times (1 \frac{1}{12})$$

$$TV = 0.67 \text{ ac-ft}$$

Required Attenuation Volume (Peak Sensitive Criteria)

Required attenuation volume = proposed 25-year, 24-hour runoff - existing 25-year, 24-hour runoff

$$\text{Required attenuation volume} = 1.77 \text{ ac-ft}$$

Required Pond Volume

Required pond volume = (Above Control Elevation)

$$\text{Required pond volume} = 1.77 \text{ ac-ft}$$

Proposed Pond (Wet Detention)

Existing Ground =	34.5	ft (NAVD-88)
Top of bank =	37.5	ft (NAVD-88) <i>AVG</i>
Groundwater elevation =	34.5	ft (NAVD-88)
Control elevation =	34.5	ft (NAVD-88)

Max allowable peak stage = Control elevation + treatment stack

$$\text{Max allowable peak stage} = 35.9 \text{ ft (NAVD-88)}$$

Drawdown + attenuation depth = Max allowable peak stage - normal water elevation

$$\text{Drawdown + attenuation depth} = 1.4 \text{ ft}$$

CONSERVATION POOL (21-DAY RESIDENCE TIME + WATER QUALITY)

ool Volume for 14-Day residence Time (VR)

	Impervious	0.95 x	4.32 Ac =	4.10
Rational C:	Pond Surf.	1.00 x	1.21 Ac =	1.21
	Pervious	0.35 x	1.00 Ac =	0.35

$$\text{Drainage Project Area (A)} = \frac{6.53 \text{ Ac}}{\text{CA} = 5.66}$$

$$\text{Weighted (C)} = 0.87$$

Historic average wet season rainfall (P) for Bradenton = 32 In / Yr

Wet season duration (W) = 122 Days

Pool Residence Time (R) = 21 Days

γ residence volume VR = (A) *(C)* (P/W)* (R) *(1-ft / 12-in)

$$14\text{-day residence volume VR} = 2.60 \text{ Ac-Ft}$$

Required 21-day residence volume VR = (A) * 1.5 * (0.667-inch) * (1-ft / 12-in)

$$\text{Minimum required 21-day residence volume VR} = .54 \text{ Ac-Ft}$$

$$\text{REQUIRED 21-DAY RESIDENCE VOLUME} = 2.60 \text{ Ac-Ft}$$

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	10/12/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	10/13/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 1: POND 1W Parcel 579900579)

WET TREATMENT WATER QUALITY VOLUME = WQ)

WQ = Contributing Area (A) * 1-in * (1-in / 12-ft)

Required Water Quality Volume WQ = .67 Ac-Ft

CONSERVATION POOL = 21-DAY RESIDENCE TIME (VR)+ WATER QUALITY (WQ)

REQUIRED CONSERVATION POOL (to 8-feet below control elev)= 3.26 Ac-Ft

PROVIDED CONSERVATION POOL (to 8-feet below control elev)= 3.27 Ac-Ft

Cubed pond footprint at center of attenuation stack = 1.27 ac

Cubed side length at center of attenuation stack= 235 ft

Bank length at Control El. = 229 ft

Area at Control El. = 1.21 ac

Bank length at DHW. = 240.37 ft

Area at Control DHW = 1.33 ac

Conservation Pool Depth = 3.0 ft

Pool Length 2 ft deep at 1:4 = 213.17

Pool Area at 2 ft depth = 1.04 ac

Pool Length 3.0 ft deep at 1:2 = 209.17

Pool Area at 3.0 ft depth = 1.00 ac

Top of bank length = 253 ft

Maintenance berm width = 20 ft

Back of maintenance berm length = 293 ft

Back of maintenance berm area = 1.97 ac

Factor of safety = 5%

Back of maintenance berm area = 2.07 ac

Back of maintenance berm length = 300 ft

Pond site length = **Back of maintenance berm length + 5' on each side**

Square Pond site lengths = 310 ft x ft

Rectangular Pond Alternative Width = 219 ft (Pool width = 125.00 ft)

Rectangular Pond Alternative Length = 439 ft

Pond site area = 2.21 ac

Basin Hydraulilc Length Gradient Check

Estimated Peak Stage = 35.9 ft (NAVD-88)

Assumed Hydraulic Slope= 0.0008 ft / ft

Critical Low EOP Stage = 36.3 ft (NAVD-88)

Hydraulic Length (ft) = 500.0 Intercepted corridor length from pond

Notes: Wolf Slough 100-YR El. 34.33

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	8/26/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 2: POND 2W (PARCELS 582110004, 582210159)						
EXISTING BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	129+48.00	184+66.00	5518.00	22.00	2.79	Wolf Slough to 44th Ave.
Impervious					0.00	
Open Space (Good)	129+48.00	184+66.00	5518.00	98.00	12.41	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Site					5.14	

Proposed BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	129+48.00	184+66.00	5518.00	120.00	15.20	Wolf Slough to 44th Ave.
Impervious					0.00	
Open Space (Good)					0.00	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Berm					1.80	
Pond Control					3.33	

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
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BASIN NO. 2: POND 2W (PARCELS 582110004, 582210159)

BASIN NO. 2: POND 2W (PARCELS 582110004, 582210159)

Existing CN

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	2.79	
Open Space (Good)	B/D	80	0.20	12.41	
Open Space (Poor)	B/D	89	0.20	0.00	
Wetlands	D	83	0.20	0.00	
Pond Site	B/D	80	0.20	5.14	
		Total		20.34	ac.
		CN	82.5		
		C	0.30		

25-year, 24-hour rainfall, P = **8.72** in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 2.13 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 6.60 in
 25-year, 24-hour runoff volume = 11.19 ac-ft

Proposed CN and Runoff Coefficient

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	15.20	
Pond Surface	-	100	1.00	3.33	
Open Space (Good)	B/D	80	0.20	1.80	
		Total		20.34	ac.
		CN	96.7		
		C	0.89		

25-year, 24-hour rainfall, P = 8.72 in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 0.34 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 8.33 in
 25-year, 24-hour runoff volume = 14.11 ac-ft

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	8/26/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 2: POND 2W (PARCELS 582110004, 582210159)

Required Treatment Volume (Wet Detention) (Peak Sensitive Criteria)

Min. Water Quality Treatment Volume (1.5" of Runoff) *SWFWMD App. Handbook Vol. II, Section 4.1*

$$TV = \text{Basin Area} \times 1.5" \times (1 \frac{1}{12}')$$

$$TV = 2.13 \text{ ac-ft}$$

Required Attenuation Volume (Peak Sensitive Criteria)

Required attenuation volume = proposed 25-year, 24-hour runoff - existing 25-year, 24-hour runoff

$$\text{Required attenuation volume} = 5.72 \text{ ac-ft}$$

Required Pond Volume

Required pond volume = required attenuation volume + required treatment volume

$$\text{Required pond volume} = 7.85 \text{ ac-ft}$$

Proposed Pond (Wet Detention)

Existing Ground =	33.0	ft (NAVD-88)
Top of bank =	36.0	ft (NAVD-88)
Groundwater elevation =	32.0	ft (NAVD-88) <i>NRCS: 1.0' Depth</i>
Control elevation =	32.0	ft (NAVD-88)

Max allowable peak stage = Control elevation + treatment stack

$$\text{Max allowable peak stage} = 34.2 \text{ ft (NAVD-88)}$$

Treatment depth + attenuation depth = Max allowable peak stage - normal water elevation

$$\text{Treatment depth + attenuation depth} = 2.25 \text{ ft}$$

Cubed pond footprint = required pond volume / (treatment depth + attenuation depth)

$$\text{Cubed pond footprint at center of treatment stack} = 3.49 \text{ ac}$$

$$\text{Cubed side length at center of treatment stack} = 390 \text{ ft}$$

$$\text{Bank length at Control El.} = 381 \text{ ft}$$

$$\text{Area at Control El.} = 3.33 \text{ ac}$$

$$\text{Bank length at DHW.} = 399 \text{ ft}$$

$$\text{Area at Control DHW} = 3.65 \text{ ac}$$

$$\text{Top of bank length} = 413 \text{ ft}$$

$$\text{Maintenance berm width} = 20 \text{ ft}$$

$$\text{Back of maintenance berm length} = 453 \text{ ft}$$

$$\text{Back of maintenance berm area} = 4.71 \text{ ac}$$

$$\text{Factor of safety} = 0\%$$

$$\text{Back of maintenance berm area} = 4.71 \text{ ac}$$

$$\text{Back of maintenance berm length} = 453 \text{ ft}$$

Pond site length = Back of maintenance berm + 10' on each side

$$\text{Square Pond site lengths} = 473 \text{ ft x ft}$$

$$\text{Rectangular Pond Alternative Width} = 258 \text{ ft (Pool width} = 166.00 \text{ ft)}$$

$$\text{Rectangular Pond Alternative Length} = 867 \text{ ft}$$

Pond site area = 5.14 ac

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	8/26/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 2: POND 2W (PARCELS 582110004, 582210159)

Basin Hydraullic Length Gradient Check

Estimated Peak Stage = 34.2 ft (NAVD-88)
Assumed Hydraulic Slope= 0.0008 ft / ft
Critical Low EOP Stage = 37.0 ft (NAVD-88)
Hydraulic Length (ft) = 3,441.3 Intercepted corridor length from pond
Notes: Wolf Slough 100-YR El. 34.33

Job No. _____

No. _____

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	8/26/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 2: POND 2E1 Parcel 581910169 (Rangeland Blvd Existing Ponds 1 & 2 Expansion)

EXISTING BASIN

Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	129+48.00	184+66.00	5518.00	22.00	2.79	Wolf Slough to 44th Ave.
Impervious					0.00	
Open Space (Good)	100+75.00	117+00.00	1625.00	120.00	4.48	Rangeland Blvd. Joint Use
Open Space (Good)	129+48.00	184+66.00	5518.00	98.00	12.41	Wolf Slough to 44th Ave.
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Site					6.24	

Proposed BASIN

Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	129+48.00	184+66.00	5518.00	120.00	15.20	Wolf Slough to 44th Ave.
Impervious	100+75.00	117+00.00	1625.00	120.00	4.48	Rangeland Blvd. Joint Use
Open Space (Good)					0.00	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Berm					1.83	
Pond Control					4.41	

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	8/26/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 2: POND 2E1 Parcel 581910169 (Rangeland Blvd Existing Ponds 1 & 2 Expansion)

BASIN NO. 2: POND 2E1 Parcel 581910169 (Rangeland Blvd Existing Ponds 1 & 2 Expansion)

Existing CN

	Soil Type	CN	C	Area
Impervious	-	98	0.95	2.79
Open Space (Good)	B/D	80	0.20	16.89
Open Space (Poor)	B/D	89	0.20	0.00
Wetlands	D	83	0.20	0.00
Pond Site	B/D	80	0.20	6.24
Total				25.92 ac.
		CN	81.9	
		C	0.28	

25-year, 24-hour rainfall, P = **8.72** in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 2.20 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 6.54 in
 25-year, 24-hour runoff volume = 14.12 ac-ft

Proposed CN and Runoff Coefficient

	Soil Type	CN	C	Area
Impervious	-	98	0.95	19.68
Pond Surface	-	100	1.00	4.41
Open Space (Good)	B/D	80	0.20	1.83
Total				25.92 ac.
		CN	97.1	
		C	0.91	

25-year, 24-hour rainfall, P = 8.72 in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 0.30 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 8.37 in
 25-year, 24-hour runoff volume = 18.08 ac-ft

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
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Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 2: POND 2E1 Parcel 581910169 (Rangeland Blvd Existing Ponds 1 & 2 Expansion)

Required Treatment Volume (Wet Conservation Pool) (Peak Sensitive Criteria)

Min. Water Quality Treatment Volume (1.5" of Runoff) *SWFWMD App. Handbook Vol. II, Section 4.1*

$$TV = \text{Basin Area} \times 1.5" \times (1/12")$$

$$TV = 2.69 \text{ ac-ft}$$

Required Attenuation Volume (Peak Sensitive Criteria)

Required attenuation volume = proposed 25-year, 24-hour runoff - existing 25-year, 24-hour runoff

$$\text{Required attenuation volume} = 7.48 \text{ ac-ft}$$

Required Pond Volume

Required pond volume = (Above Control Elevation)

$$\text{Required pond volume} = 7.48 \text{ ac-ft}$$

Proposed Pond (Wet Detention)

Existing Ground =	33.0	ft (NAVD-88)
Top of bank =	37.6	ft (NAVD-88) <i>AVG</i>
Groundwater elevation =	35.0	ft (NAVD-88)
Control elevation =	35.0	ft (NAVD-88)

Max allowable peak stage = Control elevation + treatment stack

$$\text{Max allowable peak stage} = 36.6 \text{ ft (NAVD-88)}$$

Drawdown + attenuation depth = Max allowable peak stage - normal water elevation

$$\text{Drawdown + attenuation depth} = 1.6 \text{ ft}$$

CONSERVATION POOL (21-DAY RESIDENCE TIME + WATER QUALITY)

Pool Volume for 14-Day residence Time (VR)

	Impervious	0.95 x	19.68 Ac =	18.69
Rational C:	Pond Surf.	1.00 x	4.41 Ac =	4.41
	Pervious	0.35 x	1.83 Ac =	0.64

$$\text{Drainage Project Area (A)} = \frac{25.92 \text{ Ac}}{\text{CA} = 23.75}$$

$$\text{Weighted (C)} = 0.92$$

Historic average wet season rainfall (P) for Bradenton = 32 In / Yr

Wet season duration (W) = 122 Days

Pool Residence Time (R) = 21 Days

14-day residence volume VR = (A) * (C) * (P/W) * (R) * (1-ft / 12-in)

$$14\text{-day residence volume VR} = 10.90 \text{ Ac-Ft}$$

Required 21-day residence volume VR = (A) * 1.5 * (0.667-inch) * (1-ft / 12-in)

$$\text{Minimum required 21-day residence volume VR} = 2.16 \text{ Ac-Ft}$$

$$\text{REQUIRED 21-DAY RESIDENCE VOLUME} = 10.90 \text{ Ac-Ft}$$

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
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Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 2: POND 2E1 Parcel 581910169 (Rangeland Blvd Existing Ponds 1 & 2 Expansion)

WET TREATMENT WATER QUALITY VOLUME = WQ)

WQ = Contributing Area (A) * 1-in * (1-in / 12-ft)

Required Water Quality Volume WQ = 2.69 Ac-Ft

CONSERVATION POOL = 21-DAY RESIDENCE TIME (VR)+ WATER QUALITY (WQ)

REQUIRED CONSERVATION POOL (to 8-feet below control elev)= 13.59 Ac-Ft

PROVIDED CONSERVATION POOL (to 8-feet below control elev)= 14.56 Ac-Ft

Cubed pond footprint at center of attenuation stack = 4.54 ac
 Cubed side length at center of attenuation stack= 445 ft

Bank length at Control El. = 438 ft
 Area at Control El. = 4.41 ac

Bank length at DHW. = 451.46 ft
 Area at Control DHW = 4.68 ac

Conservation Pool Depth = 3.5 ft
 Pool Length 2 ft deep at 1:4 = 422.28
 Pool Area at 2 ft depth = 4.09 ac
 Pool Length 3.5 ft deep at 1:2 = 416.28
 Pool Area at 3.5 ft depth = 3.98 ac

Top of bank length = 459 ft
 Maintenance berm width = 20 ft
 Back of maintenance berm length = 499 ft
 Back of maintenance berm area = 5.73 ac

Factor of safety = 5%
 Back of maintenance berm area = 6.01 ac
 Back of maintenance berm length = 512 ft

Pond site length = **Back of maintenance berm length + 5' on each side**
 Square Pond site lengths = 522 ft x ft
 Rectangular Pond Alternative Width = 216 ft (Pool width = 125.00 ft)
 Rectangular Pond Alternative Length = 1257 ft

Pond site area = 6.24 ac

Basin Hydraulilc Length Gradient Check

Estimated Peak Stage = 36.6 ft (NAVD-88)
 Assumed Hydraulic Slope= 0.0008 ft / ft
 Critical Low EOP Stage = 37.0 ft (NAVD-88)
 Hydraulic Length (ft) = 441.3 Intercepted corridor length from pond
 Notes: Wolf Slough 100-YR El. 34.33

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	8/26/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 2: POND 2E2 (PARCEL 581910403)						
EXISTING BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	129+48.00	184+66.00	5518.00	22.00	2.79	Wolf Slough to 44th Ave.
Impervious					0.00	
Open Space (Good)	129+48.00	184+66.00	5518.00	98.00	12.41	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Site					5.63	

Proposed BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	129+48.00	184+66.00	5518.00	120.00	15.20	Wolf Slough to 44th Ave.
Impervious					0.00	
Open Space (Good)					0.00	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Berm					1.78	
Pond Control					3.85	

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
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BASIN NO. 2: POND 2E2 (PARCEL 581910403)

BASIN NO. 2: POND 2E2 (PARCEL 581910403)

Existing CN

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	2.79	
Open Space (Good)	B/D	80	0.20	12.41	
Open Space (Poor)	B/D	89	0.20	0.00	
Wetlands	D	83	0.20	0.00	
Pond Site	B/D	80	0.20	5.63	
Total				20.83	ac.
			CN	82.4	
			C	0.30	

25-year, 24-hour rainfall, P = **8.72** in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 2.13 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 6.60 in
 25-year, 24-hour runoff volume = 11.45 ac-ft

Proposed CN and Runoff Coefficient

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	15.20	
Pond Surface	-	100	1.00	3.85	
Open Space (Good)	B/D	80	0.20	1.78	
Total				20.83	ac.
			CN	96.8	
			C	0.90	

25-year, 24-hour rainfall, P = 8.72 in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 0.33 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 8.34 in
 25-year, 24-hour runoff volume = 14.48 ac-ft

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
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Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 2: POND 2E2 (PARCEL 581910403)

Required Treatment Volume (Wet Detention) (Peak Sensitive Criteria)

Min. Water Quality Treatment Volume (1.5" of Runoff) *SWFWMD App. Handbook Vol. II, Section 4.1*

$$TV = \text{Basin Area} \times 1.5" \times (1 \frac{1}{12})$$

$$TV = 2.12 \text{ ac-ft}$$

Required Attenuation Volume (Peak Sensitive Criteria)

Required attenuation volume = proposed 25-year, 24-hour runoff - existing 25-year, 24-hour runoff

$$\text{Required attenuation volume} = 5.89 \text{ ac-ft}$$

Required Pond Volume

Required pond volume = required attenuation volume + required treatment volume

$$\text{Required pond volume} = 8.01 \text{ ac-ft}$$

Proposed Pond (Wet Detention)

Existing Ground =	40.0	ft (NAVD-88)
Top of bank =	37.0	ft (NAVD-88)
Groundwater elevation =	34.0	ft (NAVD-88) <i>NRCS: 1.5' Depth</i>
Control elevation =	34.0	ft (NAVD-88)

Max allowable peak stage = Control elevation + treatment stack

$$\text{Max allowable peak stage} = 36.0 \text{ ft (NAVD-88)}$$

Treatment depth + attenuation depth = Max allowable peak stage - normal water elevation

$$\text{Treatment depth + attenuation depth} = 2 \text{ ft}$$

Cubed pond footprint = required pond volume / (treatment depth + attenuation depth)

$$\text{Cubed pond footprint at center of treatment stack} = 4.01 \text{ ac}$$

$$\text{Cubed side length at center of treatment stack} = 418 \text{ ft}$$

$$\text{Bank length at Control El.} = 410 \text{ ft}$$

$$\text{Area at Control El.} = 3.85 \text{ ac}$$

$$\text{Bank length at DHW.} = 426 \text{ ft}$$

$$\text{Area at Control DHW} = 4.16 \text{ ac}$$

$$\text{Top of bank length} = 434 \text{ ft}$$

$$\text{Maintenance berm width} = 20 \text{ ft}$$

$$\text{Back of maintenance berm length} = 474 \text{ ft}$$

$$\text{Back of maintenance berm area} = 5.15 \text{ ac}$$

$$\text{Factor of safety} = 5\%$$

$$\text{Back of maintenance berm area} = 5.40 \text{ ac}$$

$$\text{Back of maintenance berm length} = 485 \text{ ft}$$

Pond site length = Back of maintenance berm + 5' on each side

$$\text{Square Pond site lengths} = 495 \text{ ft x ft}$$

$$\text{Rectangular Pond Alternative Width} = 263 \text{ ft (Pool width} = 166.00 \text{ ft)}$$

$$\text{Rectangular Pond Alternative Length} = 934 \text{ ft}$$

Pond site area = 5.63 ac

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	8/23/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	8/26/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 2: POND 2E2 (PARCEL 581910403)

Basin Hydraullic Length Gradient Check

Estimated Peak Stage =	36.0	ft (NAVD-88)
Assumed Hydraulic Slope=	0.0008	ft / ft
Critical Low EOP Stage =	37.0	ft (NAVD-88)
Hydraulic Length (ft) =	1,250.0	Intercepted corridor length from pond
Notes:		Wolf Slough 100-YR El. 34.33

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	9/1/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	9/4/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 3: POND 3W (PARCEL 579900809)						
EXISTING BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	184+66.00	202+43.00	1777.00	22.00	0.90	44th Ave to Mill Creek Trib. 1
Impervious					0.00	
Open Space (Good)	184+66.00	202+43.00	1777.00	98.00	4.00	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Site					2.97	

Proposed BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	184+66.00	202+43.00	1777.00	120.00	4.90	44th Ave to Mill Creek Trib. 1
Impervious					0.00	
Open Space (Good)					0.00	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Berm					1.21	
Pond Control					1.77	

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	9/1/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	9/4/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 3: POND 3W (PARCEL 579900809)

BASIN NO. 3: POND 3W (PARCEL 579900809)

Existing CN

	Soil Type	CN	C	Area
Impervious	-	98	0.95	0.90
Open Space (Good)	B/D	80	0.20	4.00
Open Space (Poor)	B/D	89	0.20	0.00
Wetlands	D	83	0.20	0.00
Pond Site	B/D	80	0.20	2.97
Total				7.87 ac.
			CN	82.1
			C	0.29

25-year, 24-hour rainfall, P = **8.72** in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 2.19 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 6.55 in
 25-year, 24-hour runoff volume = 4.30 ac-ft

Proposed CN and Runoff Coefficient

	Soil Type	CN	C	Area
Impervious	-	98	0.95	4.90
Pond Surface	-	100	1.00	1.77
Open Space (Good)	B/D	80	0.20	1.21
Total				7.87 ac.
			CN	95.7
			C	0.85

25-year, 24-hour rainfall, P = 8.72 in *SWFWMD Figure D-5 / NOAA Atlas 14*
 Soil Storage, S = 0.45 in *FDOT Drainage Design Guide Section 2.2.4.2*
 25-year, 24-hour runoff = 8.20 in
 25-year, 24-hour runoff volume = 5.38 ac-ft

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	9/1/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	9/4/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 3: POND 3W (PARCEL 579900809)

Required Treatment Volume (Wet Detention) (Peak Sensitive Criteria)

Min. Water Quality Treatment Volume (1" of Runoff) *SWFWMD App. Handbook Vol. II, Section 4.1*
 $TV = \text{Basin Area} \times 1" \times (1 \text{ '}/12")$
 TV = 0.51 ac-ft

Required Attenuation Volume (Peak Sensitive Criteria)

Required attenuation volume = proposed 25-year, 24-hour runoff - existing 25-year, 24-hour runoff
 Required attenuation volume = 3.23 ac-ft Mill Creek - Post = 50% of Pre

Required Pond Volume

Required pond volume = required attenuation volume + required treatment volume
 Required pond volume = 3.74 ac-ft

Proposed Pond (Wet Detention)

Existing Ground = 36.0 ft (NAVD-88)
 Top of bank = 38.0 ft (NAVD-88)
 Groundwater elevation = 35.0 ft (NAVD-88) *NRCS: 1.0' Depth*
 Control elevation = 35.0 ft (NAVD-88)

Max allowable peak stage = Control elevation + treatment stack
 Max allowable peak stage = 37.0 ft (NAVD-88)

Treatment depth + attenuation depth = Max allowable peak stage - normal water elevation
 Treatment depth + attenuation depth = 2 ft

Cubed pond footprint = required pond volume / (treatment depth + attenuation depth)
 Cubed pond footprint at center of treatment stack = 1.87 ac
 Cubed side length at center of treatment stack = 285 ft

Bank length at Control El. = 277 ft
 Area at Control El. = 1.77 ac

Bank length at DHW. = 293 ft
 Area at Control DHW = 1.97 ac

Top of bank length = 301 ft
 Maintenance berm width = 20 ft
 Back of maintenance berm length = 341 ft
 Back of maintenance berm area = 2.67 ac

Factor of safety = 5%
 Back of maintenance berm area = 2.81 ac
 Back of maintenance berm length = 350 ft

Pond site length = Back of maintenance berm length + 5' on each side
 Square Pond site lengths = 360 ft x ft
 Rectangular Pond Alternative Width = 263 ft (Pool width = 166.00 ft)
 Rectangular Pond Alternative Length = 493 ft

Pond site area = 2.97 ac

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	9/1/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	9/4/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 3: POND 3W (PARCEL 579900809)

Basin Hydrailic Length Gradient Check

Estimated Peak Stage = 35.0 ft (NAVD-88)
Assumed Hydraulic Slope= 0.0008 ft / ft
Critical Low EOP Stage = 37.0 ft (NAVD-88)
Hydraulic Length (ft) = 2,500.0

Notes:

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet _____	Of _____

BASIN NO. 4: POND 4W1 (PARCELS 577210057, 577210057)						
EXISTING BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	202+43.00	226+35.00	2392.00	22.00	1.21	Mill Creek Trib. 1 - 2392' N.
Impervious					0.00	
Open Space (Good)	202+43.00	226+35.00	2392.00	98.00	5.38	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Site					2.98	

Proposed BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	202+43.00	226+35.00	2392.00	120.00	6.59	Mill Creek Trib. 1 - 2392' N.
Impervious					0.00	
Open Space (Good)					0.00	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Berm					1.10	
Pond Control					1.88	

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet	Of

BASIN NO. 4: POND 4W1 (PARCELS 577210057, 577210057)

BASIN NO. 4: POND 4W1 (PARCELS 577210057, 577210057)

Existing CN

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	1.21	
Open Space (Good)	B/D	80	0.20	5.38	
Open Space (Poor)	B/D	89	0.20	0.00	
Wetlands	D	83	0.20	0.00	
Pond Site	B/D	80	0.20	2.98	
		Total		9.57	ac.
		CN	82.3		
		C	0.29		

25-year, 24-hour rainfall, P =	8.72	in	<i>SWFWMD Figure D-5 / NOAA Atlas 14</i>
Soil Storage, S =	2.15	in	<i>FDOT Drainage Design Guide Section 2.2.4.2</i>
25-year, 24-hour runoff =	6.58	in	
25-year, 24-hour runoff volume=	5.25	ac-ft	

Proposed CN and Runoff Coefficient

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	6.59	
Pond Surface	-	100	1.00	1.88	
Open Space (Good)	B/D	80	0.20	1.10	
			Total	9.57	ac.
			CN	96.3	
			C	0.87	

25-year, 24-hour rainfall, P =	8.72	in	<i>SWFWMD Figure D-5 / NOAA Atlas 14</i>
Soil Storage, S =	0.38	in	<i>FDOT Drainage Design Guide Section 2.2.4.2</i>
25-year, 24-hour runoff =	8.28	in	
25-year, 24-hour runoff volume=	6.60	ac-ft	

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet	Of

BASIN NO. 4: POND 4W1 (PARCELS 577210057, 577210057)

Required Treatment Volume (Wet Conservation Pool) (Peak Sensitive Criteria)

Min. Water Quality Treatment Volume (1" of Runoff) *SWFWMD App. Handbook Vol. II, Section 4.1*
 $TV = \text{Basin Area} \times 1" \times (1 / 12")$
 TV = 0.64 ac-ft

Required Attenuation Volume (Peak Sensitive Criteria)

Required attenuation volume = proposed 25-year, 24-hour runoff - existing 25-year, 24-hour runoff
 Required attenuation volume = 3.98 ac-ft Mill Creek - Post = 50% of Pre

Required Pond Volume

Required pond volume = (Above Control Elevation)
 Required pond volume = 3.98 ac-ft

Proposed Pond (Wet Detention)

Existing Ground = 38.0 ft (NAVD-88)
 Top of bank = 40.0 ft (NAVD-88) AVG
 Groundwater elevation = 37.0 ft (NAVD-88)
 Control elevation = 37.0 ft (NAVD-88)

Max allowable peak stage = Control elevation + treatment stack
 Max allowable peak stage = 39.0 ft (NAVD-88)

Drawdown + attenuation depth = Max allowable peak stage - normal water elevation
 Drawdown + attenuation depth = 2.0 ft

CONSERVATION POOL (14-DAY RESIDENCE TIME + WATER QUALITY)

Pool Volume for 14-Day residence Time (VR)

	Impervious	0.95 x	6.59 Ac =	6.26
Rational C:	Pond Surf.	1.00 x	1.88 Ac =	1.88
	Pervious	0.35 x	1.10 Ac =	0.38

$\text{Drainage Project Area (A)} = \frac{6.26 + 1.88 + 0.38}{1.00} = 9.57 \text{ Ac}$
 $CA = 8.53$

Weighted (C) = 0.89

Historic average wet season rainfall (P) for Bradenton = 32 In / Yr
 Wet season duration (W) = 122 Days
 Pool Residence Time (R) = 14 Days

14-day residence volume VR = (A) * (C) * (P/W) * (R) * (1-ft / 12-in)
 14-day residence volume VR = 2.61 Ac-Ft

Minimum required 14-day residence volume VR = (A) * 1.5 * (0.667-inch) * (1-ft / 12-in)
 Minimum required 14-day residence volume VR = .80 Ac-Ft

REQUIRED 14-DAY RESIDENCE VOLUME = 2.61 Ac-Ft

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet	Of

BASIN NO. 4: POND 4W1 (PARCELS 577210057, 577210057)

WET TREATMENT WATER QUALITY VOLUME = WQ)

WQ = Contributing Area (A) * 1-in * (1-in / 12-ft)

Required Water Quality Volume WQ = .64 Ac-Ft

CONSERVATION POOL = 14-DAY RESIDENCE TIME (VR)+ WATER QUALITY (WQ)

REQUIRED CONSERVATION POOL (to 8-feet below control elev)= 3.25 Ac-Ft

PROVIDED CONSERVATION POOL (to 8-feet below control elev)= 8.38 Ac-Ft

Cubed pond footprint at center of attenuation stack = 1.99 ac

Cubed side length at center of attenuation stack= 294 ft

Bank length at Control El. = 286 ft

Area at Control El. = 1.88 ac

Bank length at DHW. = 302.40 ft

Area at Control DHW = 2.10 ac

Conservation Pool Depth = 5.0 ft

Pool Length 2 ft deep at 1:4 = 270.40

Pool Area at 2 ft depth = 1.68 ac

Pool Length 5.0 ft deep at 1:2 = 258.40

Pool Area at 5.0 ft depth = 1.53 ac

Top of bank length = 310 ft

Maintenance berm width = 20 ft

Back of maintenance berm length = 350 ft

Back of maintenance berm area = 2.82 ac

Factor of safety = 0%

Back of maintenance berm area = 2.82 ac

Back of maintenance berm length = 350 ft

Pond site length = **Back of maintenance berm length + 5' on each side**

Square Pond site lengths = 360 ft x ft

Rectangular Pond Alternative Width = 219 ft (Pool width = 125.00 ft)

Rectangular Pond Alternative Length = 592 ft

Pond site area = 2.98 ac

Basin Hydraulc Length Gradient Check

Estimated Peak Stage = 37.0 ft (NAVD-88)

Assumed Hydraulic Slope= 0.0008 ft / ft

Critical Low EOP Stage = 39.0 ft (NAVD-88)

Hydraulic Length (ft) = 2,500.0

Notes:

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet _____	Of _____

BASIN NO. 4: POND 4W2 (PARCEL 577210107)						
EXISTING BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	202+43.00	226+35.00	2392.00	22.00	1.21	Mill Creek Trib. 1 - 2392' N.
Impervious					0.00	
Open Space (Good)	202+43.00	226+35.00	2392.00	98.00	5.38	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Site					2.98	

Proposed BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	202+43.00	226+35.00	2392.00	120.00	6.59	Mill Creek Trib. 1 - 2392' N.
Impervious					0.00	
Open Space (Good)					0.00	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Berm					1.10	
Pond Control					1.88	

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet	Of

BASIN NO. 4: POND 4W2 (PARCEL 577210107)

BASIN NO. 4: POND 4W2 (PARCEL 577210107)

Existing CN

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	1.21	
Open Space (Good)	B/D	80	0.20	5.38	
Open Space (Poor)	B/D	89	0.20	0.00	
Wetlands	D	83	0.20	0.00	
Pond Site	B/D	80	0.20	2.98	
		Total		9.57	ac.
		CN	82.3		
		C	0.29		

25-year, 24-hour rainfall, P =	8.72	in	<i>SWFWMD Figure D-5 / NOAA Atlas 14</i>
Soil Storage, S =	2.15	in	<i>FDOT Drainage Design Guide Section 2.2.4.2</i>
25-year, 24-hour runoff =	6.58	in	
25-year, 24-hour runoff volume=	5.25	ac-ft	

Proposed CN and Runoff Coefficient

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	6.59	
Pond Surface	-	100	1.00	1.88	
Open Space (Good)	B/D	80	0.20	1.10	
			Total	9.57	ac.
			CN	96.3	
			C	0.87	

25-year, 24-hour rainfall, P =	8.72	in	<i>SWFWMD Figure D-5 / NOAA Atlas 14</i>
Soil Storage, S =	0.38	in	<i>FDOT Drainage Design Guide Section 2.2.4.2</i>
25-year, 24-hour runoff =	8.28	in	
25-year, 24-hour runoff volume=	6.60	ac-ft	

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet	Of

BASIN NO. 4: POND 4W2 (PARCEL 577210107)

Required Treatment Volume (Wet Conservation Pool)

Min. Water Quality Treatment Volume (1" of Runoff) *SWFWMD App. Handbook Vol. II, Section 4.1*
 $TV = \text{Basin Area} \times 1" \times (1' / 12")$
 TV = 0.64 ac-ft

Required Attenuation Volume (Peak Sensitive Criteria)

Required attenuation volume = proposed 25-year, 24-hour runoff - existing 25-year, 24-hour runoff
 Required attenuation volume = 3.98 ac-ft Mill Creek - Post = 50% of Pre

Required Pond Volume

Required pond volume = (Above Control Elevation)
 Required pond volume = 3.98 ac-ft

Proposed Pond (Wet Detention)

Existing Ground = 39.9 ft (NAVD-88)
 Top of bank = 40.9 ft (NAVD-88) *AVG*
 Groundwater elevation = 37.9 ft (NAVD-88) *ERP 42386.001 Pond NNN1*
 Control elevation = 37.9 ft (NAVD-88)

Max allowable peak stage = Control elevation + treatment stack
 Max allowable peak stage = 39.9 ft (NAVD-88)

Drawdown + attenuation depth = Max allowable peak stage - normal water elevation
 Drawdown + attenuation depth = 2.0 ft

CONSERVATION POOL (14-DAY RESIDENCE TIME + WATER QUALITY)

Pool Volume for 14-Day residence Time (VR)

	Impervious	0.95 x	6.59 Ac =	6.26
Rational C:	Pond Surf.	1.00 x	1.88 Ac =	1.88
	Pervious	0.35 x	1.10 Ac =	0.38

$\frac{9.57 \text{ Ac}}{\text{CA} = 8.53}$

Weighted (C) = 0.89

Historic average wet season rainfall (P) for Bradenton = 32 In / Yr
 Wet season duration (W) = 122 Days
 Pool Residence Time (R) = 14 Days

14-day residence volume VR = (A) * (C) * (P/W) * (R) * (1-ft / 12-in)
 14-day residence volume VR = 2.61 Ac-Ft

Minimum required 14-day residence volume VR = (A) * 1.5 * (0.667-inch) * (1-ft / 12-in)
 Minimum required 14-day residence volume VR = .80 Ac-Ft

REQUIRED 14-DAY RESIDENCE VOLUME = 2.61 Ac-Ft

HDR Computation



Project	Manatee County Corridors Analysis	Computed	PEH	Date	9/1/2021
Subject	Lorraine Road Corridor	Checked	JCL	Date	9/4/2021
Task	Pond Siting Analysis	Sheet		Of	

BASIN NO. 4: POND 4W2 (PARCEL 577210107)

WET TREATMENT WATER QUALITY VOLUME = WQ)

WQ = Contributing Area (A) * 1-in * (1-in / 12-ft)

Required Water Quality Volume WQ = .64 Ac-Ft

CONSERVATION POOL = 14-DAY RESIDENCE TIME (VR)+ WATER QUALITY (WQ)

REQUIRED CONSERVATION POOL (to 8-feet below control elev)= 3.25 Ac-Ft

PROVIDED CONSERVATION POOL (to 8-feet below control elev)= 3.56 Ac-Ft

Cubed pond footprint at center of attenuation stack = 1.99 ac
 Cubed side length at center of attenuation stack= 294 ft

Bank length at Control El. = 286 ft
 Area at Control El. = 1.88 ac

Bank length at DHW. = 302.40 ft
 Area at Control DHW = 2.10 ac

Conservation Pool Depth = 2.0 ft
 Pool Length 2 ft deep at 1:4 = 270.40
 Pool Area at 2 ft depth = 1.68 ac
 Pool Length 2.0 ft deep at 1:2 = 0.00
 Pool Area at 2.0 ft depth = 0.00 ac

Top of bank length = 310 ft
 Maintenance berm width = 20 ft
 Back of maintenance berm length = 350 ft
 Back of maintenance berm area = 2.82 ac

Factor of safety = 0%
 Back of maintenance berm area = 2.82 ac
 Back of maintenance berm length = 350 ft

Pond site length = **Back of maintenance berm length + 5' on each side**
 Square Pond site lengths = 360 ft x ft
 Rectangular Pond Alternative Width = 219 ft (Pool width = 125.00 ft)
 Rectangular Pond Alternative Length = 592 ft

Pond site area = 2.98 ac

Basin Hydraulilc Length Gradient Check

Estimated Peak Stage = 37.0 ft (NAVD-88)
 Assumed Hydraulic Slope= 0.0008 ft / ft
 Critical Low EOP Stage = 39.0 ft (NAVD-88)
 Hydraulic Length (ft) = 2,500.0

Notes:

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet _____	Of _____

BASIN NO. 5: POND 5W1 ; Parcel 576700058 or 5W2 ; PARCEL 576600001						
EXISTING BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	226+35.00	250+04.00	2369.00	22.00	1.20	2369' S to Mill Creek Trib. 2
Impervious					0.00	
Open Space (Good)	226+35.00	250+04.00	2369.00	98.00	5.33	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Site					3.13	

Proposed BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	226+35.00	250+04.00	2369.00	120.00	6.53	2369' S to Mill Creek Trib. 2
Impervious					0.00	
Open Space (Good)					0.00	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Berm					1.24	
Pond Control					1.89	

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
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Task Pond Siting Analysis	Sheet	Of

BASIN NO. 5: POND 5W1 ; Parcel 576700058 or 5W2 ; PARCEL 576600001

BASIN NO. 5: POND 5W1 ; Parcel 576700058 or 5W2 ; PARCEL 576600001

Existing CN

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	1.20	
Open Space (Good)	B/D	80	0.20	5.33	
Open Space (Poor)	B/D	89	0.20	0.00	
Wetlands	D	83	0.20	0.00	
Pond Site	B/D	80	0.20	3.13	
		Total		9.66	ac.
		CN	82.2		
		C	0.29		

25-year, 24-hour rainfall, P =	8.72	in	<i>SWFWMD Figure D-5 / NOAA Atlas 14</i>
Soil Storage, S =	2.16	in	<i>FDOT Drainage Design Guide Section 2.2.4.2</i>
25-year, 24-hour runoff =	6.57	in	
25-year, 24-hour runoff volume=	5.29	ac-ft	

Proposed CN and Runoff Coefficient

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	6.53	
Pond Surface	-	100	1.00	1.89	
Open Space (Good)	B/D	80	0.20	1.24	
			Total	9.66	ac.
			CN	96.1	
			C	0.86	

25-year, 24-hour rainfall, P =	8.72	in	<i>SWFWMD Figure D-5 / NOAA Atlas 14</i>
Soil Storage, S =	0.41	in	<i>FDOT Drainage Design Guide Section 2.2.4.2</i>
25-year, 24-hour runoff =	8.25	in	
25-year, 24-hour runoff volume=	6.64	ac-ft	

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet	Of

BASIN NO. 5: POND 5W1 ; Parcel 576700058 or 5W2 ; PARCEL 576600001

Required Treatment Volume (Wet Conservation Pool) (Peak Sensitive Criteria)

Min. Water Quality Treatment Volume (1" of Runoff) *SWFWMD App. Handbook Vol. II, Section 4.1*
 $TV = \text{Basin Area} \times 1" \times (1 / 12")$
 TV = 0.65 ac-ft

Required Attenuation Volume (Peak Sensitive Criteria)

Required attenuation volume = proposed 25-year, 24-hour runoff - existing 25-year, 24-hour runoff
 Required attenuation volume = 3.99 ac-ft Mill Creek - Post = 50% of Pre

Required Pond Volume

Required pond volume = (Above Control Elevation)
 Required pond volume = 3.99 ac-ft

Proposed Pond (Wet Detention)

Existing Ground = 34.0 ft (NAVD-88)
 Top of bank = 36.0 ft (NAVD-88) AVG
 Groundwater elevation = 33.0 ft (NAVD-88)
 Control elevation = 33.0 ft (NAVD-88)

Max allowable peak stage = Control elevation + treatment stack
 Max allowable peak stage = 35.0 ft (NAVD-88)

Drawdown + attenuation depth = Max allowable peak stage - normal water elevation
 Drawdown + attenuation depth = 2.0 ft

CONSERVATION POOL (21-DAY RESIDENCE TIME + WATER QUALITY)

ool Volume for 14-Day residence Time (VR)

	Impervious	0.95 x	6.53 Ac =	6.20
Rational C:	Pond Surf.	1.00 x	1.89 Ac =	1.89
	Pervious	0.35 x	1.24 Ac =	0.44

$\frac{6.20 + 1.89 + 0.44}{8.52} = 0.88$
 Drainage Project Area (A) = 9.66 Ac
 CA = 8.52

Weighted (C) = 0.88

Historic average wet season rainfall (P) for Bradenton = 32 In / Yr
 Wet season duration (W) = 122 Days
 Pool Residence Time (R) = 14 Days

γ residence volume VR = (A) *(C)* (P/W)* (R) *(1-ft / 12-in)
 14-day residence volume VR = 2.61 Ac-Ft

Required 14-day residence volume VR = (A) * 1.5 * (0.667-inch) * (1-ft / 12-in)
 Minimum required 14-day residence volume VR = .81 Ac-Ft

REQUIRED 14-DAY RESIDENCE VOLUME = 2.61 Ac-Ft

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet	Of

BASIN NO. 5: POND 5W1 ; Parcel 576700058 or 5W2 ; PARCEL 576600001

WET TREATMENT WATER QUALITY VOLUME = WQ)

WQ = Contributing Area (A) * 1-in * (1-in / 12-ft)

Required Water Quality Volume WQ = .65 Ac-Ft

CONSERVATION POOL = 14-DAY RESIDENCE TIME (VR)+ WATER QUALITY (WQ)

REQUIRED CONSERVATION POOL (to 8-feet below control elev)= 3.26 Ac-Ft

PROVIDED CONSERVATION POOL (to 8-feet below control elev)= 3.57 Ac-Ft

Cubed pond footprint at center of attenuation stack = 2.00 ac
 Cubed side length at center of attenuation stack= 295 ft

Bank length at Control El. = 287 ft
 Area at Control El. = 1.89 ac

Bank length at DHW. = 302.92 ft
 Area at Control DHW = 2.11 ac

Conservation Pool Depth = 2.0 ft
 Pool Length 2 ft deep at 1:4 = 270.92
 Pool Area at 2 ft depth = 1.68 ac
 Pool Length 2.0 ft deep at 1:2 = 0.00
 Pool Area at 2.0 ft depth = 0.00 ac

Top of bank length = 311 ft
 Maintenance berm width = 20 ft
 Back of maintenance berm length = 351 ft
 Back of maintenance berm area = 2.83 ac

Factor of safety = 5%
 Back of maintenance berm area = 2.97 ac
 Back of maintenance berm length = 359 ft

Pond site length = **Back of maintenance berm length + 5' on each side**
 Square Pond site lengths = 369 ft x ft
 Rectangular Pond Alternative Width = 219 ft (Pool width = 125.00 ft)
 Rectangular Pond Alternative Length = 622 ft

Pond site area = 3.13 ac

Basin Hydraulilc Length Gradient Check

Estimated Peak Stage = 35.0 ft (NAVD-88)
 Assumed Hydraulic Slope= 0.0008 ft / ft
 Critical Low EOP Stage = 37.0 ft (NAVD-88)
 Hydraulic Length (ft) = 2,500.0

Notes:

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet _____	Of _____

BASIN NO. 6: POND 6W1 ; PARCEL 576900104 or Pond 6W2; Parcel 576900005						
EXISTING BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	250+04.00	255+40.00	536.00	22.00	0.27	Mill Creek Trib. 2 to SR64 ROB
Impervious					0.00	
Open Space (Good)	250+04.00	255+40.00	536.00	98.00	1.21	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Site					1.58	

Proposed BASIN						
Land Use	From Sta.	To Sta.	Length (ft)	Width (ft)	Area (Acres)	Location Description
Impervious	250+04.00	255+40.00	536.00	120.00	1.48	Mill Creek Trib. 2 to SR64 ROB
Impervious					0.00	
Open Space (Good)					0.00	
Open Space (Good)					0.00	
Open Space (Poor)					0.00	
Wetlands					0.00	
Pond Berm					1.06	
Pond Control					0.52	

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet	Of

BASIN NO. 6: POND 6W1 ; PARCEL 576900104 or Pond 6W2; Parcel 576900005

BASIN NO. 6: POND 6W1 ; PARCEL 576900104 or Pond 6W2; Parcel 576900005

Existing CN

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	0.27	
Open Space (Good)	B/D	80	0.20	1.21	
Open Space (Poor)	B/D	89	0.20	0.00	
Wetlands	D	83	0.20	0.00	
Pond Site	B/D	80	0.20	1.58	
		Total		3.06	ac.
		CN	81.6		
		C	0.27		

25-year, 24-hour rainfall, P =	8.72	in	<i>SWFWMD Figure D-5 / NOAA Atlas 14</i>
Soil Storage, S =	2.26	in	<i>FDOT Drainage Design Guide Section 2.2.4.2</i>
25-year, 24-hour runoff =	6.50	in	
25-year, 24-hour runoff volume=	1.66	ac-ft	

Proposed CN and Runoff Coefficient

	Soil Type	CN	C	Area	
Impervious	-	98	0.95	1.48	
Pond Surface	-	100	1.00	0.52	
Open Space (Good)	B/D	80	0.20	1.06	
			Total	3.06	ac.
			CN	92.1	
			C	0.70	

25-year, 24-hour rainfall, P =	8.72	in	<i>SWFWMD Figure D-5 / NOAA Atlas 14</i>
Soil Storage, S =	0.86	in	<i>FDOT Drainage Design Guide Section 2.2.4.2</i>
25-year, 24-hour runoff =	7.77	in	
25-year, 24-hour runoff volume=	1.98	ac-ft	

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet	Of

BASIN NO. 6: POND 6W1 ; PARCEL 576900104 or Pond 6W2; Parcel 576900005

Required Treatment Volume (Wet Conservation Pool) (Peak Sensitive Criteria)

Min. Water Quality Treatment Volume (1" of Runoff) *SWFWMD App. Handbook Vol. II, Section 4.1*
 $TV = \text{Basin Area} \times 1" \times (1 / 12")$
 TV = 0.21 ac-ft

Required Attenuation Volume (Peak Sensitive Criteria)

Required attenuation volume = proposed 25-year, 24-hour runoff - existing 25-year, 24-hour runoff
 Required attenuation volume = 1.15 ac-ft Mill Creek - Post = 50% of Pre

Required Pond Volume

Required pond volume = (Above Control Elevation)
 Required pond volume = 1.15 ac-ft

Proposed Pond (Wet Detention)

Existing Ground = 34.0 ft (NAVD-88)
 Top of bank = 36.0 ft (NAVD-88) AVG
 Groundwater elevation = 33.0 ft (NAVD-88)
 Control elevation = 33.0 ft (NAVD-88)

Max allowable peak stage = Control elevation + treatment stack
 Max allowable peak stage = 35.0 ft (NAVD-88)

Drawdown + attenuation depth = Max allowable peak stage - normal water elevation
 Drawdown + attenuation depth = 2.0 ft

CONSERVATION POOL (14-DAY RESIDENCE TIME + WATER QUALITY)

ool Volume for 14-Day residence Time (VR)

	Impervious	0.95 x	1.48 Ac =	1.40
Rational C:	Pond Surf.	1.00 x	.52 Ac =	0.52
	Pervious	0.35 x	1.06 Ac =	0.37

$\frac{3.06 \text{ Ac}}{\text{CA} = 2.29}$

Weighted (C) = 0.75

Historic average wet season rainfall (P) for Bradenton = 32 In / Yr
 Wet season duration (W) = 122 Days
 Pool Residence Time (R) = 14 Days

γ residence volume VR = (A) *(C)* (P/W)* (R) *(1-ft / 12-in)
 14-day residence volume VR = .70 Ac-Ft

Required 14-day residence volume VR = (A) * 1.5 * (0.667-inch) * (1-ft / 12-in)
 Minimum required 14-day residence volume VR = .26 Ac-Ft

REQUIRED 14-DAY RESIDENCE VOLUME = .70 Ac-Ft

HDR Computation



Project Manatee County Corridors Analysis	Computed PEH	Date 9/1/2021
Subject Lorraine Road Corridor	Checked JCL	Date 9/4/2021
Task Pond Siting Analysis	Sheet	Of

BASIN NO. 6: POND 6W1 ; PARCEL 576900104 or Pond 6W2; Parcel 576900005

WET TREATMENT WATER QUALITY VOLUME = WQ)

WQ = Contributing Area (A) * 1-in * (1-in / 12-ft)

Required Water Quality Volume WQ = .21 Ac-Ft

CONSERVATION POOL = 14-DAY RESIDENCE TIME (VR)+ WATER QUALITY (WQ)

REQUIRED CONSERVATION POOL (to 8-feet below control elev)= .91 Ac-Ft

PROVIDED CONSERVATION POOL (to 8-feet below control elev)= .93 Ac-Ft

Cubed pond footprint at center of attenuation stack = 0.58 ac

Cubed side length at center of attenuation stack= 158 ft

Bank length at Control El. = 150 ft

Area at Control El. = 0.52 ac

Bank length at DHW. = 166.40 ft

Area at Control DHW = 0.64 ac

Conservation Pool Depth = 2.0 ft

Pool Length 2 ft deep at 1:4 = 134.40

Pool Area at 2 ft depth = 0.41 ac

Pool Length 2.0 ft deep at 1:2 = 0.00

Pool Area at 2.0 ft depth = 0.00 ac

Top of bank length = 174 ft

Maintenance berm width = 20 ft

Back of maintenance berm length = 214 ft

Back of maintenance berm area = 1.06 ac

Factor of safety = 28%

Back of maintenance berm area = 1.35 ac

Back of maintenance berm length = 243 ft

Pond site length = **Back of maintenance berm length + 10' on each side**

Square Pond site lengths = 263 ft x ft

Rectangular Pond Alternative Width = 219 ft (Pool width = 125.00 ft)

Rectangular Pond Alternative Length = 314 ft

Pond site area = 1.58 ac

Basin Hydraulilc Length Gradient Check

Estimated Peak Stage = 35.0 ft (NAVD-88)

Assumed Hydraulic Slope= 0.0008 ft / ft

Critical Low EOP Stage = 37.0 ft (NAVD-88)

Hydraulic Length (ft) = 2,500.0 Intercepted corridor length from pond

Notes:

Appendix C – FEMA FIRM – FIS Flood Profiles

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was the Florida State Plane west zone (FIPSZONE 0902). The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSMC-3, #6222
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map orthophotography was obtained from Southwest Florida Water Management District (SWFWMD) from one-foot resolution digital orthorectified flown in 2008 and 2009. Vector base map data was provided by Manatee County and SWFWMD. Vector information was compiled in 2003 - 2009 by Manatee County GIS department.

This map may reflect more detailed or up to date stream channel configurations than those shown on the previous FIRM. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations and improved topographic data. The profile baselines depicted on this map represent the hydraulic modeling baselines that match the flood profiles and Floodway Data Tables if applicable, in the FIS report. As a result, the profile baselines may deviate significantly from the new base map channel representation and may appear outside of the floodplain.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the **FEMA Map Service Center** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the **FEMA Map Service Center** website or by calling the FEMA Map Information eXchange.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the **base flood**, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A
No Base Flood Elevations determined.

ZONE AE
Base Flood Elevations determined.

ZONE AH
Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO
Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR
Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99
Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V
Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X
Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D
Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

A Cross section line
23 Transsect line
97°07'30", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
4975000'N 1000-meter Universal Transverse Mercator grid ticks, zone 17
6000000 FT 5000-foot grid ticks: Florida State Plane coordinate system, west zone (FIPSZONE 0902), Transverse Mercator
DX5510 Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5 River Mile

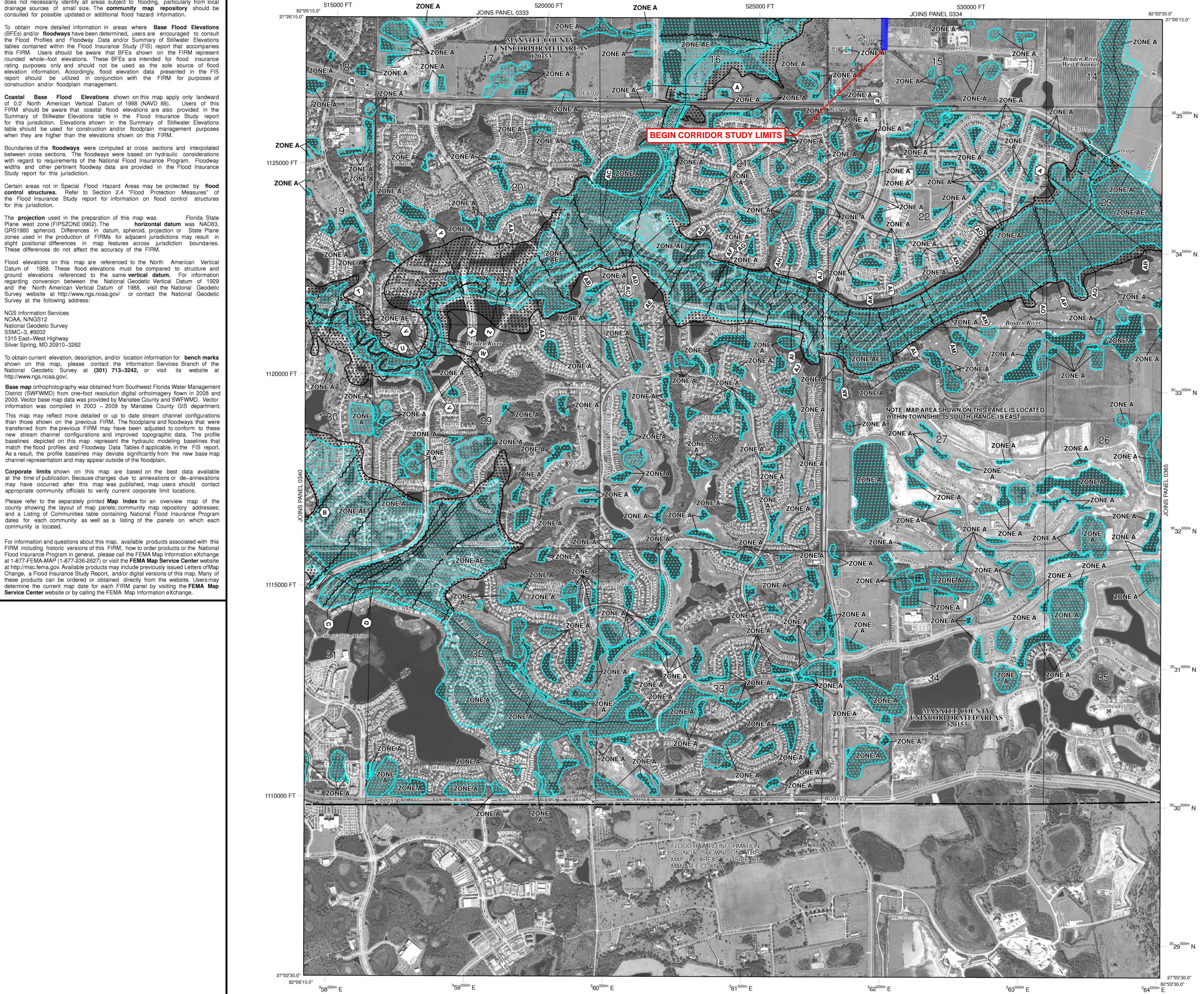
MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
March 17, 2014
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map Index table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'
500 2,000 4,000 FEET
300 0 300 600 METERS



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0345E

FIRM

FLOOD INSURANCE RATE MAP

MANATEE COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 345 OF 575
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MANATEE COUNTY	120153	0345	E

Notes to User: The **Map Number** shown below should be used when placing map orders. The **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12081C0345E

EFFECTIVE DATE
MARCH 17, 2014

FEDERAL EMERGENCY MANAGEMENT AGENCY

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NGS Information Services
NOAA, NINGS12
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For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

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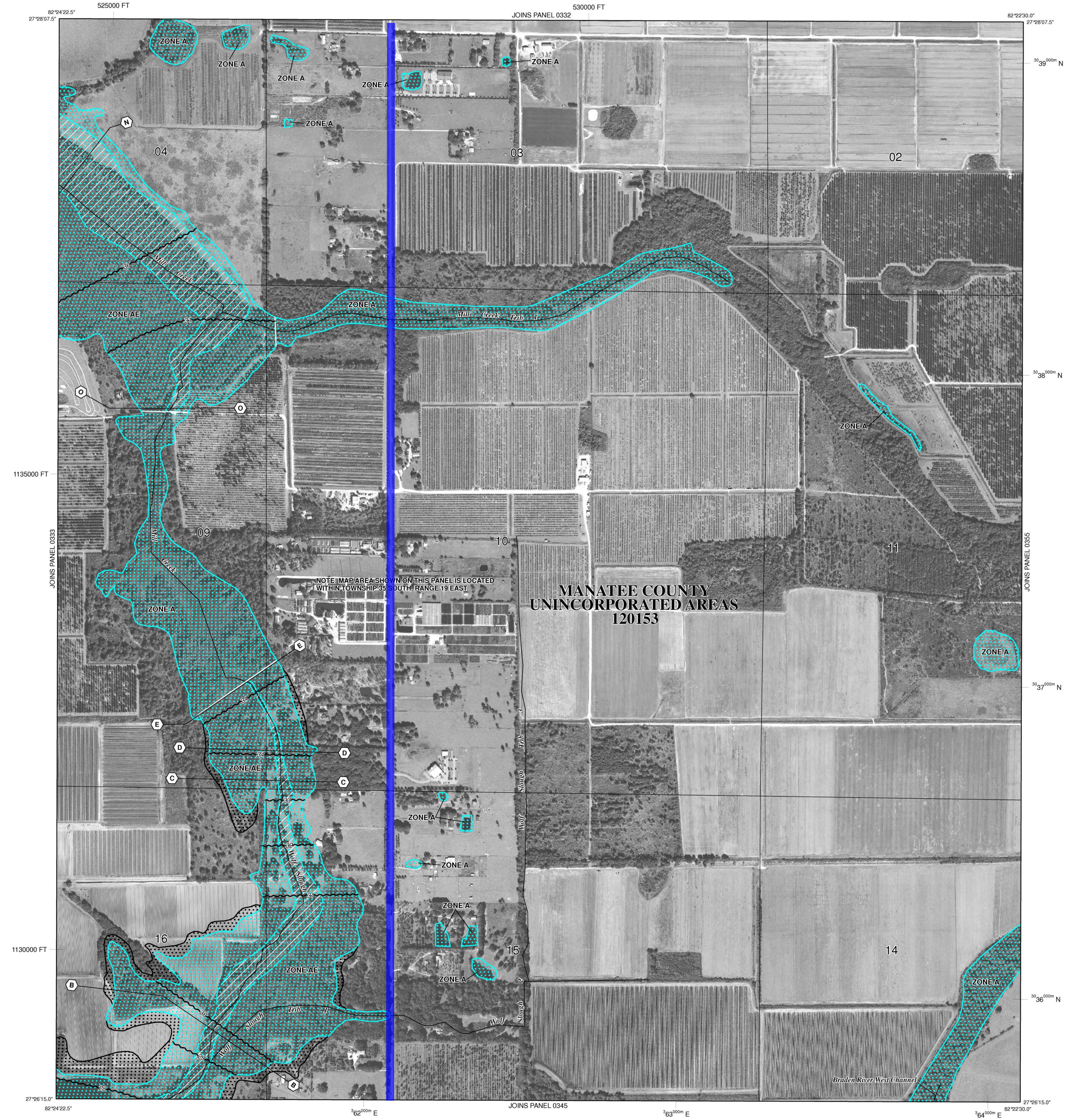
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LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A
No Base Flood Elevations determined.

ZONE AE
Base Flood Elevations determined.

ZONE AH
Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO
Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR
Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently derelictified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99
Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V
Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X
Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D
Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
March 17, 2014
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP

PANEL 0334E

FIRM
FLOOD INSURANCE RATE MAP
MANATEE COUNTY,
FLORIDA
AND INCORPORATED AREAS

PANEL 334 OF 575
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MANATEE COUNTY	120153	0334	E

Notes to User: The **Map Number** shown below should be used when placing map orders. The **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12081C0334E

EFFECTIVE DATE
MARCH 17, 2014

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only to landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Florida State Plane west zone (FIPSZONE 0902). The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSM-C-46202
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map orthophotography was obtained from Southwest Florida Water Management District (SWFWMD) from one-foot resolution digital orthomagey flown in 2008 and 2009. Vector base map data was provided by Manatee County and SWFWMD. Vector information was compiled in 2003 - 2009 by Manatee County GIS department.

This map may reflect more detailed or up to date stream channel configurations than those shown on the previous FIRM. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations and improved topographic data. The profile baselines depicted on this map represent the hydraulic modeling baselines that match the flood profiles and Floodway Data Tables if applicable, in the FIS report. As a result, the profile baselines may deviate significantly from the new base map channel representation and may appear outside of the floodplain.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the **FEMA Map Service Center** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the **FEMA Map Service Center** website or by calling the FEMA Map Information eXchange.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

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ZONE A
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Base Flood Elevations determined.

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Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR
Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99
Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V
Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

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1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
Zone A boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
Base Flood Elevation line and value; elevation in feet*
Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

Cross section line
Transsect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
1000-meter Universal Transverse Mercator grid ticks, zone 17
5000-foot grid ticks: Florida State Plane coordinate system, west zone (FIPSZONE 0902), Transverse Mercator

Bench mark (see explanation in Notes to Users section of this FIRM panel)
River Mile

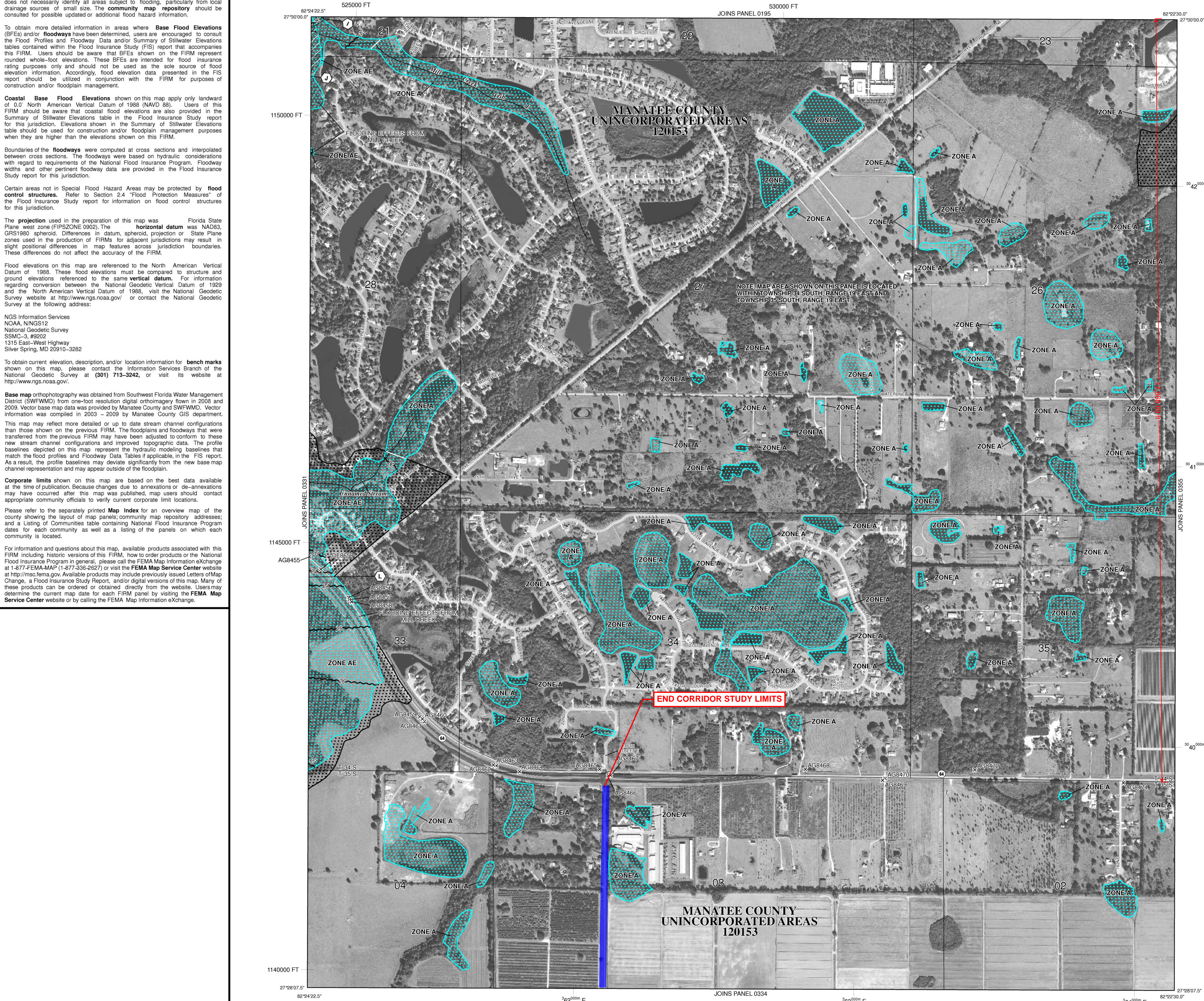
MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP: March 17, 2014
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL:

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To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS



NFIP

PANEL 0332E

FIRM
FLOOD INSURANCE RATE MAP
MANATEE COUNTY,
FLORIDA
AND INCORPORATED AREAS

PANEL 332 OF 575
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MANATEE COUNTY	120153	0332	E

Notes to User: The **Map Number** shown below should be used when placing map orders. The **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12081C0332E

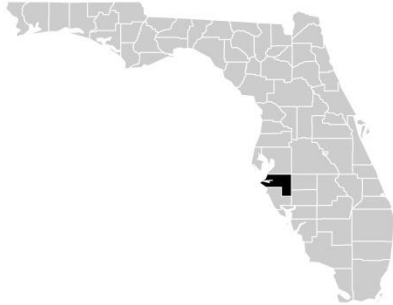
EFFECTIVE DATE
MARCH 17, 2014

Federal Emergency Management Agency

FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 2 OF 6



MANATEE COUNTY, FLORIDA AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
ANNA MARIA, CITY OF	125087
BRADENTON BEACH, CITY OF	125091
BRADENTON, CITY OF	120155
HOLMES BEACH, CITY OF	125114
LONGBOAT KEY, TOWN OF	125126
MANATEE COUNTY, UNINCORPORATED AREAS	120153
PALMETTO, CITY OF	120159



FEMA

REVISED:
August 10, 2021

Reprinted with corrections on August 26, 2021

FLOOD INSURANCE STUDY NUMBER
12081CV002B

Version Number 2.4.3.2

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,150	1,094	10,121	0.5	*	9.7 ³	10.7	1.0
B	2,360	675	6,305	0.8	*	9.8 ³	10.8	1.0
C	3,120	674	5,625	0.9	10.1 ²	9.8 ³	10.8	1.0
D	4,700	376	2,889	1.8	10.3 ²	10.1 ³	11.1	1.0
E	5,900	325	2,959	1.8	10.6 ²	10.4 ³	11.4	1.0
F	8,000	500	4,141	1.3	11.0 ²	10.8 ³	11.8	1.0
G	9,460	281	2,610	2.0	11.4 ²	11.3 ³	12.3	1.0
H	10,700	351	3,177	1.6	11.9	11.9	12.9	1.0
I	12,860	210	2,129	2.5	12.7	12.7	13.7	1.0
J	13,500	170	884	3.2	12.7	12.7	13.7	1.0
K	17,730	100	506	5.5	19.7	19.7	20.0	0.3
L	19,813	69	520	5.0	24.1	24.1	24.9	0.8
M	22,913	513	2,588	1.0	27.5	27.5	28.5	1.0
N	27,873	652	3,993	0.7	29.5	29.5	30.5	1.0
O	31,566	209	853	0.6	32.0	32.0	33.0	1.0

¹ Feet above mouth

² Combined coastal and riverine effects from Manatee River and Mill Creek

³ Elevation computed without consideration of backwater effects from Manatee River

* Controlled by coastal flooding – see Flood Insurance Rate Map for regulatory base flood elevation

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY

MANATEE COUNTY, FLORIDA

AND INCORPORATED AREAS

FLOODWAY DATA

FLOODING SOURCE: MILL CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	4,271	63	599	1.9	26.2	26.2	26.7	0.5
B	8,688	150	428	2.6	29.6	29.6	30.6	1.0
C	11,953	104	192	5.0	33.6	33.6	33.6	0.0
D	12,273	58	237	1.1	34.1	34.1	34.9	0.8
E	13,073	30	105	2.5	34.2	34.2	35.2	1.0

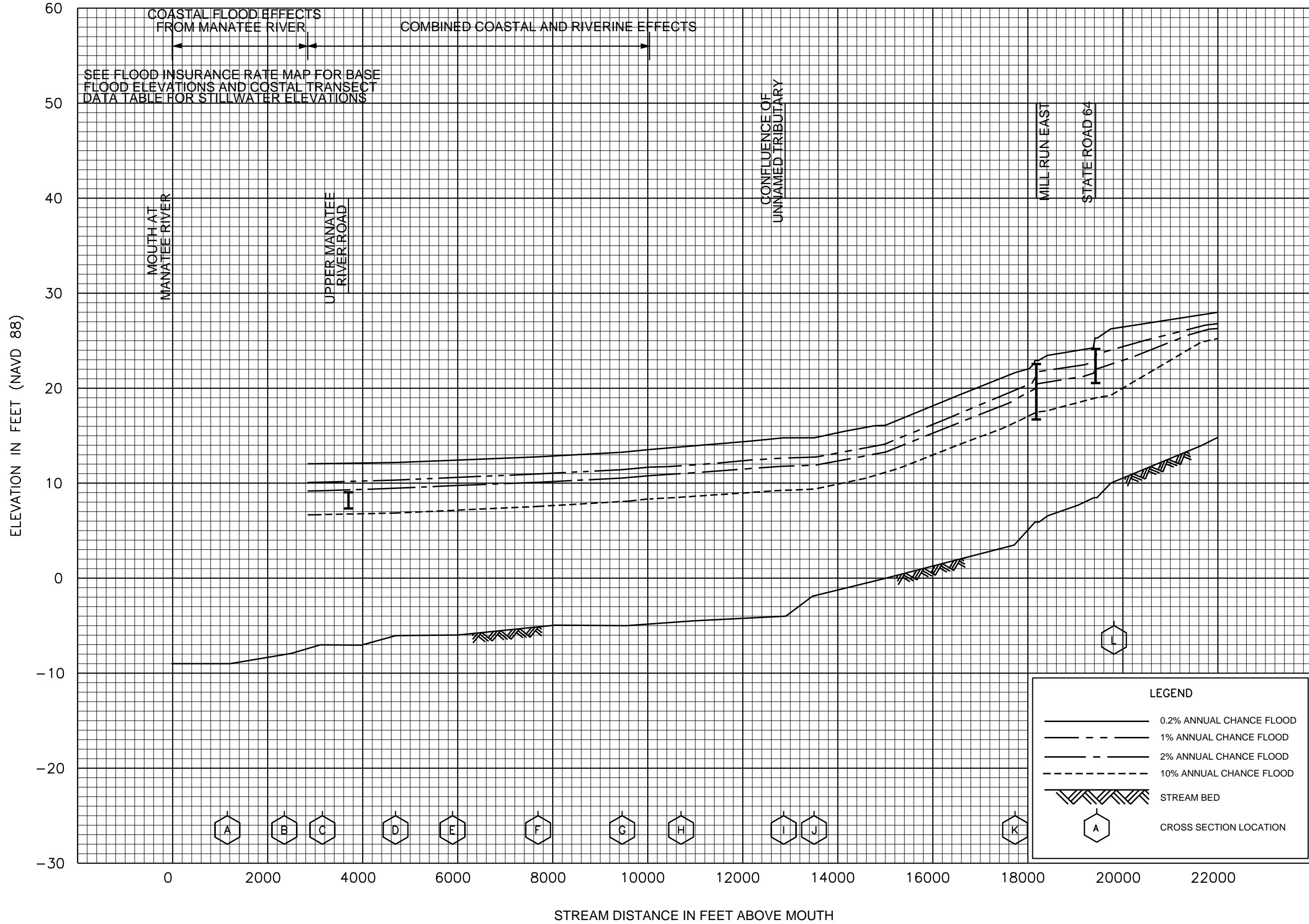
¹ Feet above mouth

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
MANATEE COUNTY, FLORIDA
 AND INCORPORATED AREAS

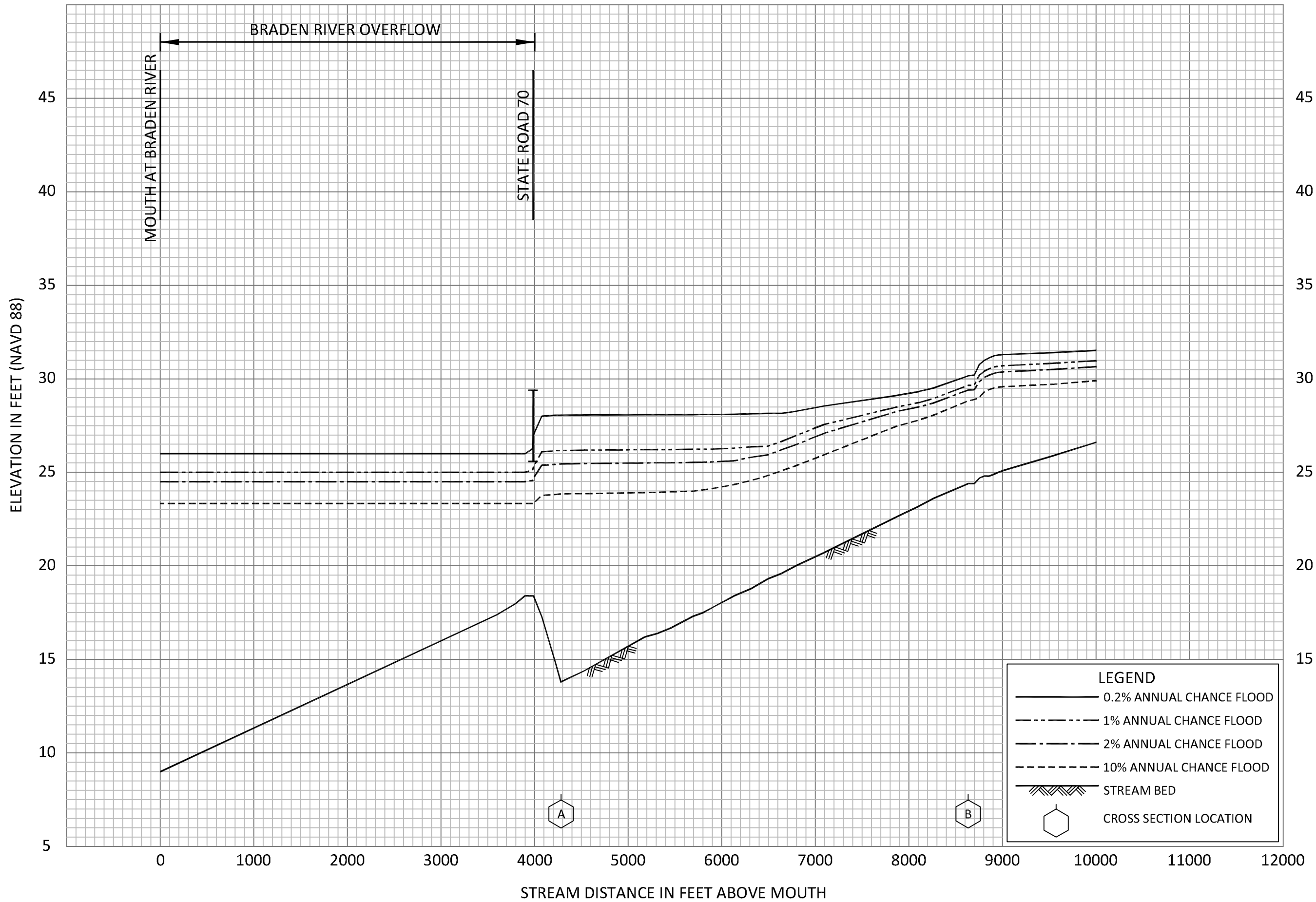
FLOODWAY DATA

FLOODING SOURCE: WOLF SLOUGH



FLOOD PROFILES
MILL CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY
MANATEE COUNTY, FL
AND INCORPORATED AREAS



FLOOD PROFILES

WOLF SLOUGH

FEDERAL EMERGENCY MANAGEMENT AGENCY
 MANATEE COUNTY, FL
 AND INCORPORATED AREAS

Appendix D – Corpscon6 Datum Conversion

26 August 2021

INPUT

State Plane, NAD83
0902 - Florida West, U.S. Feet
Vertical - NGVD29 (Vertcon94), U.S. Feet

OUTPUT

State Plane, NAD83
0902 - Florida West, U.S. Feet
Vertical - NAVD88, U.S. Feet

Lorraine-UMRR

1/1

Northing/Y: 1129570	Northing/Y: 1129570.000
Easting/X: 527970	Easting/X: 527970.000
Elevation/Z: 10	Elevation/Z: 9.052
Convergence: -0 10 55.72545	Convergence: -0 10 55.72545
Scale Factor: 0.999960016	Scale Factor: 0.999960016
Combined Factor: 0.999963385	Combined Factor: 0.999963430

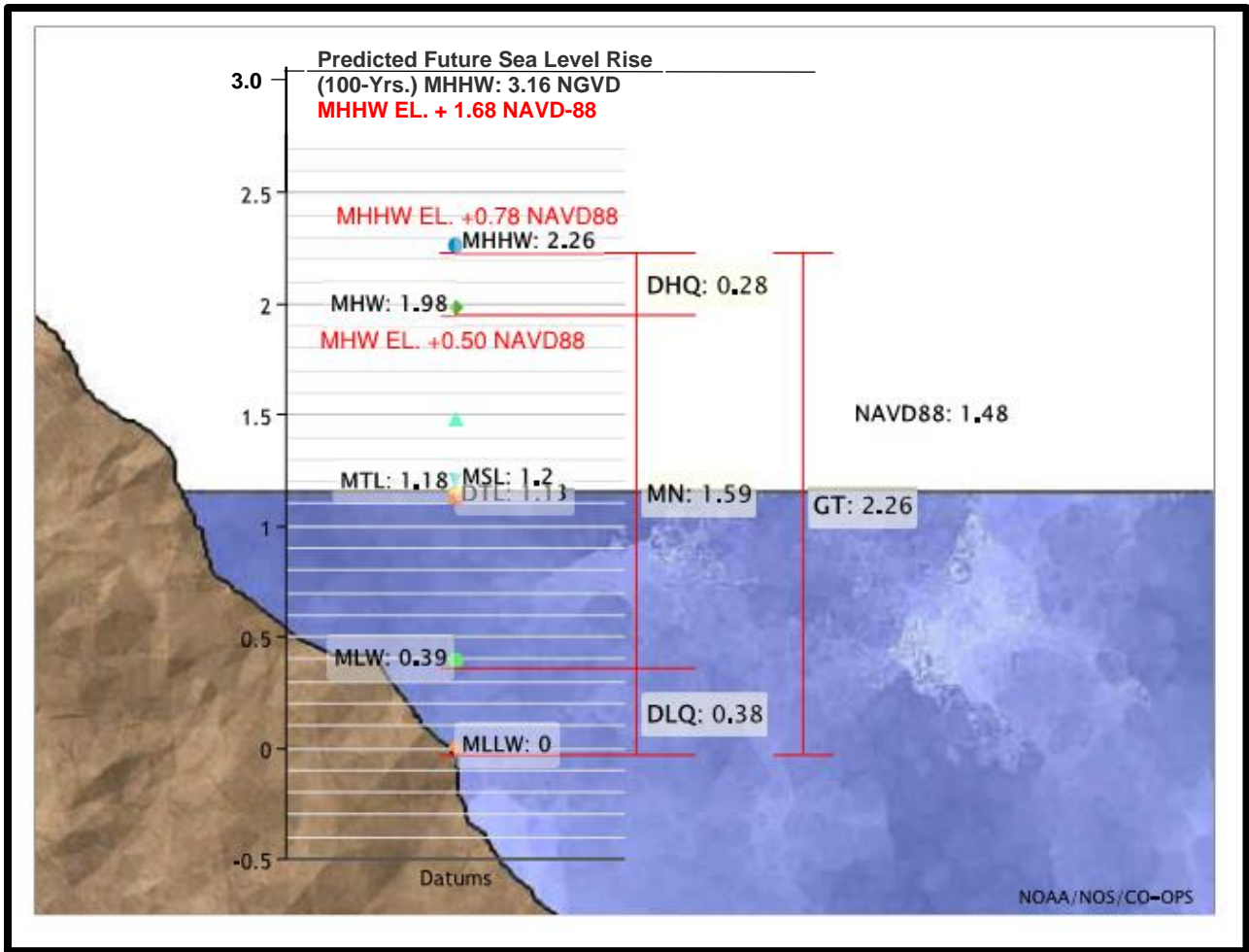
Grid Shift (U.S. ft.): X/Easting = 0.0, Y/Northing = 0.0

Remark:

Appendix E – Sea Level Rise Tidal Datum

Datums for 8726520, St. Petersburg, Tampa Bay, FL

All Figures in feet relative to MLLW



Appendix G – Utilities Memo

Utilities

Technical Memorandum

Lorraine Road

Project Development and Corridor Study Report

September 2021



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1.0 Introduction3
1.1 Project Description3

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Figure 1-2: Utilities Map5

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Appendix B – Detailed Location Map6

1.0 Introduction

Manatee County conducted a Project Development and Corridor Study (Study) to develop alternatives along Lorraine Road for reducing congestion, improving safety and operational performance, and addressing future transportation needs. This Utilities Technical Memorandum documents the County-owned utility information within the Study area.

1.1 Project Description

Manatee County conducted a Project Development and Corridor Study (Study) to develop alternatives along Lorraine Road for reducing congestion, improving safety and operational performance, and addressing future transportation needs. The project limits extend from 59th Avenue East to State Road (SR) 64, providing additional capacity between SR 70 and SR 64 in Bradenton, Manatee County, Florida, as shown in **Figure 1-1**. An overview of the County owned utilities overlaid with the proposed 500-foot roadway buffer zone is presented below in **Figure 1-2**.



Figure 1-2: Utilities Map

Appendices

Appendix A – Utility Information Table

Sewer/Sanitary
Potable
Reclaimed

Utility ID # - Corresponds to Lorraine Utility Identification Sheets	Lorraine Road Utilities										
Utility ID (Detail Map)	Description	Owner	GIS Length (ft)	Asset_ID	Install Date	Diameter (inches)	Material	Location: Parallel / Crossing	Record Drawing Name	Record Drawing Location (OnBase)	OBJECT ID
Utility ID 9	Private Force Main, Sewer	Private	405	SPM008927	8/5/2019	4	PVC	Private 4-inch force main running parallel to Lorraine Road on east side south of 59th Ave and turns east on south side of 59th Ave E.	59TH AVENUE EAST AND LORRAINE ROAD (SEWER) - 59TH AVENUE EAST AND LORRAINE ROAD (SEWER) (07016) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=20752224&pageid=007	8939
Utility ID 10	Private Force Main, Sewer	Private	390	SPM008921	8/5/2019	8	PVC	Private 8-inch force main running parallel to Lorraine Road on east side south of 59th Ave and turns east on south side of 59th Ave E.	59TH AVENUE EAST AND LORRAINE ROAD (SEWER) - 59TH AVENUE EAST AND LORRAINE ROAD (SEWER) (07016) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=20752224&pageid=007	8942
Utility ID 47	County Force Main, Sewer	Manatee County	6794	06794	5/14/2018	24	PVC	24-inch force main running west-east and perpendicular to Lorraine Road on the north side of the intersection with 44th Ave E.	44TH AVENUE EAST, PHASE IV - 44TH AVENUE EAST, PHASE IV (06794) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=16737558&pageid=009	6078
Utility ID 48	County Force Main, Sewer	Manatee County	6794	06794	5/14/2018	24	PVC		44TH AVENUE EAST, PHASE IV - 44TH AVENUE EAST, PHASE IV (06794) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=16737558&pageid=009	7107
Utility ID 49	County Force Main, Sewer	Manatee County	7131	07131	5/5/2019	24	PVC		44TH AVE E PHASE 5 LORRAINE RD - 44TH AVE E PHASE 5 LORRAINE RD (07131) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=21876262&pageid=004	8735
Utility ID 1	County Main Line, Water	Manatee County	381	WPM037489	7/1/1979	36	UNK	WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=017	4914
Utility ID 15	County Main Line, Water	Manatee County	1042	WPM075208	7/1/1979	36	PVC		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=017	4601
Utility ID 17	County Main Line, Water	Manatee County	167	WPM075208	7/1/1979	36	PVC		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=017	74637
Utility ID 19	County Main Line, Water	Manatee County	261	WPM038044	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=017	4560
Utility ID 20	County Main Line, Water	Manatee County	152	WPM035346	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=017	2723
Utility ID 22	County Main Line, Water	Manatee County	71	WPM035391	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=017	2876
Utility ID 23	County Main Line, Water	Manatee County	1929	WPM035482	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=018	3241
Utility ID 25	County Main Line, Water	Manatee County	437	WPM035484	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=018	3243
Utility ID 27	County Main Line, Water	Manatee County	411	WPM058349	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=018	3083
Utility ID 29	County Main Line, Water	Manatee County	527	WPM035424	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=019	3020
Utility ID 31	County Main Line, Water	Manatee County	637	WPM058064	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=019	3065
Utility ID 32	County Main Line, Water	Manatee County	360	WPM058430	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=019	2293



Utility ID # - Corresponds to Lorraine Utility Identification Sheets	Lorraine Road Utilities										
Utility ID (Detail Map)	Description	Owner	GIS Length (ft)	Asset_ID	Install Date	Diameter (inches)	Material	Location: Parallel / Crossing	Record Drawing Name	Record Drawing Location (OnBase)	OBJECT ID
Utility ID 34	County Main Line, Water	Manatee County	675	WPM058063	7/1/1979	36	UNK	County 36-inch PVC/Unk Water Main runs parallel to and on west side of Lorraine Road from south of 59th Ave E/59th Cir E to SR 64 intersection. The 36-inch Water Main alignment is between the right-of-way and the asphalt except where the roadway expands to three lanes north and south of Florida Rosemary Dr. The 36-inch Water Main ends at SR 64 where it turns east on the south side of the SR64 and Lorraine Road intersection upsizing to 42-inch.	WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=019	3064
Utility ID 36	County Main Line, Water	Manatee County	321	WPM037981	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=019	5494
Utility ID 38	County Main Line, Water	Manatee County	173	WPM058198	7/1/1979	36	PVC		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=020	69211
Utility ID 46	County Main Line, Water	Manatee County	1287	WPM070956	7/1/1979	36	PVC		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=020	2481
Utility ID 50	County Main Line, Water	Manatee County	487	WPM037717	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=020	5564
Utility ID 53	County Main Line, Water	Manatee County	425	WPM058474	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=020	2504
Utility ID 55	County Main Line, Water	Manatee County	537	WPM053050	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=020	37943
Utility ID 56	County Main Line, Water	Manatee County	296	WPM006541	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=020	16613
Utility ID 58	County Main Line, Water	Manatee County	304	WPM058473	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=020	2503
Utility ID 60	County Main Line, Water	Manatee County	678	WPM035403	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=021	2943
Utility ID 64	County Main Line, Water	Manatee County	10	WPM054633	1/1/1900	36	UNK		Null	No documents available	39803
Utility ID 67	County Main Line, Water	Manatee County	605	WPM058472	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=021	2502
Utility ID 67.1	County Main Line, Water	Manatee County	99	WPM058635	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=021	40661
Utility ID 69	County Main Line, Water	Manatee County	546	WPM013552	7/1/1979	36	PVC		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=021	24105
Utility ID 72	County Main Line, Water	Manatee County	516	WPM013552	7/1/1979	36	PVC		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=021	70079
Utility ID 74	County Main Line, Water	Manatee County	551	WPM058636	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=021	40662
Utility ID 76	County Main Line, Water	Manatee County	200	WPM059359	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=022	39303
Utility ID 78	County Main Line, Water	Manatee County	157	WPM000597	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pagelid=022	27168

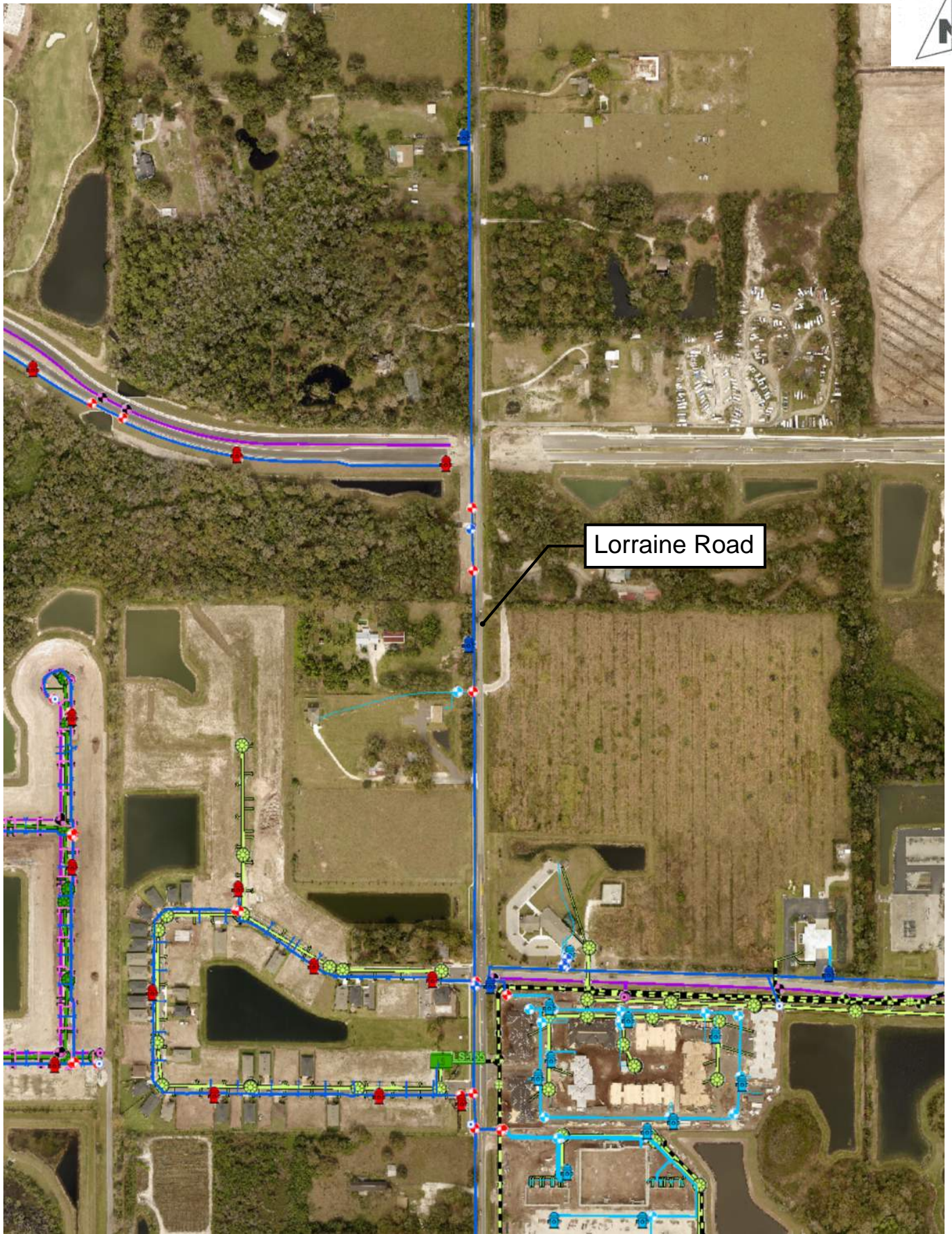
Utility ID # - Corresponds to Lorraine Utility Identification Sheets	Lorraine Road Utilities										
Utility ID (Detail Map)	Description	Owner	GIS Length (ft)	Asset_ID	Install Date	Diameter (inches)	Material	Location: Parallel / Crossing	Record Drawing Name	Record Drawing Location (OnBase)	OBJECT ID
Utility ID 79	County Main Line, Water	Manatee County	156	WPM000237	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=022	26793
Utility ID 81	County Main Line, Water	Manatee County	268	WPM000053	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=022	27216
Utility ID 82	County Main Line, Water	Manatee County	10	WPM010048	7/1/1979	36	UNK		WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS - WATER SYSTEM IMPROVEMENTS TRANSMISSION & DISTRIBUTION MAINS (02232) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10653711&pageid=022	59858
Utility ID 84	County Main Line, Water	Manatee County	10	WPM051516	3/4/2009	36	DIP		SR 64 (LAKEWOOD RANCH BLVD TO LORRAINE RD) - SR 64 (LAKEWOOD RANCH BLVD TO LORRAINE RD) (04946) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10652386&pageid=017	34714
Utility ID 87	County Main Line, Water	Manatee County	10	WPM051573	3/4/2009	42	DIP	42-inch DIP water main branches off of the 36-inch water main heading east across Lorraine road on the south side of the Lorraine Road and SR 64 intersection heading east along the south side of SR64.	SR 64 (LAKEWOOD RANCH BLVD TO LORRAINE RD) - SR 64 (LAKEWOOD RANCH BLVD TO LORRAINE RD) (04946) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10652386&pageid=017	34996
Utility ID 88	County Main Line, Water	Manatee County	815	WPM051518	3/4/2009	42	DIP		SR 64 (LAKEWOOD RANCH BLVD TO LORRAINE RD) - SR 64 (LAKEWOOD RANCH BLVD TO LORRAINE RD) (04946) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10652386&pageid=018	34716
Utility ID 62	County Lateral Line, Water	Manatee County	100	WLL114642	1/1/1900	0	UNK	UNK Diameter UNK Material water main traveling east underneath pavement of Lorraine Road.	Null	No documents available	186409
Utility ID 16	Private Lateral Line, Water	Private	56	WLL232525	12/23/2019	2	HDPE	2-inch HDPE Water Lateral heading west on private property.	MIKVAH TEMPLE OF CHABAD - MIKVAH TEMPLE OF CHABAD (07107) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=21042640&pageid=002	220167
Utility ID 4	County Lateral Line, Water	Manatee County	Null	WLL197313	3/9/2004	6	DIP	County 6-inch water main fire hydrant branch from 8-inch water main on southeast corner of Lorraine Road and 59th Ave E intersection.	No documents available	Null	Null
Utility ID 12	County Main Line, Water	Manatee County	15	WPM075021	2/14/2019	6	DIP	County 6-inch water main branch from 8-inch water main within Lorraine Road (south of 59th Ave E), heads north within Lorraine Road and then west on south side of 59th Cir E where it increases to 8-inch.	AUVANCE (FKA: WINDHAM AND/OR LAKEWOOD ESTATES) - AUVANCE (FKA: WINDHAM AND/OR LAKEWOOD ESTATES) (06980) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=20549809&pageid=006	71188
Utility ID 13	County Main Line, Water	Manatee County	23	WPM075022	2/14/2019	6	DIP		AUVANCE (FKA: WINDHAM AND/OR LAKEWOOD ESTATES) - AUVANCE (FKA: WINDHAM AND/OR LAKEWOOD ESTATES) (06980) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=20549809&pageid=006	71189
Utility ID 14	County Main Line, Water	Manatee County	140	WPM075023	2/14/2019	8	PVC		AUVANCE (FKA: WINDHAM AND/OR LAKEWOOD ESTATES) - AUVANCE (FKA: WINDHAM AND/OR LAKEWOOD ESTATES) (06980) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=20549809&pageid=006	71190
Utility ID 18	County Lateral Line, Water	Manatee County	10	WLL056448	1/1/1900	6	DIP	6-inch DIP Water Lateral headed west ending with hydrant.	Null	No documents available	100075
Utility ID 24	County Lateral Line, Water	Manatee County	10	WLL056446	1/1/1900	6	DIP	6-inch DIP Water Lateral headed west ending with hydrant.	Null	No documents available	100073
Utility ID 26	County Lateral Line, Water	Manatee County	10	WLL056446	1/1/1900	6	DIP	6-inch DIP Water Lateral headed west ending with hydrant.	Null	No documents available	100073
Utility ID 30	County Lateral Line, Water	Manatee County	10	WLL056443	1/1/1900	6	DIP	6-inch DIP Water Lateral headed west ending with hydrant.	Null	No documents available	100070
Utility ID 33	County Lateral Line, Water	Manatee County	10	WLL056442	1/1/1900	6	DIP	6-inch DIP Water Lateral headed west ending with hydrant.	Null	No documents available	100069
Utility ID 35	County Lateral Line, Water	Manatee County	52	WLL164839	1/1/1900	6	UNK	6-inch Diameter UNK Material pipeline bored perpendicularly underneath Lorraine Road and adjacent culvert pipe outlet	Null	No documents available	188196
Utility ID 37	County Lateral Line, Water	Manatee County	10	WLL056439	1/1/1900	6	DIP	6-inch DIP Water Lateral headed west ending with hydrant.	Null	No documents available	100002
Utility ID 2	County Main Line, Water	Manatee County	3	WPM055272	3/9/2004	8	PVC		PEACE RIVER CO-OP - PEACE RIVER CO-OP (03349) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10650792&pageid=003	627
Utility ID 3	County Main Line, Water	Manatee County	54	WPM071444	3/9/2004	8	PVC	County 8-inch water main branch from 36-inch water main, crossing Lorraine Road east, south of 59th Ave E, continues north across 59th Ave E on east side of Lorraine Road, and then east along north side of 59th Ave. E.	PEACE RIVER CO-OP - PEACE RIVER CO-OP (03349) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10650792&pageid=003	40314
Utility ID 5	County Main Line, Water	Manatee County	9	WPM018390	3/9/2004	8	PVC		PEACE RIVER CO-OP - PEACE RIVER CO-OP (03349) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10650792&pageid=003	67590
Utility ID 11	County Main Line, Water	Manatee County	1081	WPM055618	3/9/2004	8	PVC		PEACE RIVER CO-OP - PEACE RIVER CO-OP (03349) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=10650792&pageid=003	1014
Utility ID 51	County Lateral Line, Water	Manatee County	10	WLL127340	1/1/1900	6	DIP	6-inch DIP Water Lateral headed west ending with hydrant.	Null	No documents available	143204
Utility ID 54	County Lateral Line, Water	Manatee County	10	WLL148315	1/1/1900	6	DIP	6-inch DIP Water Lateral headed west	Null	No documents available	36906

Utility ID # - Corresponds to Lorraine Utility Identification Sheets	Lorraine Road Utilities										
Utility ID (Detail Map)	Description	Owner	GIS Length (ft)	Asset_ID	Install Date	Diameter (inches)	Material	Location: Parallel / Crossing	Record Drawing Name	Record Drawing Location (OnBase)	OBJECT ID
Utility ID 40	County Main Line, Water	Manatee County	25	WPM073550	5/14/2018	16	DIP	16-inch DIP water main running along the south side of 44th Ave E crosses perpendicular to Lorraine heading west-east at the 44th Ave E intersection.	44TH AVENUE EAST, PHASE IV - 44TH AVENUE EAST, PHASE IV (06794) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=16737558&pageId=009	69214
Utility ID 41	County Main Line, Water	Manatee County	75	WPM073548	5/14/2018	16	DIP		44TH AVENUE EAST, PHASE IV - 44TH AVENUE EAST, PHASE IV (06794) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=16737558&pageId=009	69212
Utility ID 42	County Main Line, Water	Manatee County	9	WPM073576	5/14/2018	16	DIP		44TH AVENUE EAST, PHASE IV - 44TH AVENUE EAST, PHASE IV (06794) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=16737558&pageId=009	69327
Utility ID 43	County Main Line, Water	Manatee County	93	WPM073577	5/14/2018	16	DIP		44TH AVENUE EAST, PHASE IV - 44TH AVENUE EAST, PHASE IV (06794) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx?clienttype=html&docid=16737558&pageId=009	69328
Utility ID 100	Main Lines, Irrigation	Utilities	68	RPM000209	8/15/1989	24	DIP	24-inch DIP privately owned Reclaimed irrigation pipeline running North-South along the East side of Lorraine Road from 44th Ave north approximately 3,400 feet where it then heads east.	NA	NA	203
Utility ID 101	Main Lines, Irrigation	Utilities	1886	RPM000186	8/15/1989	24	DIP		NA	NA	185
Utility ID 103	Main Lines, Irrigation	Utilities	622	RPM000210	8/15/1989	24	DIP		NA	NA	204
Utility ID 104	Main Lines, Irrigation	Utilities	10	RPM000198	8/15/1989	24	DIP		NA	NA	197
Utility ID 105	Main Lines, Irrigation	Utilities	954	RPM000202	8/15/1989	24	DIP		NA	NA	201
Utility ID 109	Main Lines, Irrigation	Utilities	21	RPM000200	8/15/1989	24	DIP		NA	NA	199
Utility ID 102	Main Lines, Irrigation	Braden River Utilities	891	RPM000179	8/15/1989	24	DIP	24-inch DIP privately owned Reclaimed irrigation pipeline the branches off the 24-inch DIP Reclaimed that runs North-South along the east side of Lorraine Road heading east to west perpendicular to Lorraine Road (approximately 1,500 feet north of 44th Ave).	NA	NA	178
Utility ID 106	Main Lines, Irrigation	Braden River Utilities	173	RPM014140	5/14/2018	16	PVC	16-inch PVC privately owned Reclaimed irrigation pipeline crossing Lorraine Road perpendicular east-west.	NA	NA	13516
Utility ID 107	Main Lines, Irrigation	Braden River Utilities	168	RPM014118	5/14/2018	10	PVC	10-inch PVC privately owned Reclaimed irrigation pipeline crossing Lorraine Road perpendicular east-west at 44th Ave E.	NA	NA	13494
Utility ID 108	Main Lines, Irrigation	Braden River Utilities	9	RPM000201	8/15/1989	12	DIP	12-inch DIP privately owned Reclaimed stubout branching east off the 24-inch DI running on the east side of Lorraine, stubout is south of 44th Ave E intersection.	NA	NA	200
	ATMS- Traffic	Manatee County	225	--	3/22/2018	UNK	UNK	ATMS line that crosses north to south on the west side of the SR 64 and Lorraine Road intersection and then crosses east across Lorraine Road on the south side of the intersection.	SR 64 @ LORRAINE ROAD - SR 64 @ LORRAINE ROAD (06670) - UTD - REC - Record Drawing	https://www.mymanatee.org/onbasegisutil/docpop/docpop.aspx	1777, 1779
	IT - BFO	Manatee County	14500	--	3/22/2018	UNK	UNK	IT BFO conduit on the west side of the roadway throughout extent of the Lorraine Road corridor (SR 64 to 59th Ave East).	Not Available	Not Available	Not Available
	Buried and Over Fiber Optic Cable	Charter-Spectrum	UNK	NA	UNK	UNK	UNK	Spectrum has aerial facilities running the length of Lorraine Road. These utilities are on PRECO power poles running North-South, parallel to Lorraine Road on the east side.	NA	NA	NA
	BFO	AT&T	UNK	NA	UNK	(1)-2	HDPE	AT&T has (1)-2-inch HDPE Conduit containing BFO cable running North-South, parallel to Lorraine Road on the east side of pavement.	NA	NA	NA
	BFO	Hotwire	UNK	NA	UNK	UNK	UNK	UNK	NA	NA	NA
	BFO	Frontier	UNK	NA	UNK	UNK	UNK	UNK	NA	NA	NA
	BFO	MCI	UNK	NA	UNK	UNK	UNK	MCI crosses east to west on the south side of 59th Ave E and Lorraine Road intersection and then runs south along the west side of Lorraine Road.	NA	NA	NA
	Natural Gas	TECO	UNK	NA	UNK	UNK	UNK	UNK	NA	NA	NA
	Power	PRECO	NA	NA	NA	NA	NA	Power poles run along the east side of Lorraine Road through extent of corridor.	NA	NA	NA

Appendix B – Detailed Location Map

Lorraine Road Utility Location Map

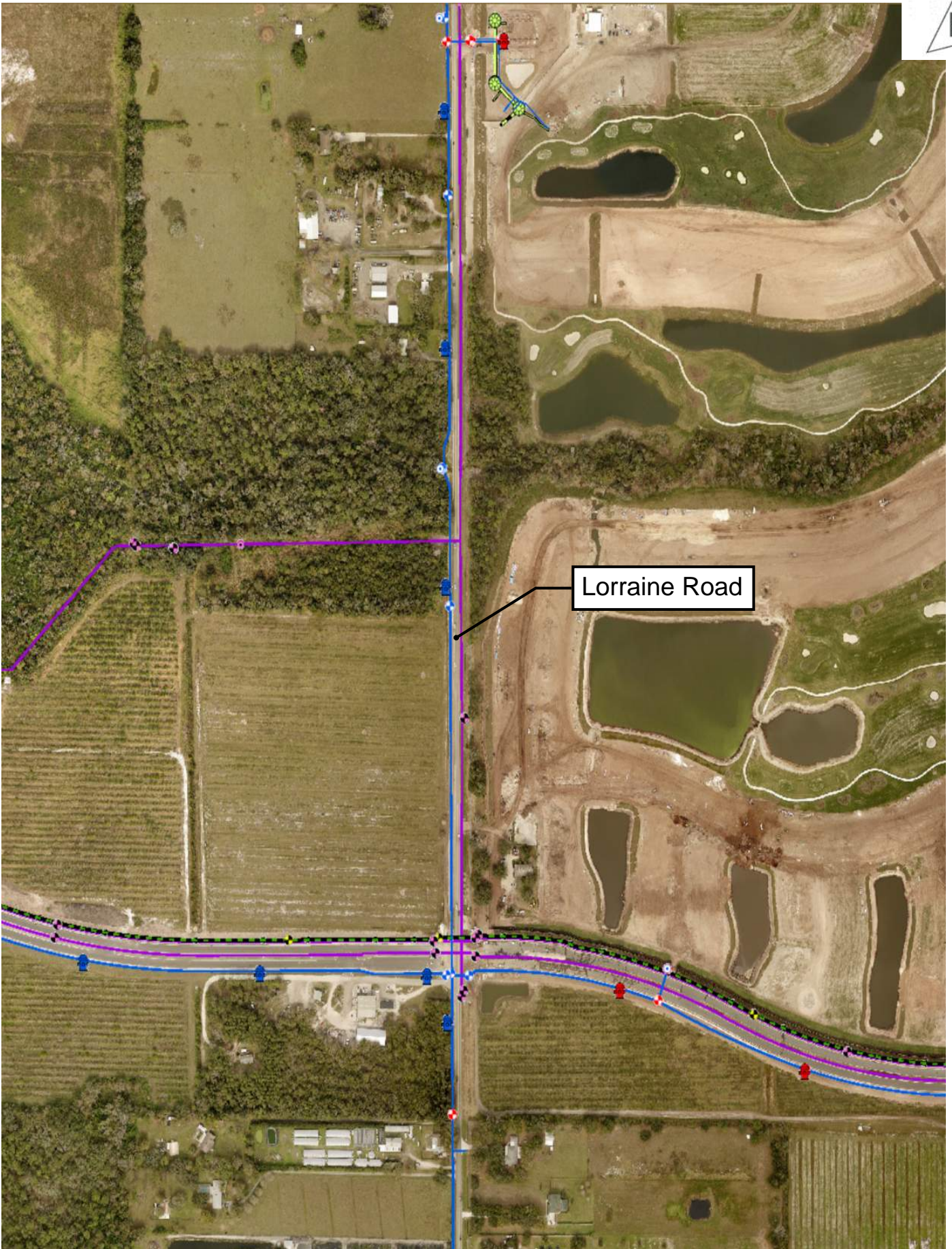




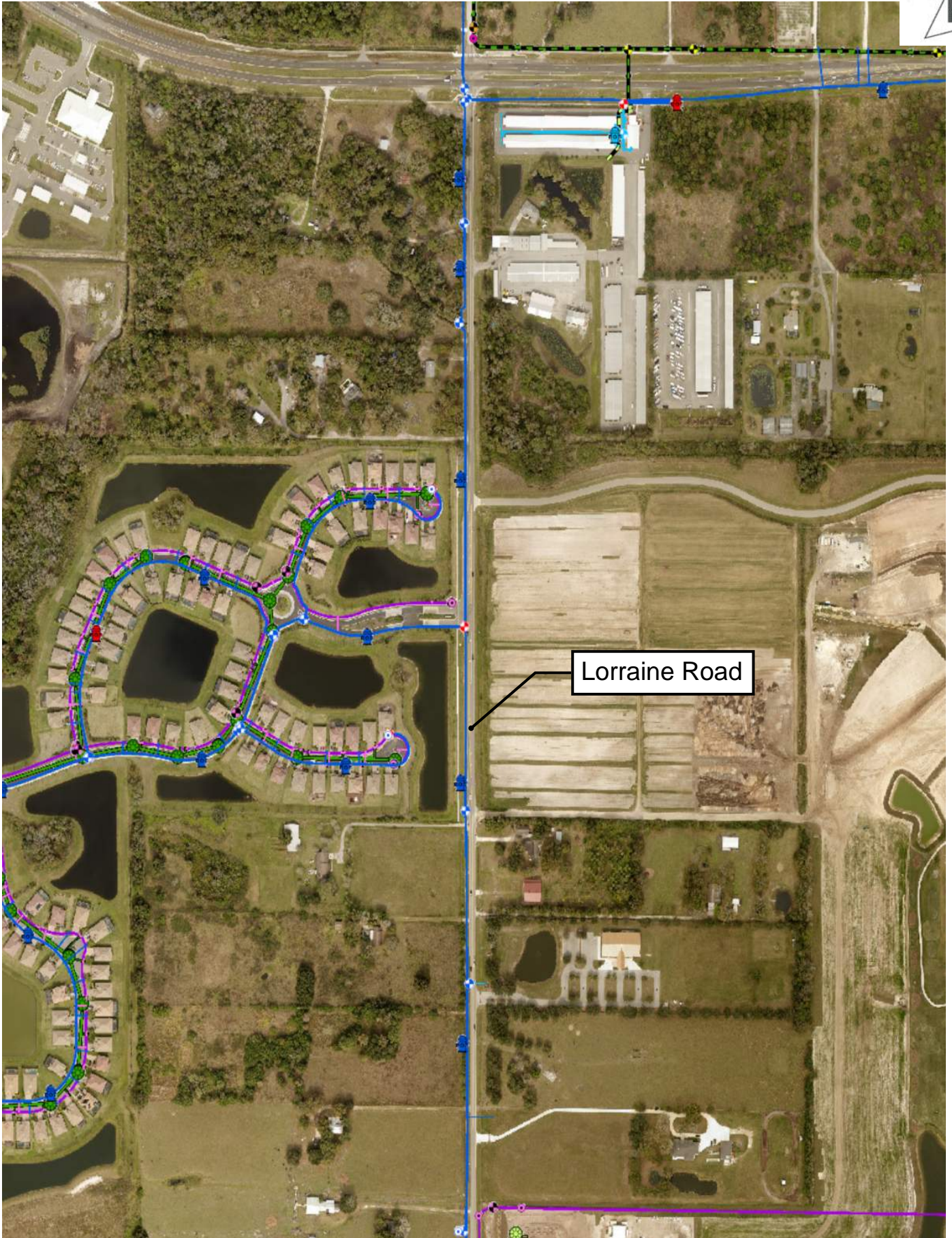
Lorraine Road



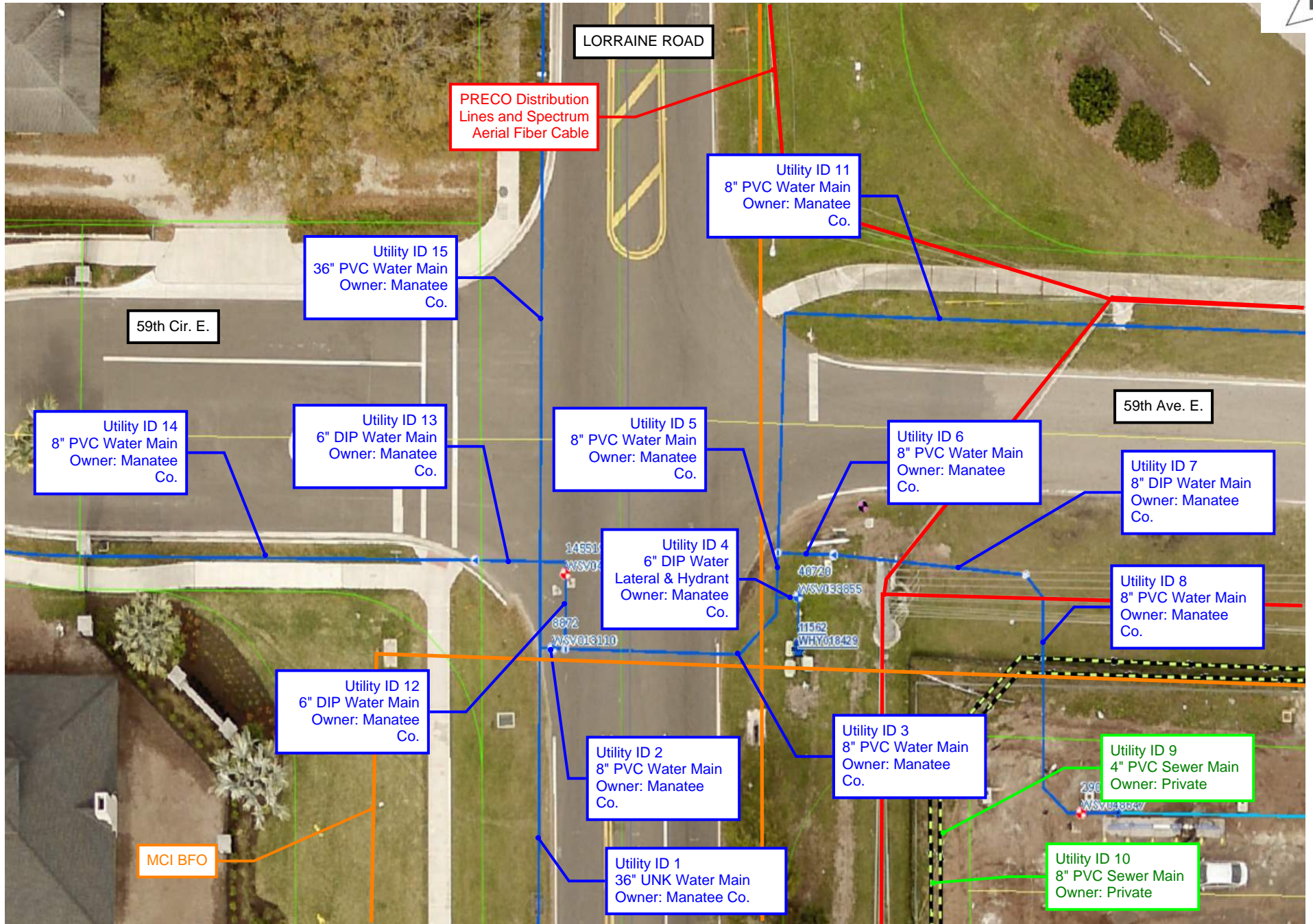
Lorraine Road

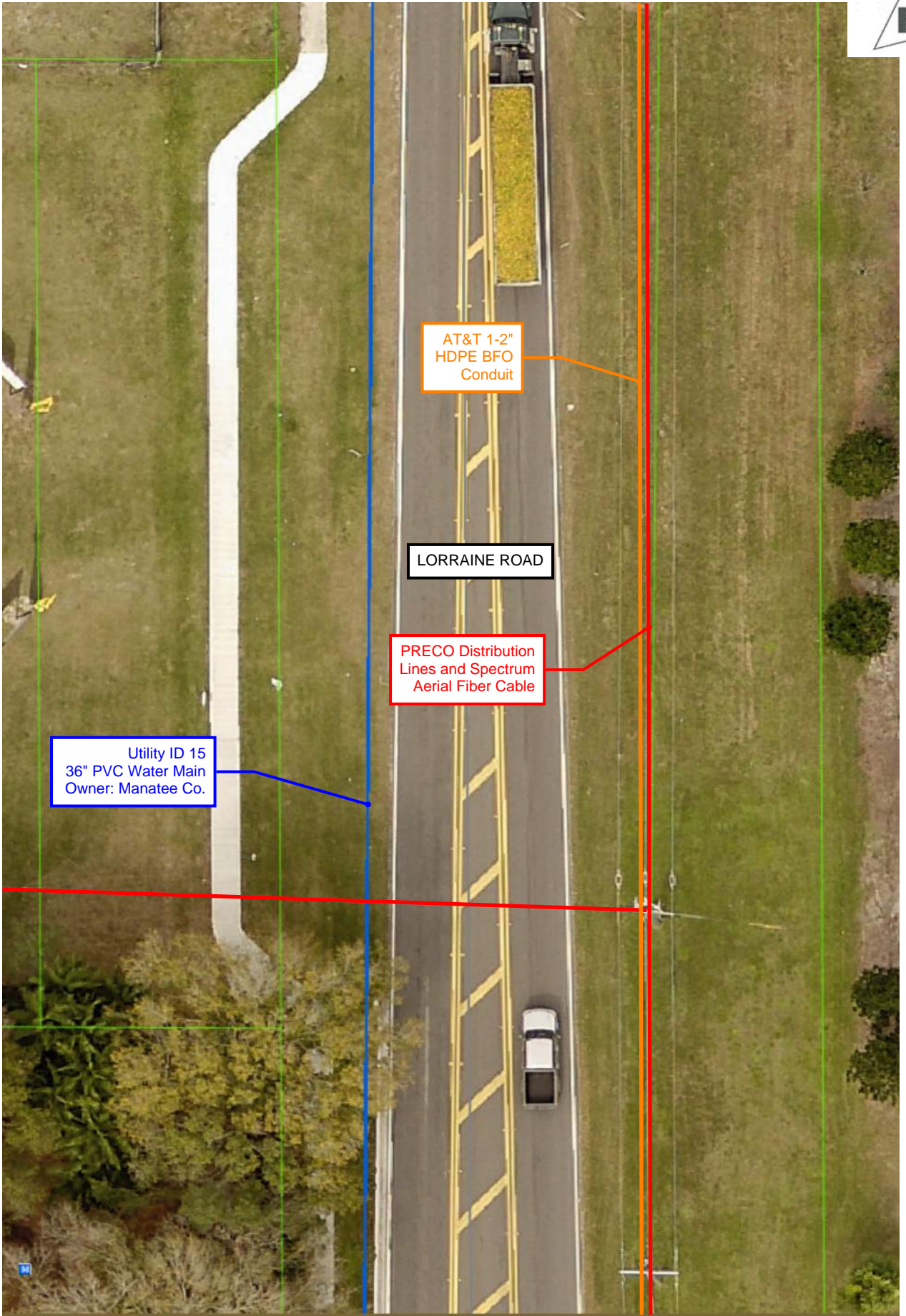


Lorraine Road



Lorraine Road



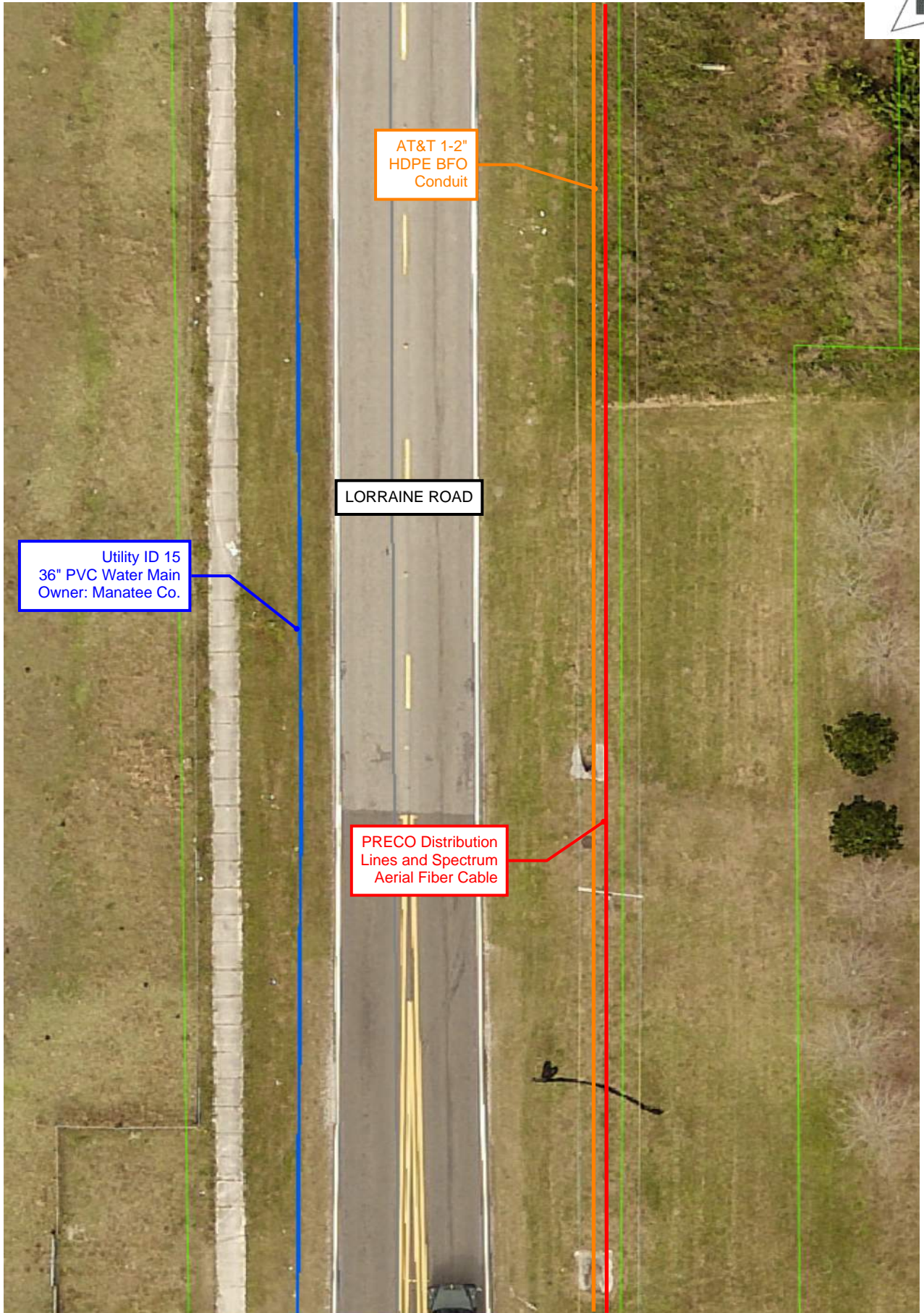


Utility ID 15
36" PVC Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

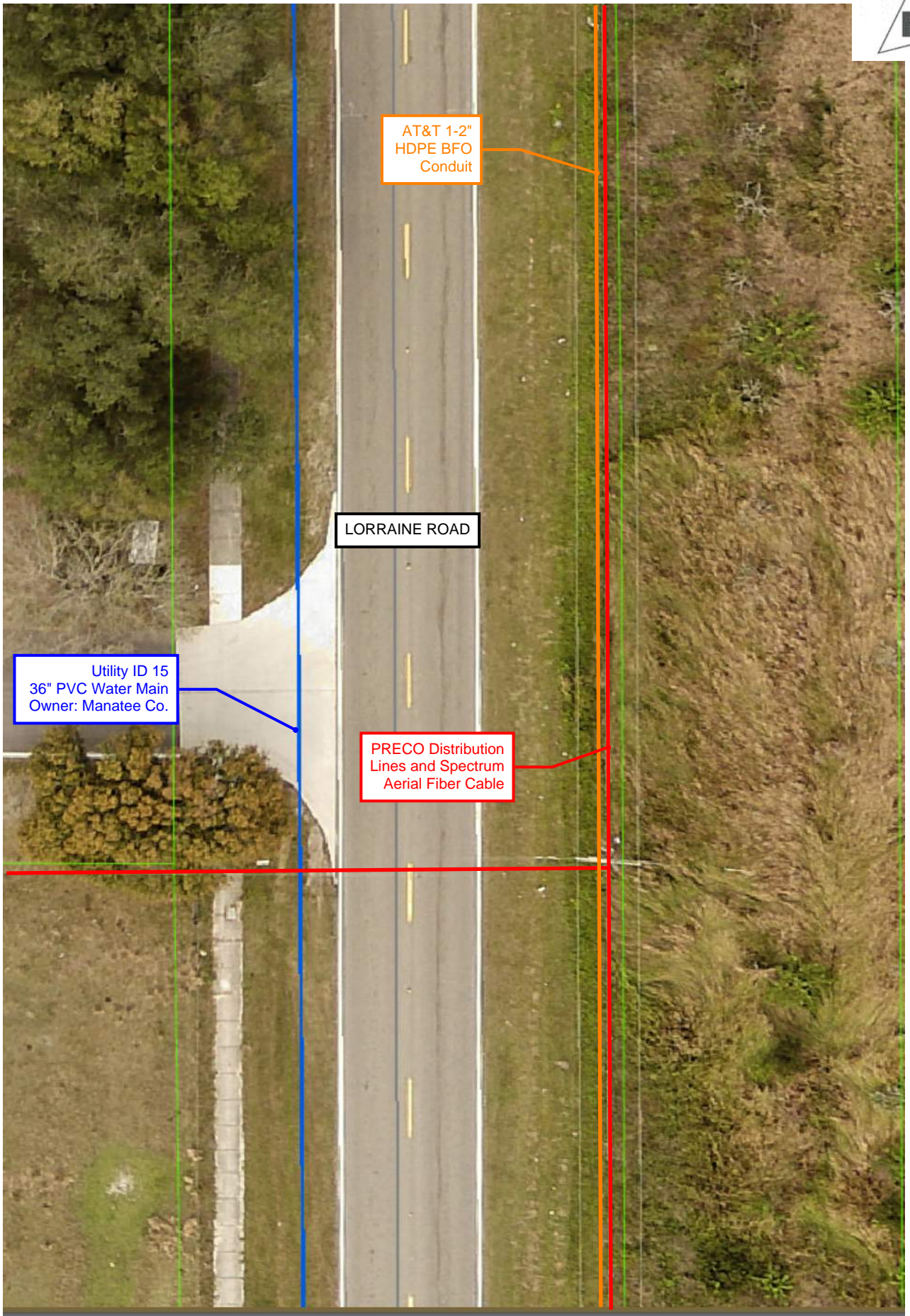


AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

Utility ID 15
36" PVC Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

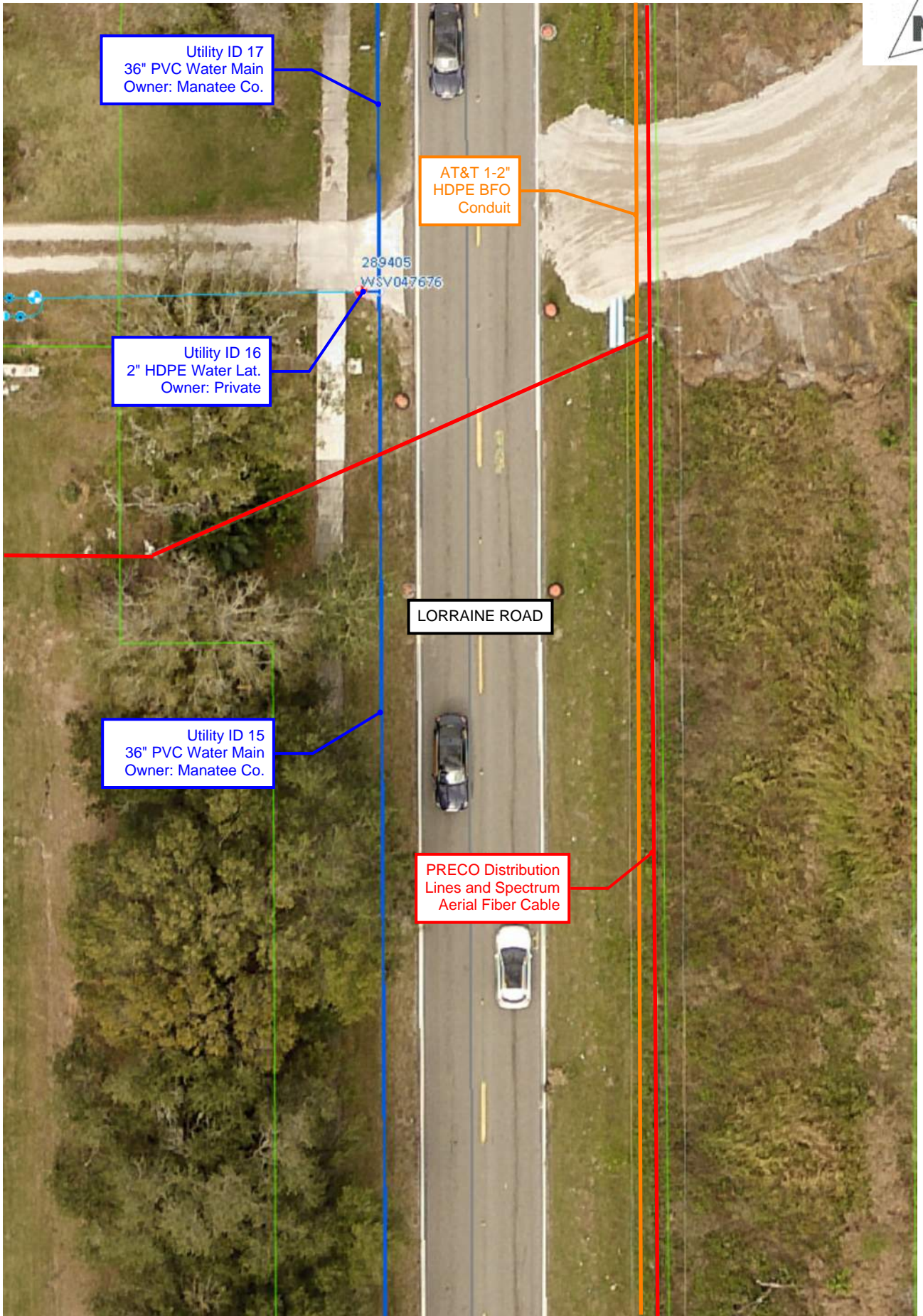


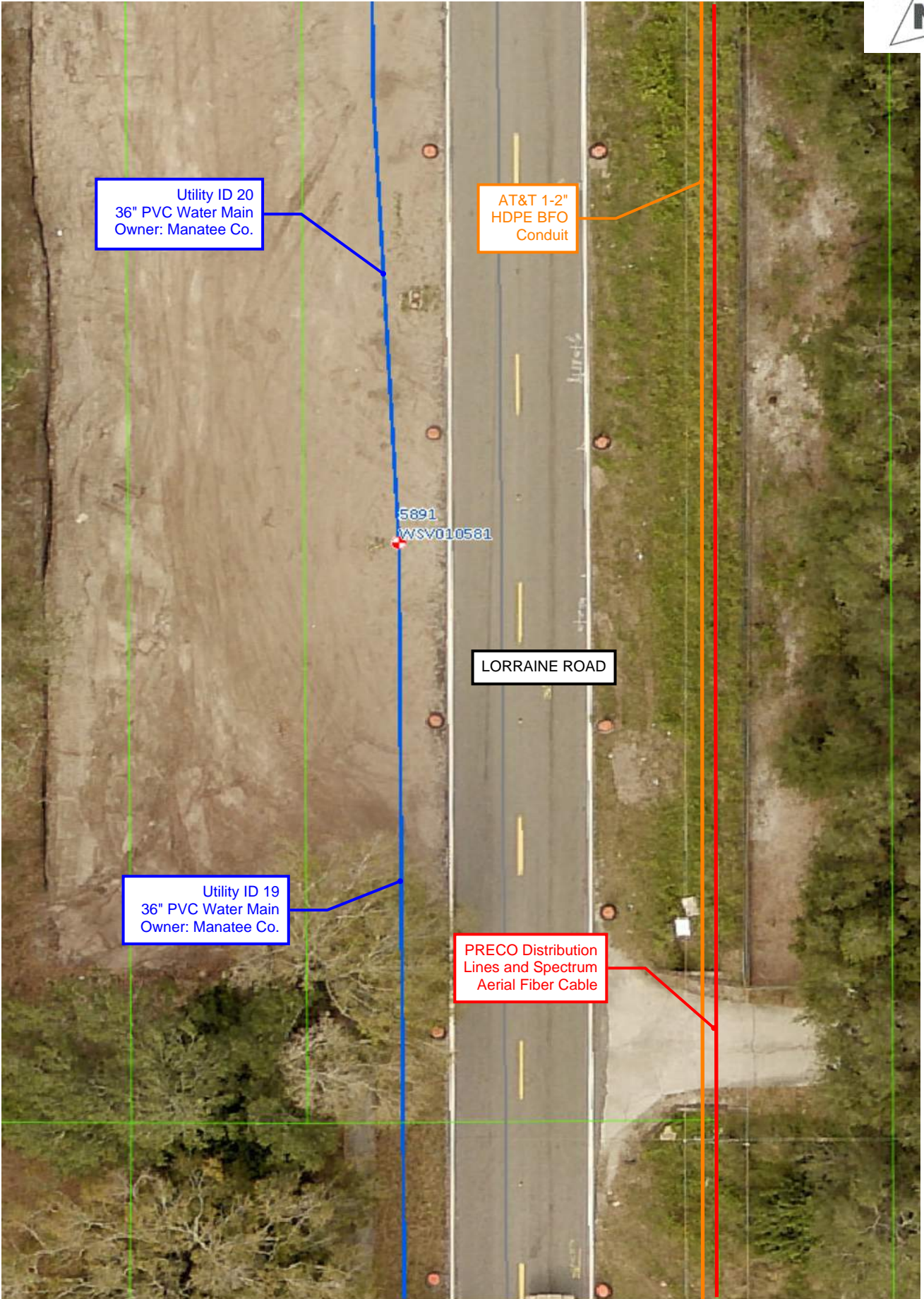
AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

Utility ID 15
36" PVC Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable





Utility ID 20
36" PVC Water Main
Owner: Manatee Co.

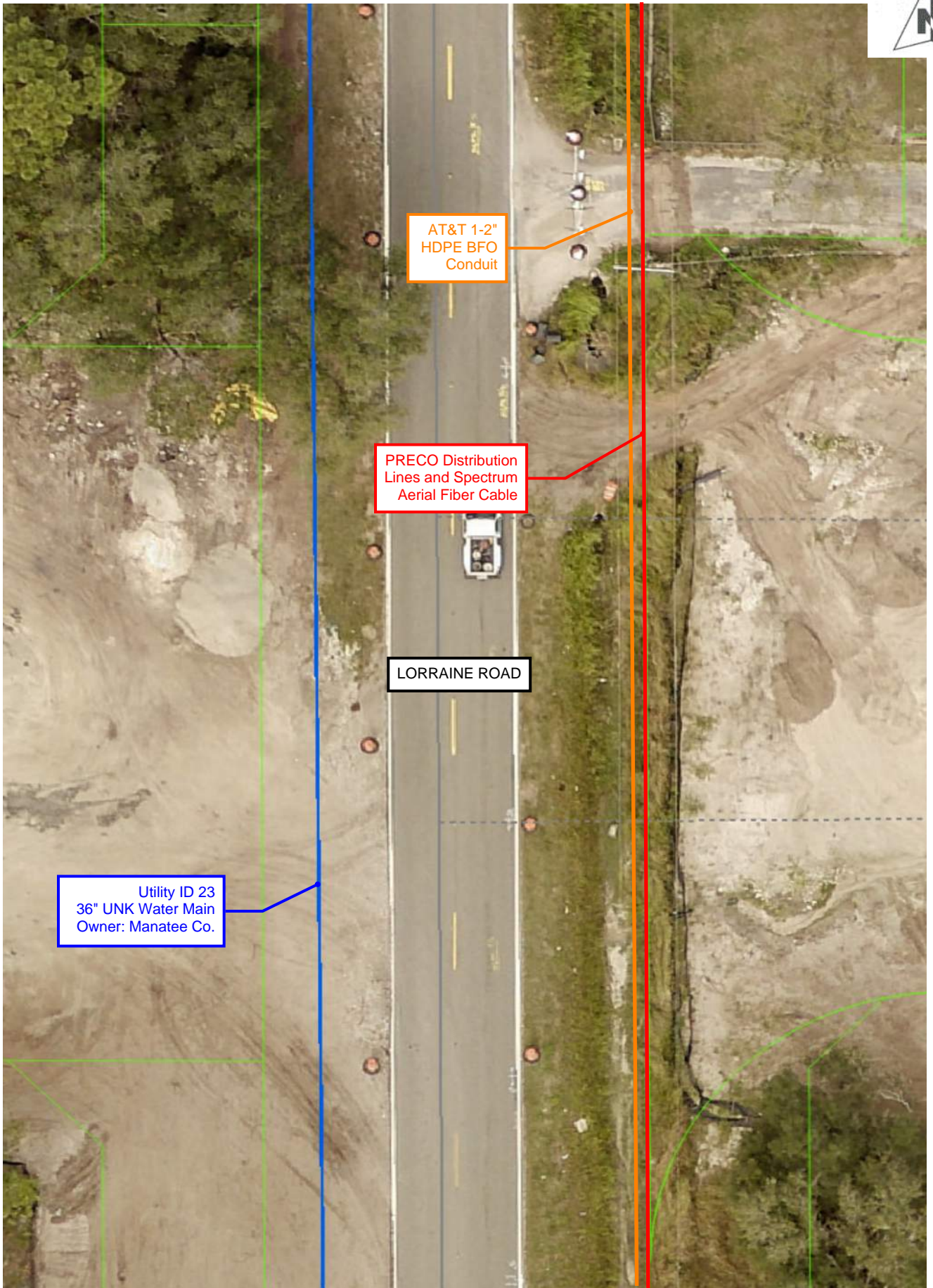
AT&T 1-2"
HDPE BFO
Conduit

5891
WSV010581

LORRAINE ROAD

Utility ID 19
36" PVC Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

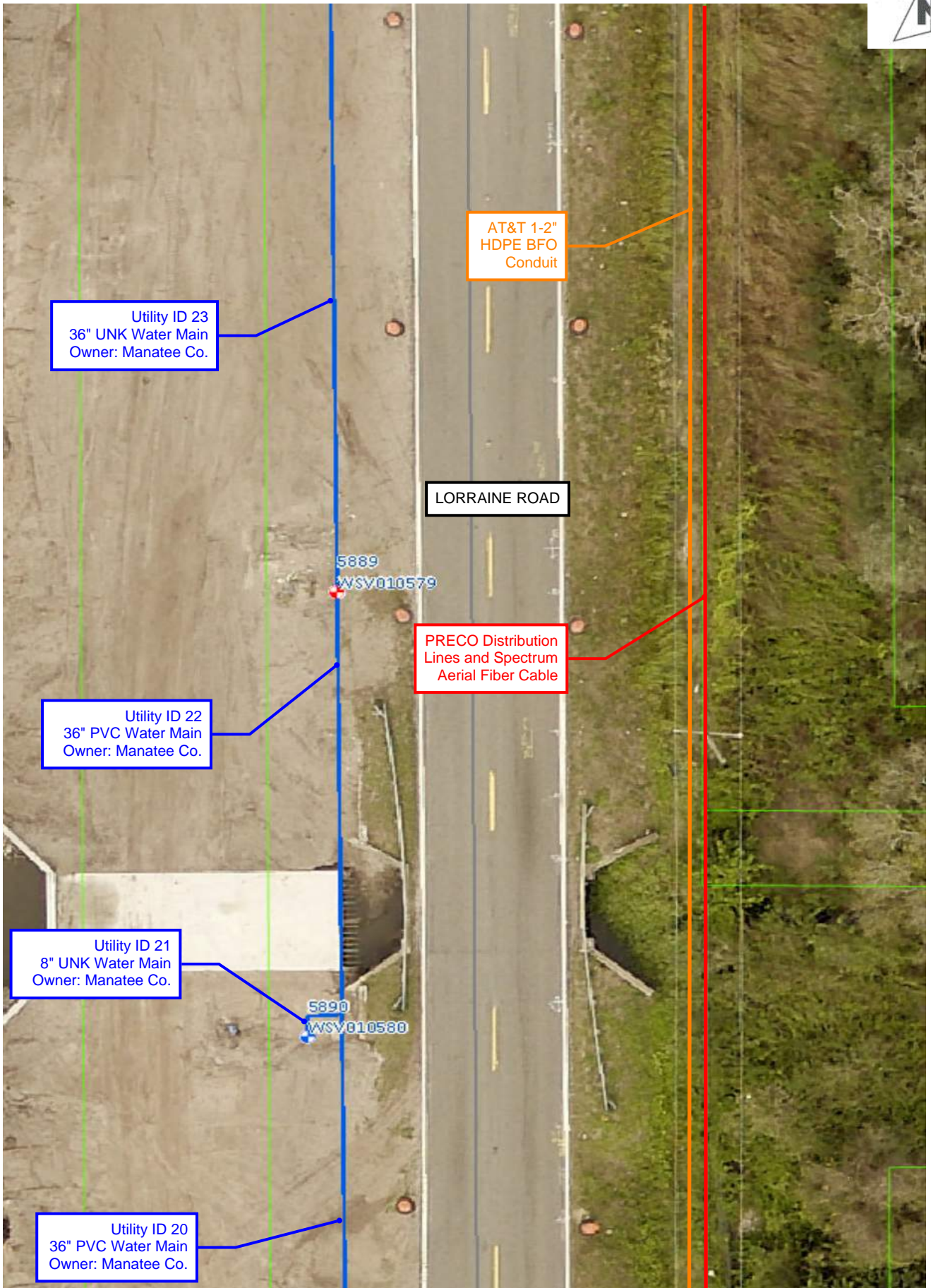


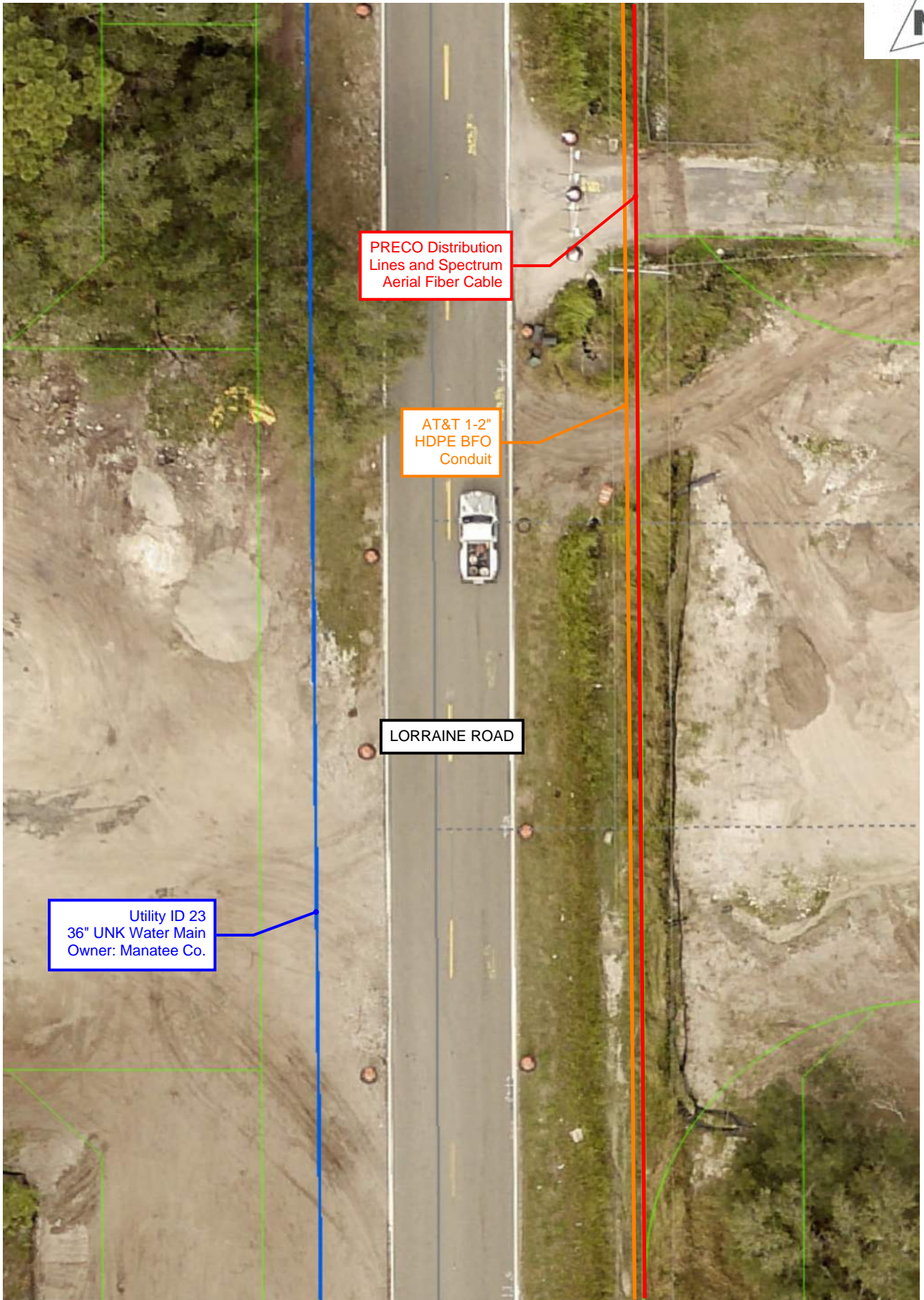
AT&T 1-2"
HDPE BFO
Conduit

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

LORRAINE ROAD

Utility ID 23
36" UNK Water Main
Owner: Manatee Co.



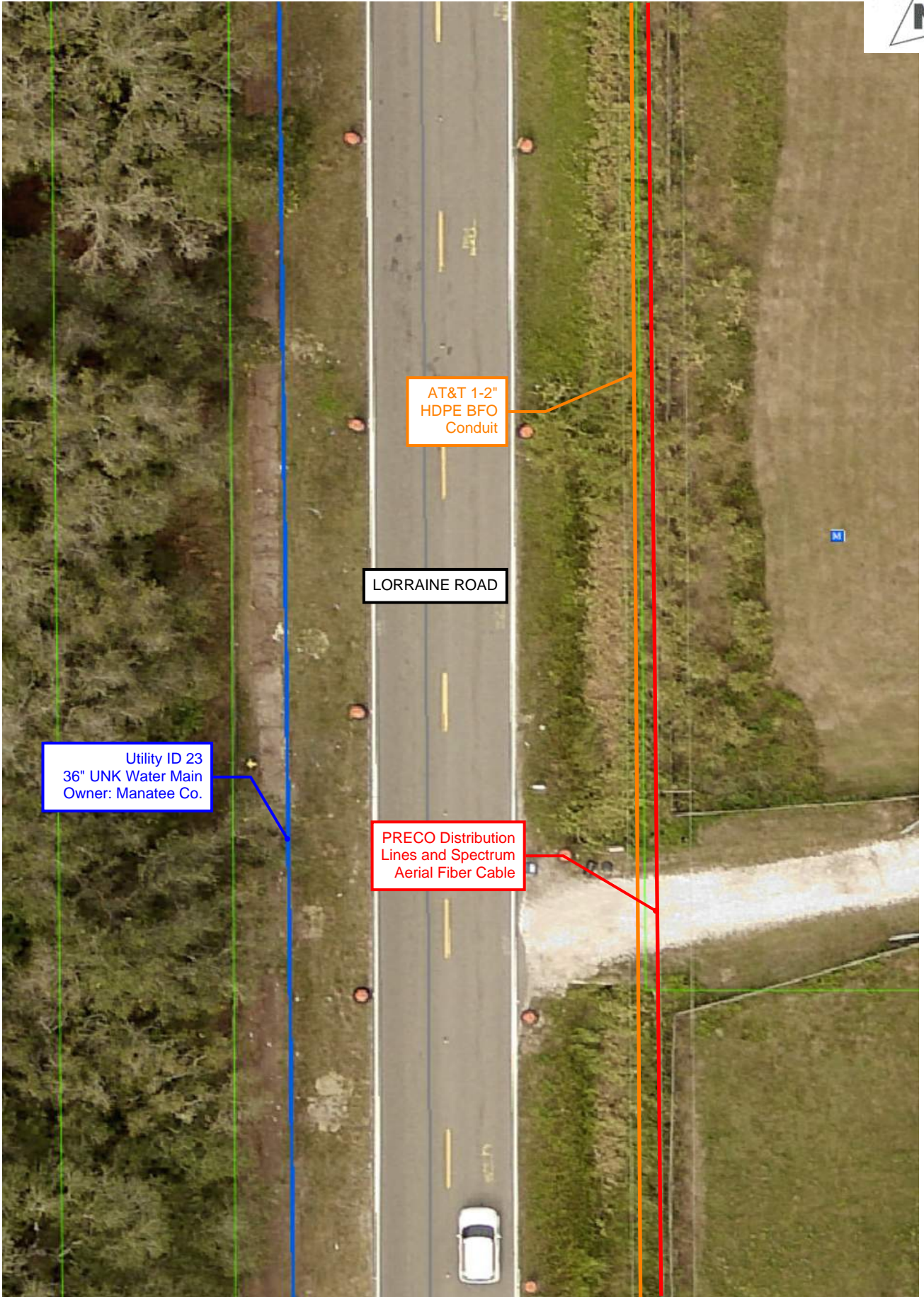


PRECO Distribution Lines and Spectrum Aerial Fiber Cable

AT&T 1-2" HDPE BFO Conduit

LORRAINE ROAD

Utility ID 23
36" UNK Water Main
Owner: Manatee Co.

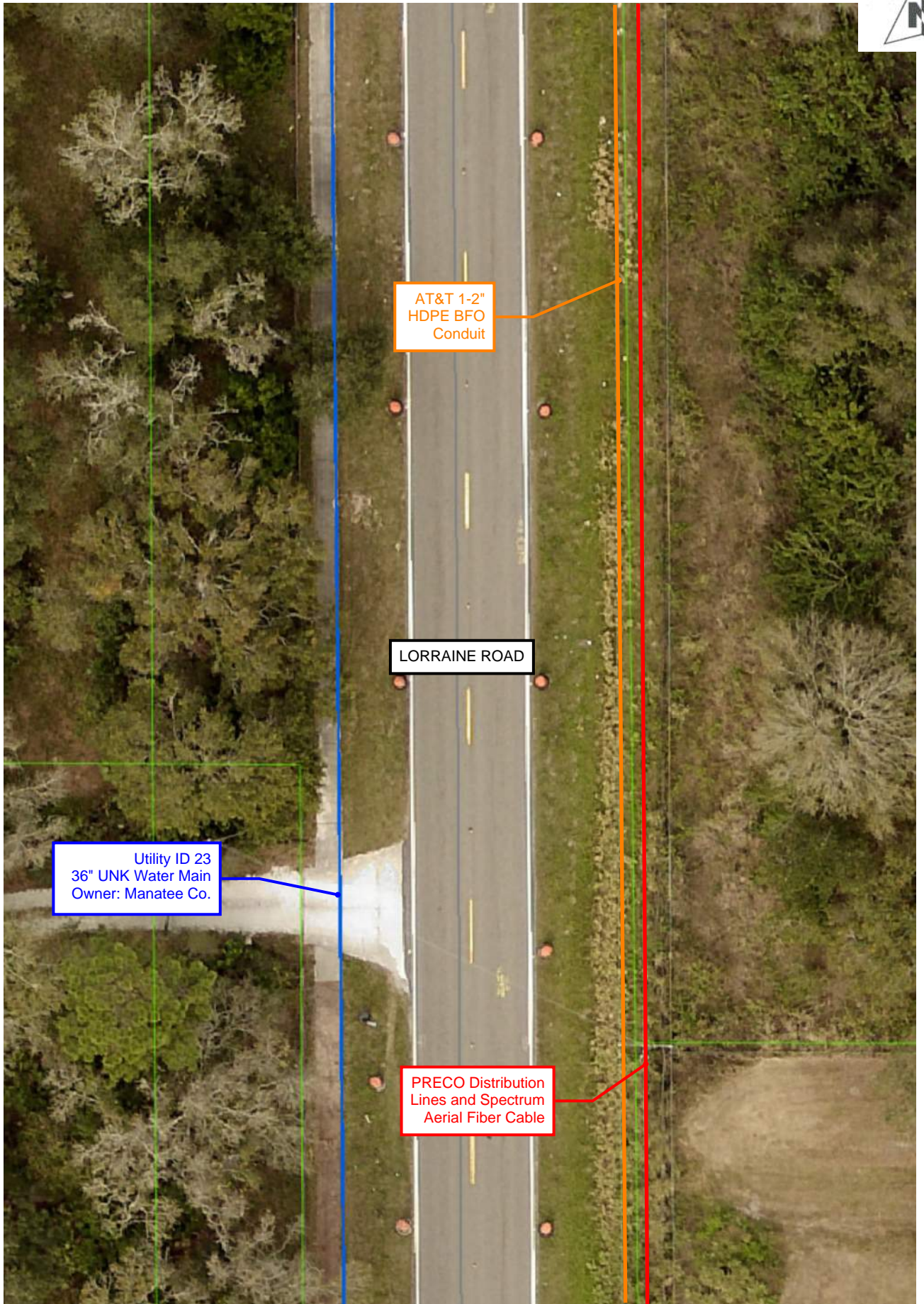


AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

Utility ID 23
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

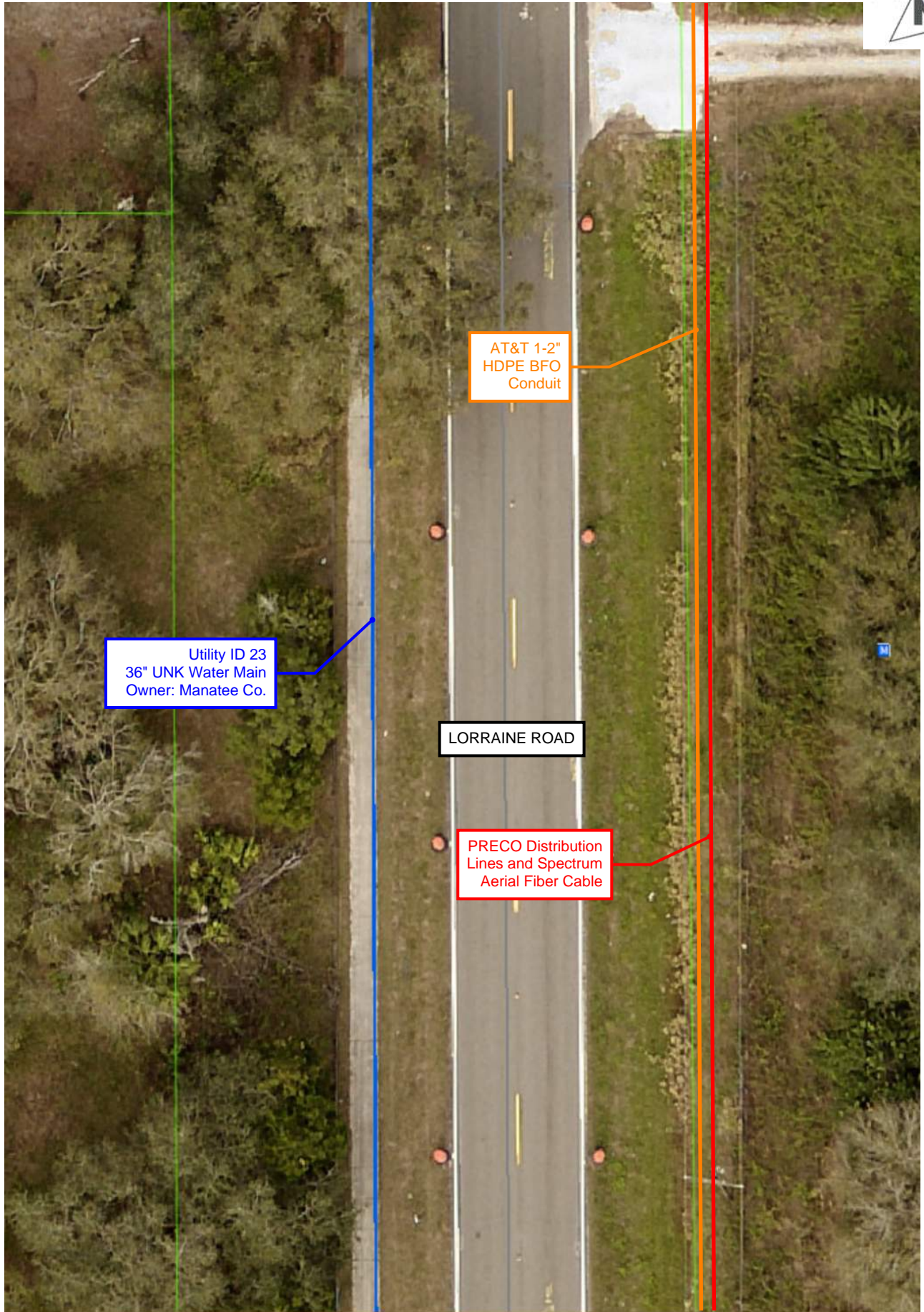


AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

Utility ID 23
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

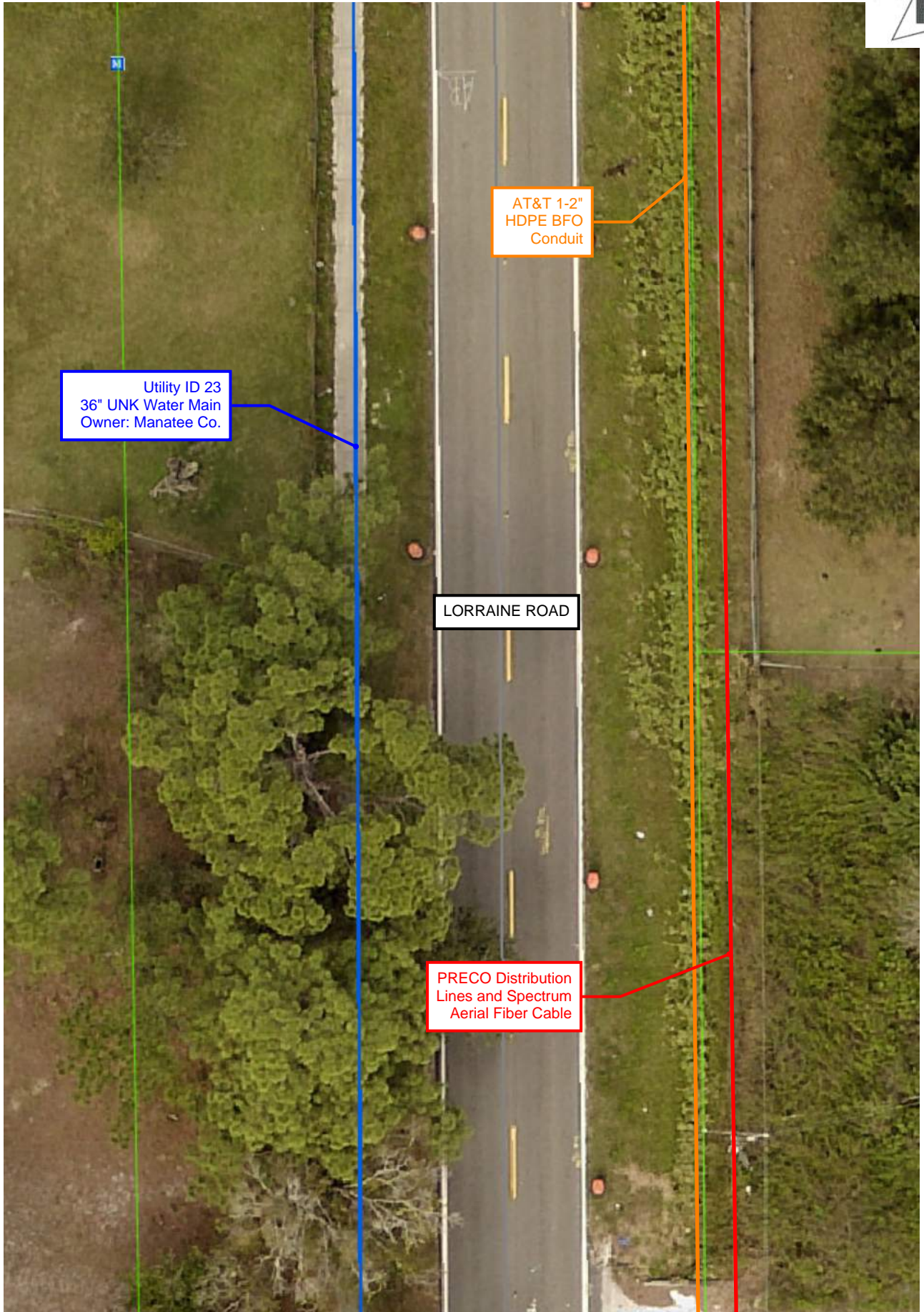


Utility ID 23
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

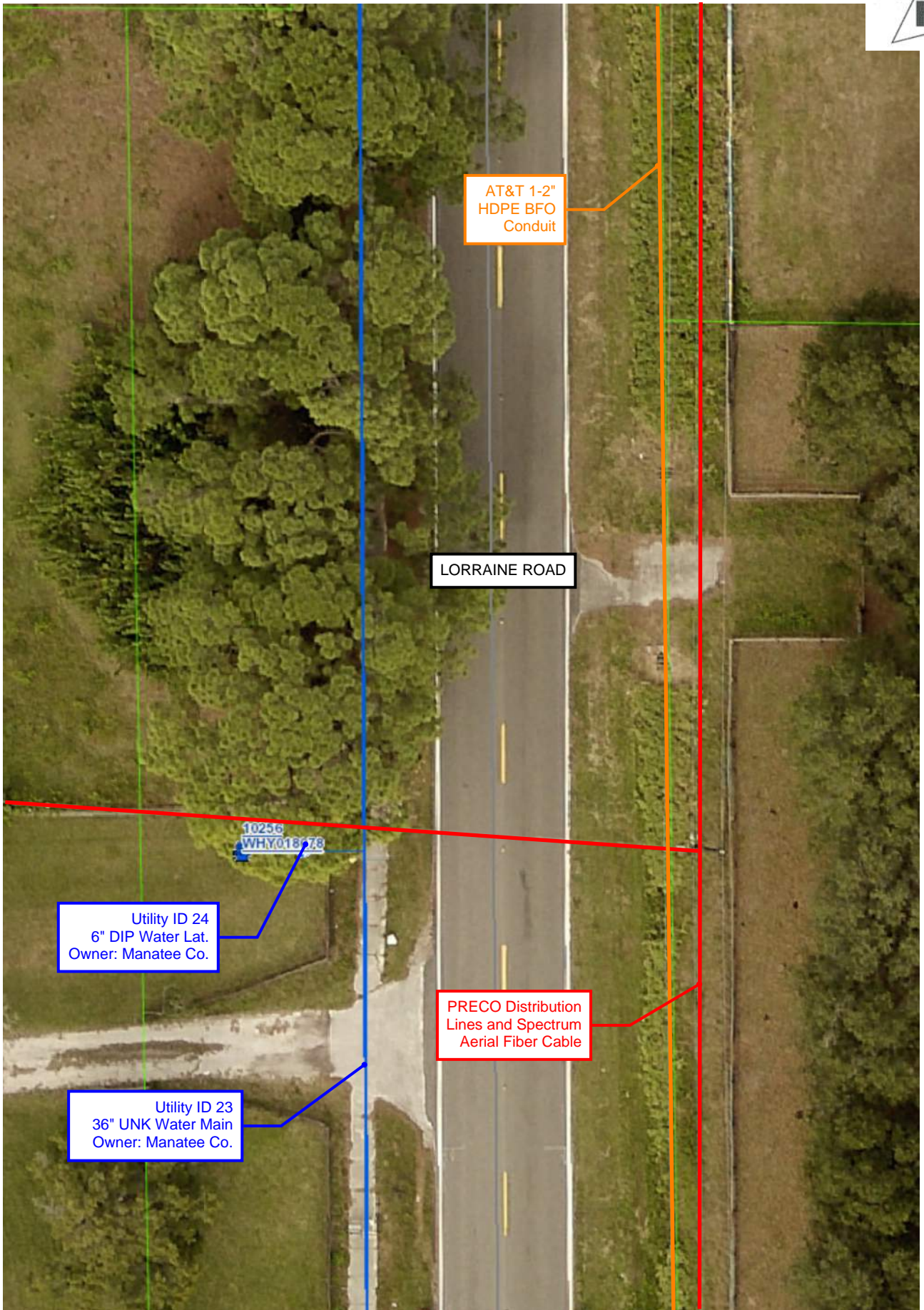


Utility ID 23
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



AT&T 1-2"
HDPE BFO
Conduit

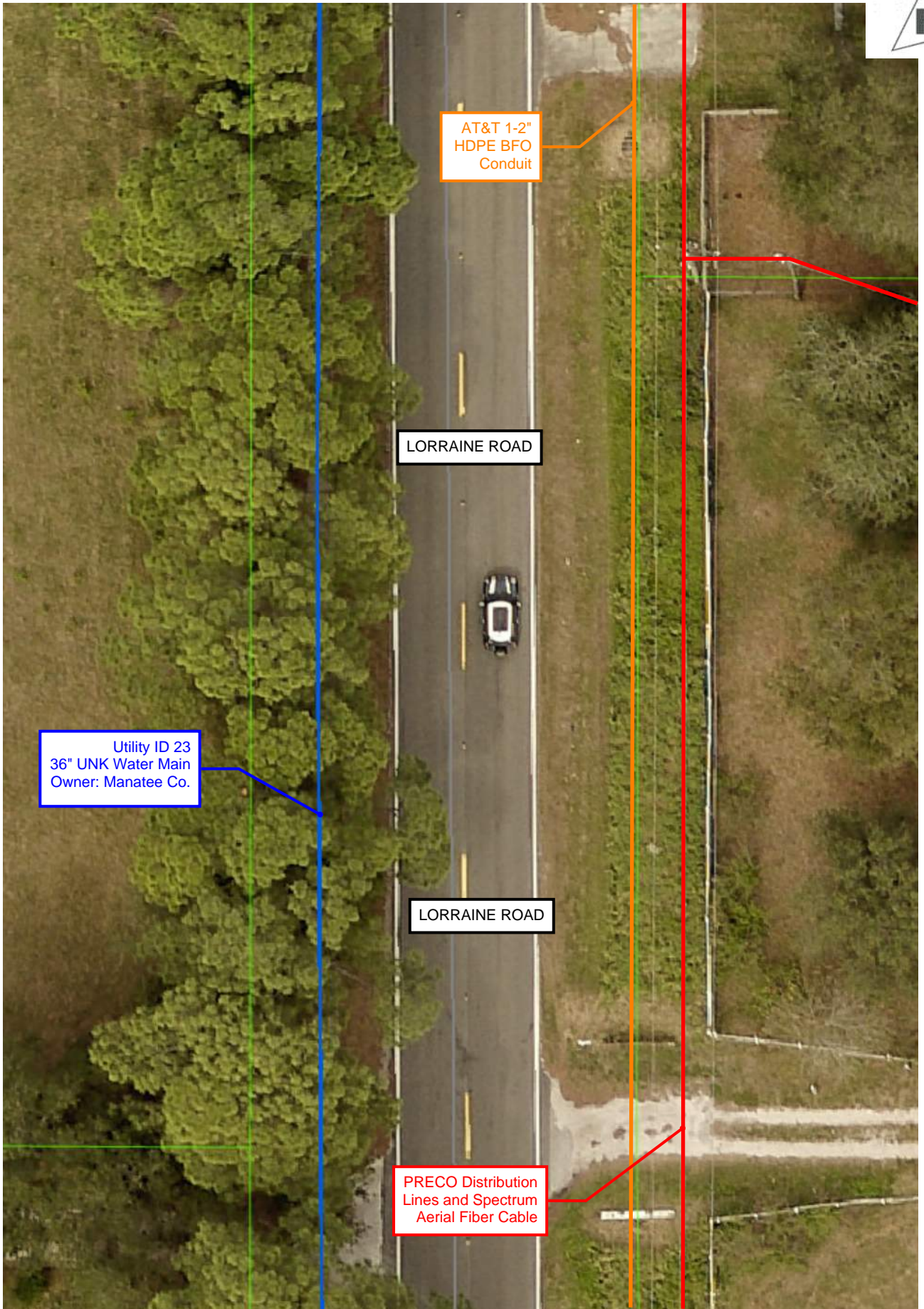
LORRAINE ROAD

10256
WHY01878

Utility ID 24
6" DIP Water Lat.
Owner: Manatee Co.

Utility ID 23
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



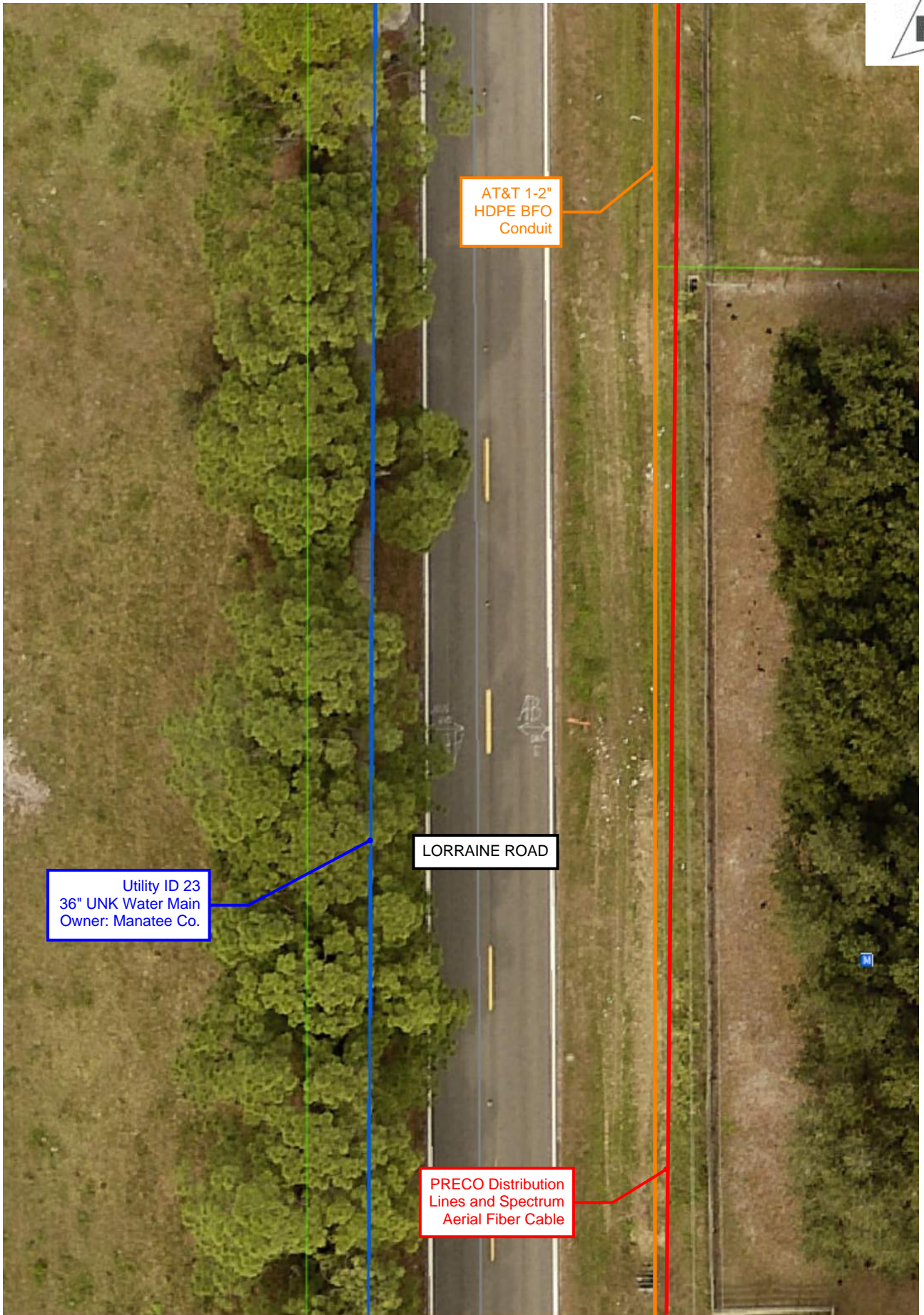
AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

Utility ID 23
36" UNK Water Main
Owner: Manatee Co.

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

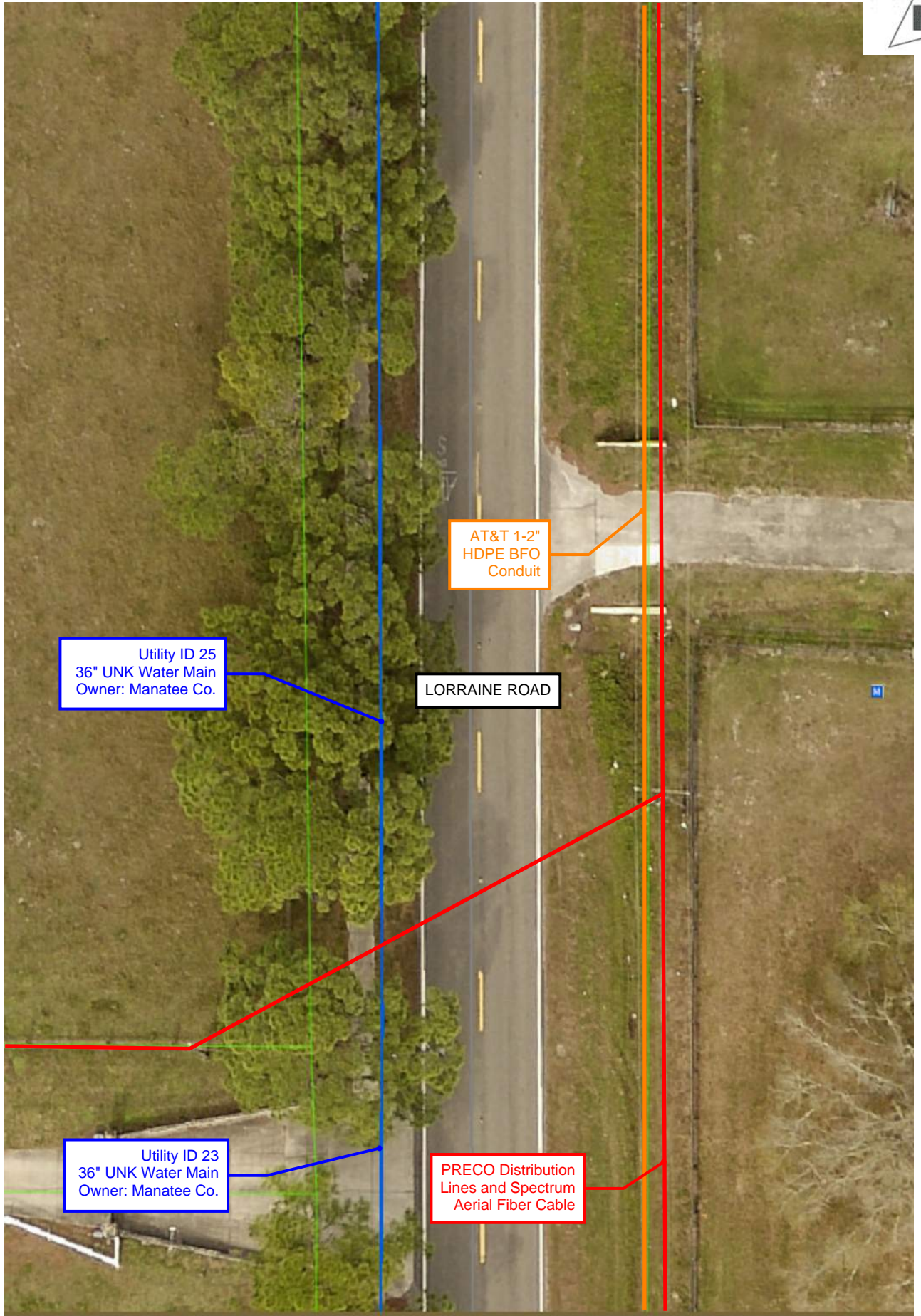


AT&T 1-2"
HDPE BFO
Conduit

Utility ID 23
36" UNK Water Main
Owner: Manatee Co.

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



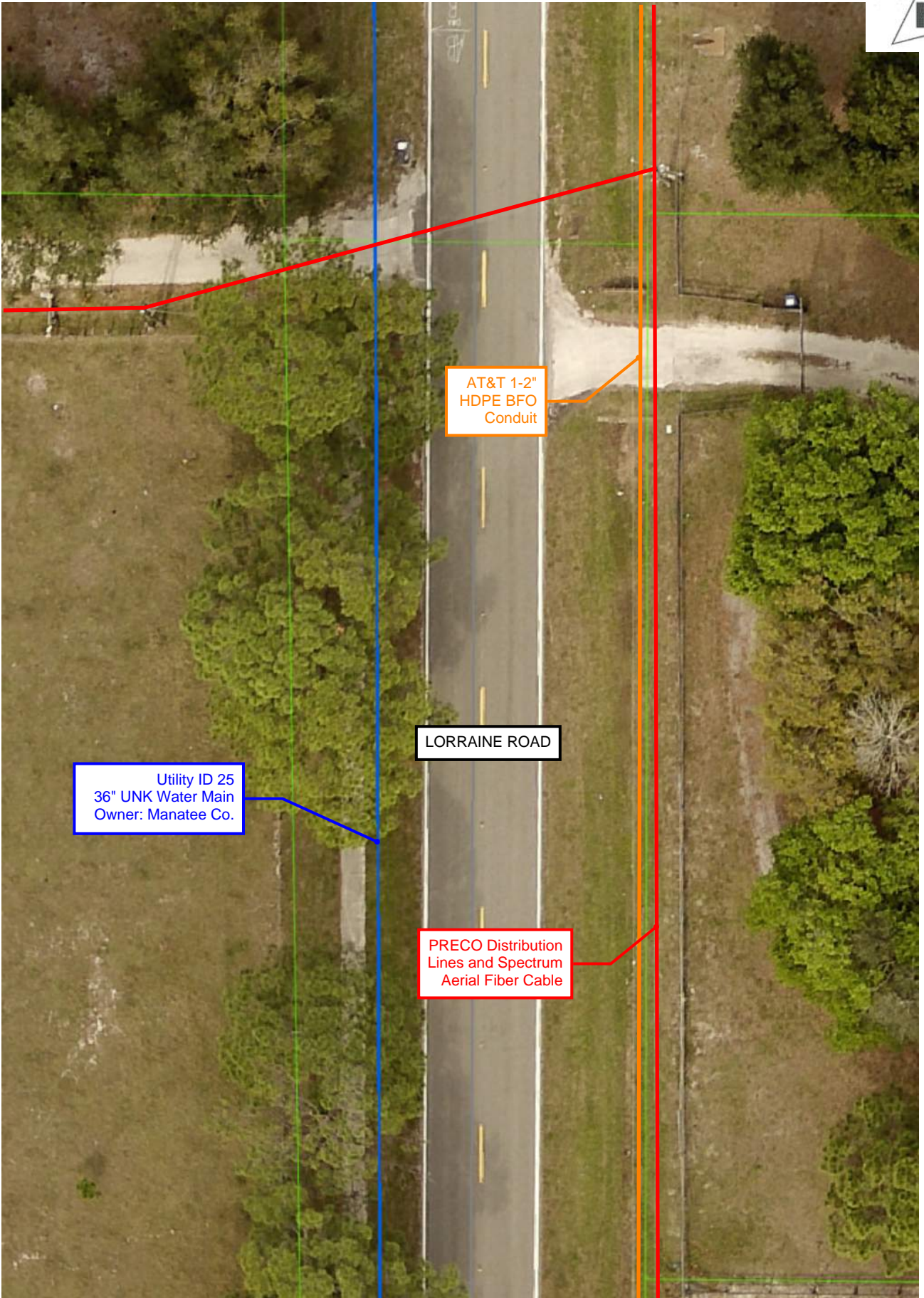
Utility ID 25
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

Utility ID 23
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

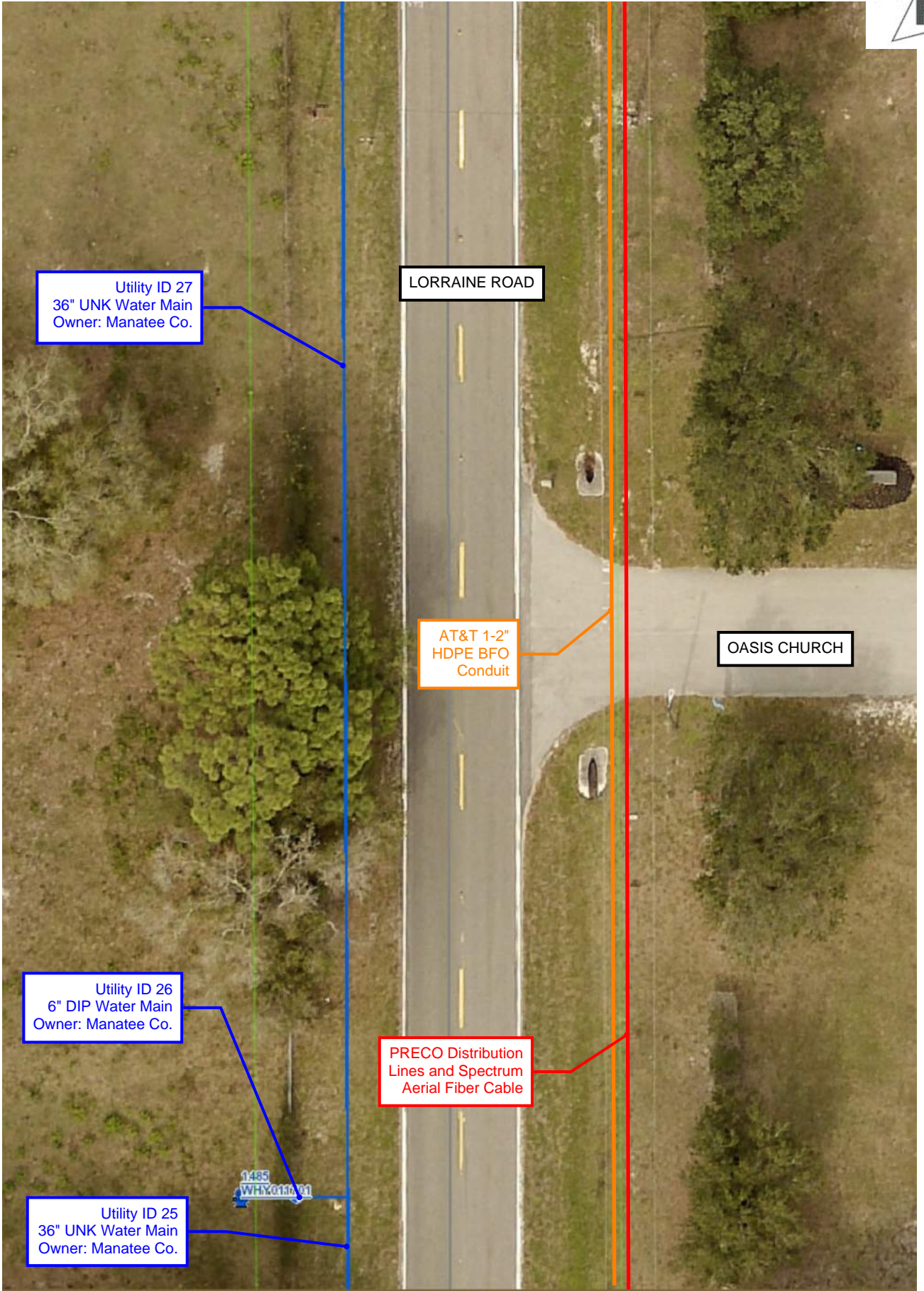


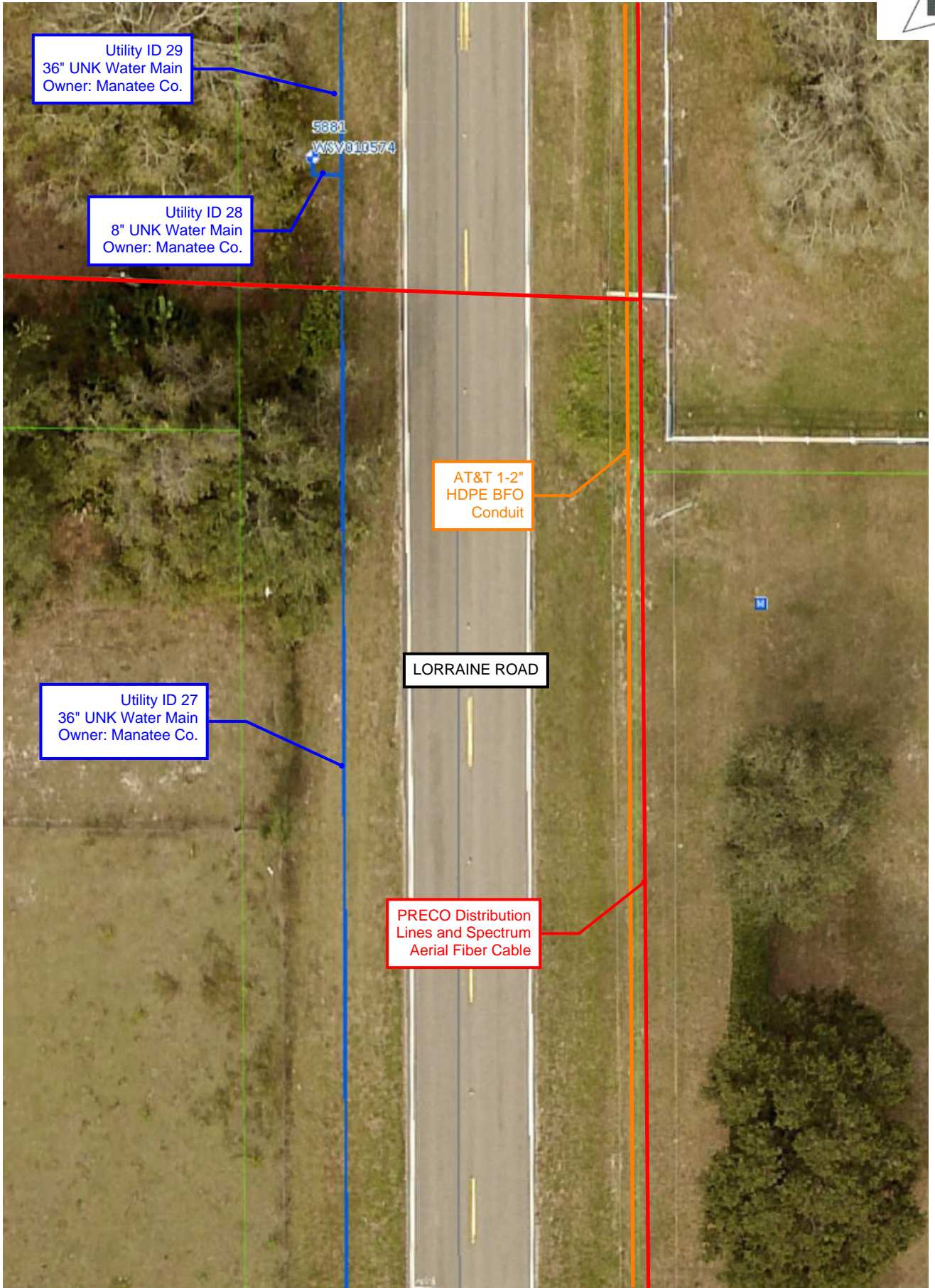
AT&T 1-2"
HDPE BFO
Conduit

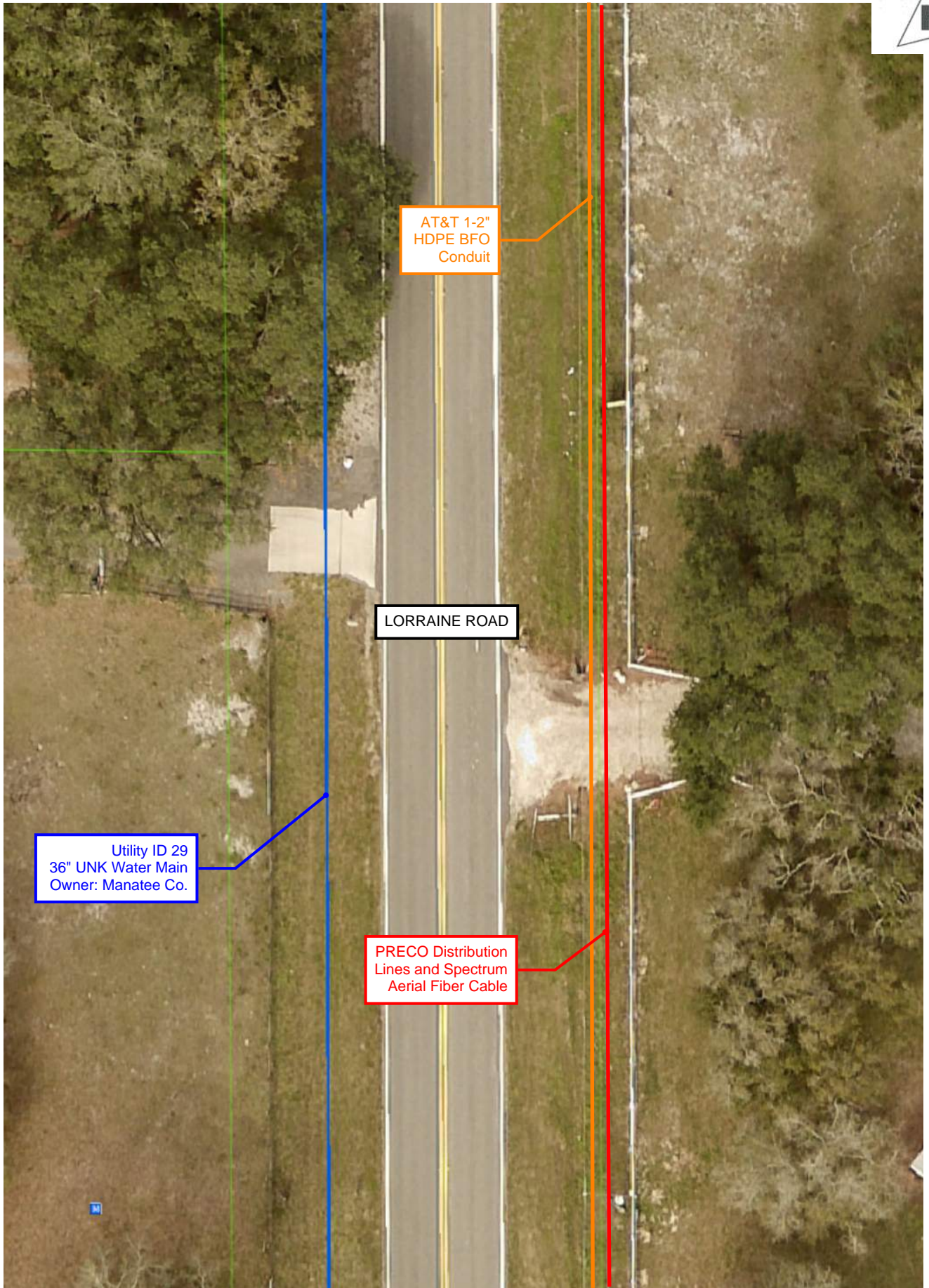
LORRAINE ROAD

Utility ID 25
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable





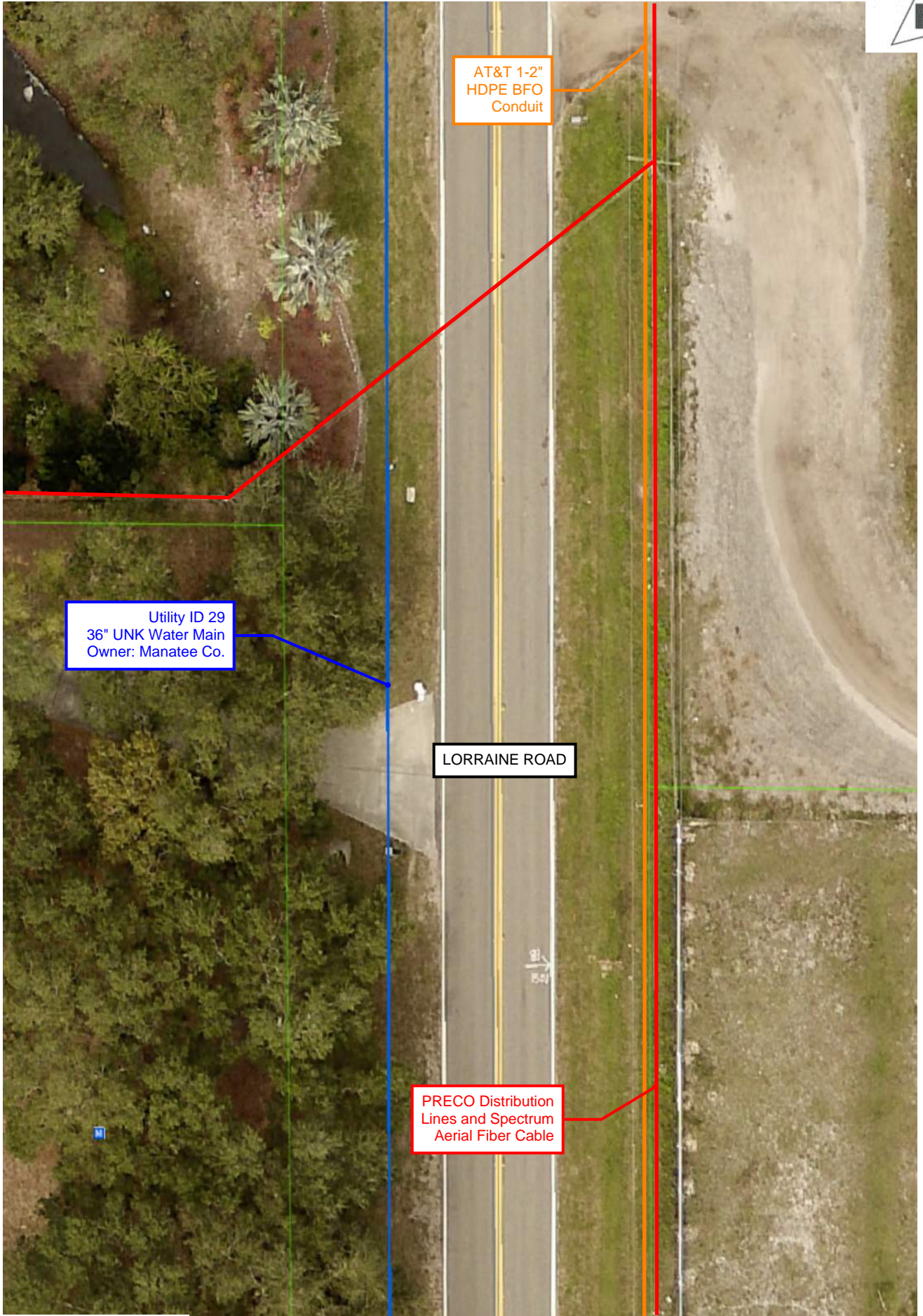


AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

Utility ID 29
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

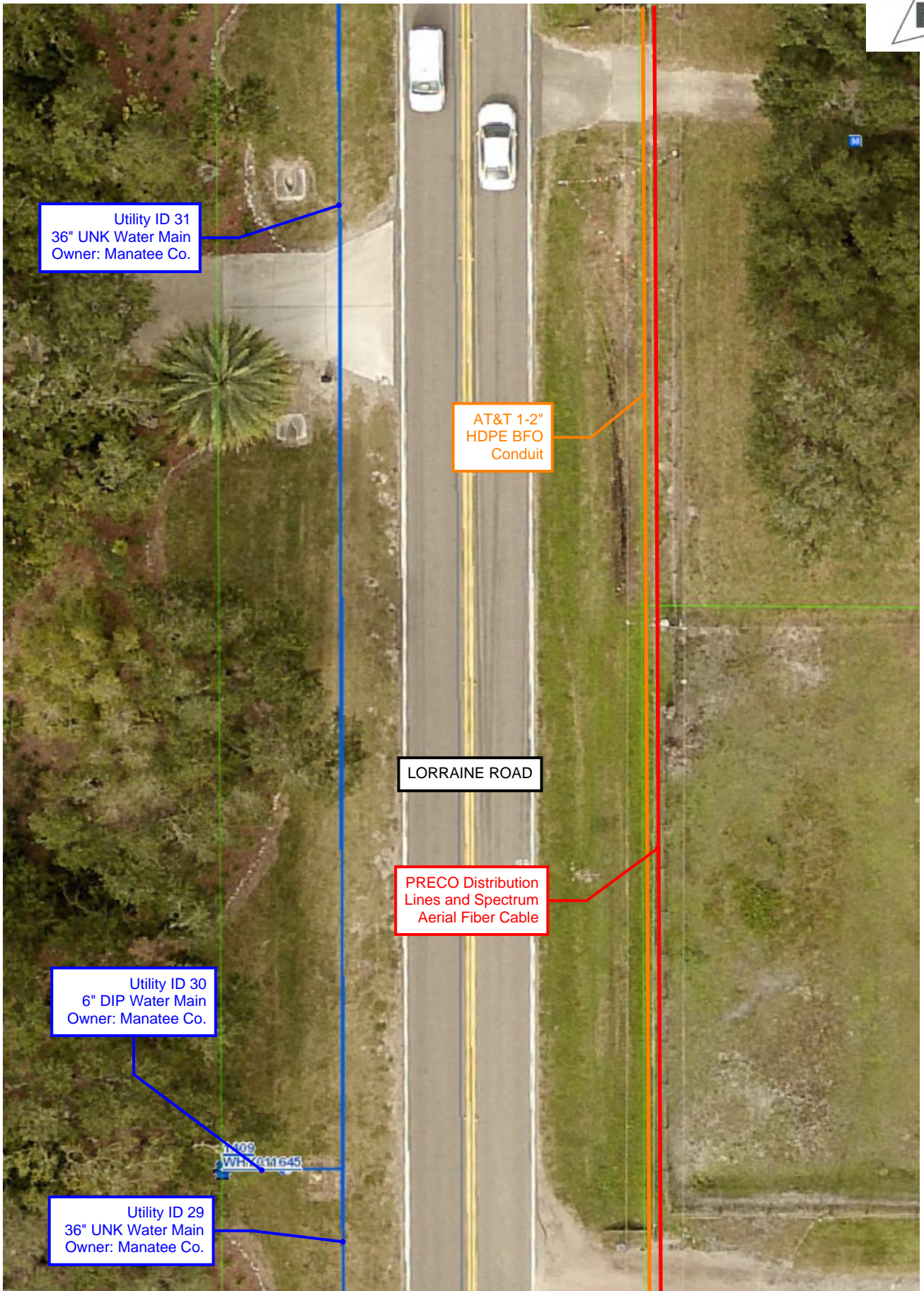


AT&T 1-2"
HDPE BFO
Conduit

Utility ID 29
36" UNK Water Main
Owner: Manatee Co.

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



Utility ID 31
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

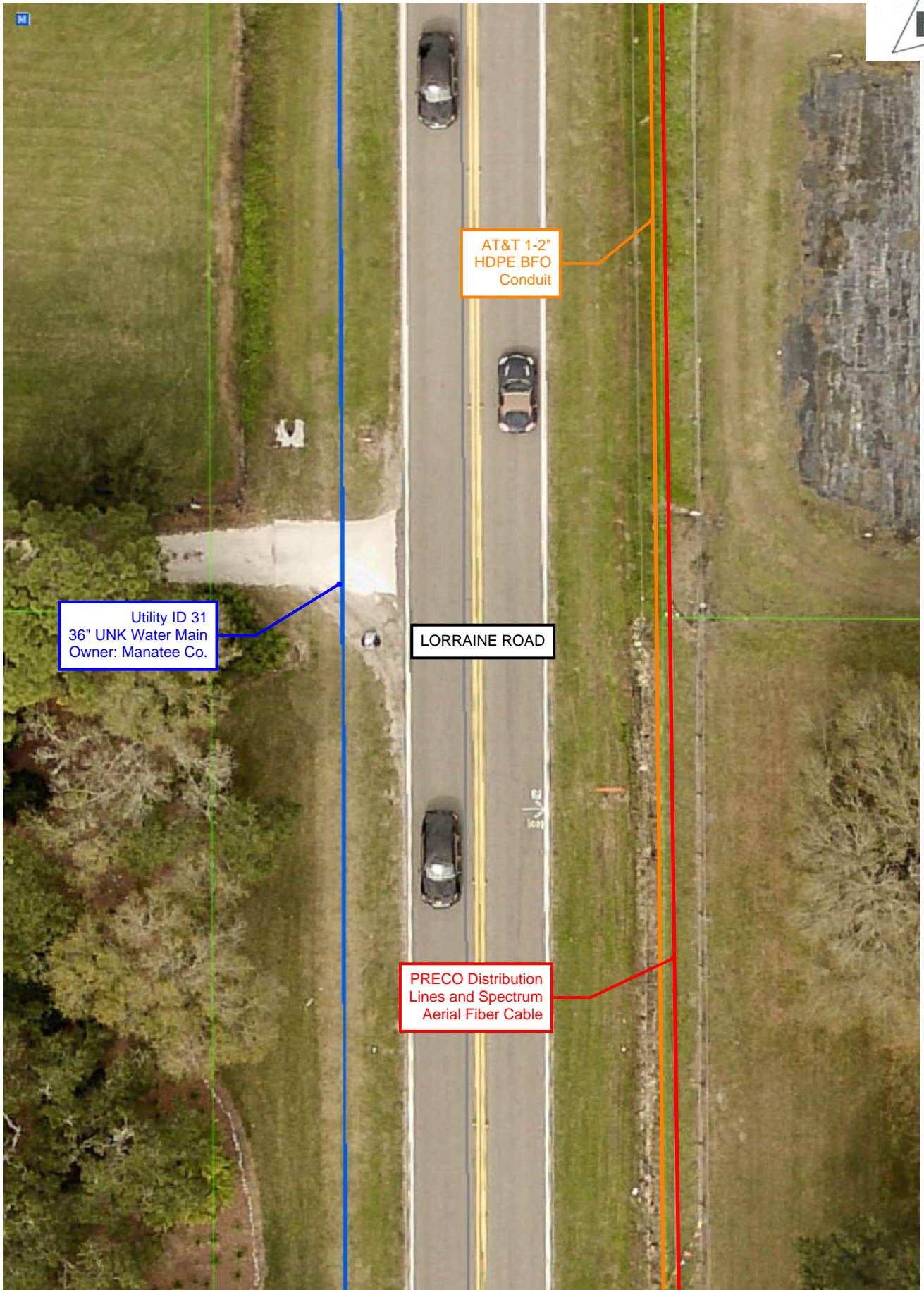
LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

Utility ID 30
6" DIP Water Main
Owner: Manatee Co.

Utility ID 29
36" UNK Water Main
Owner: Manatee Co.

2008
WH 011645

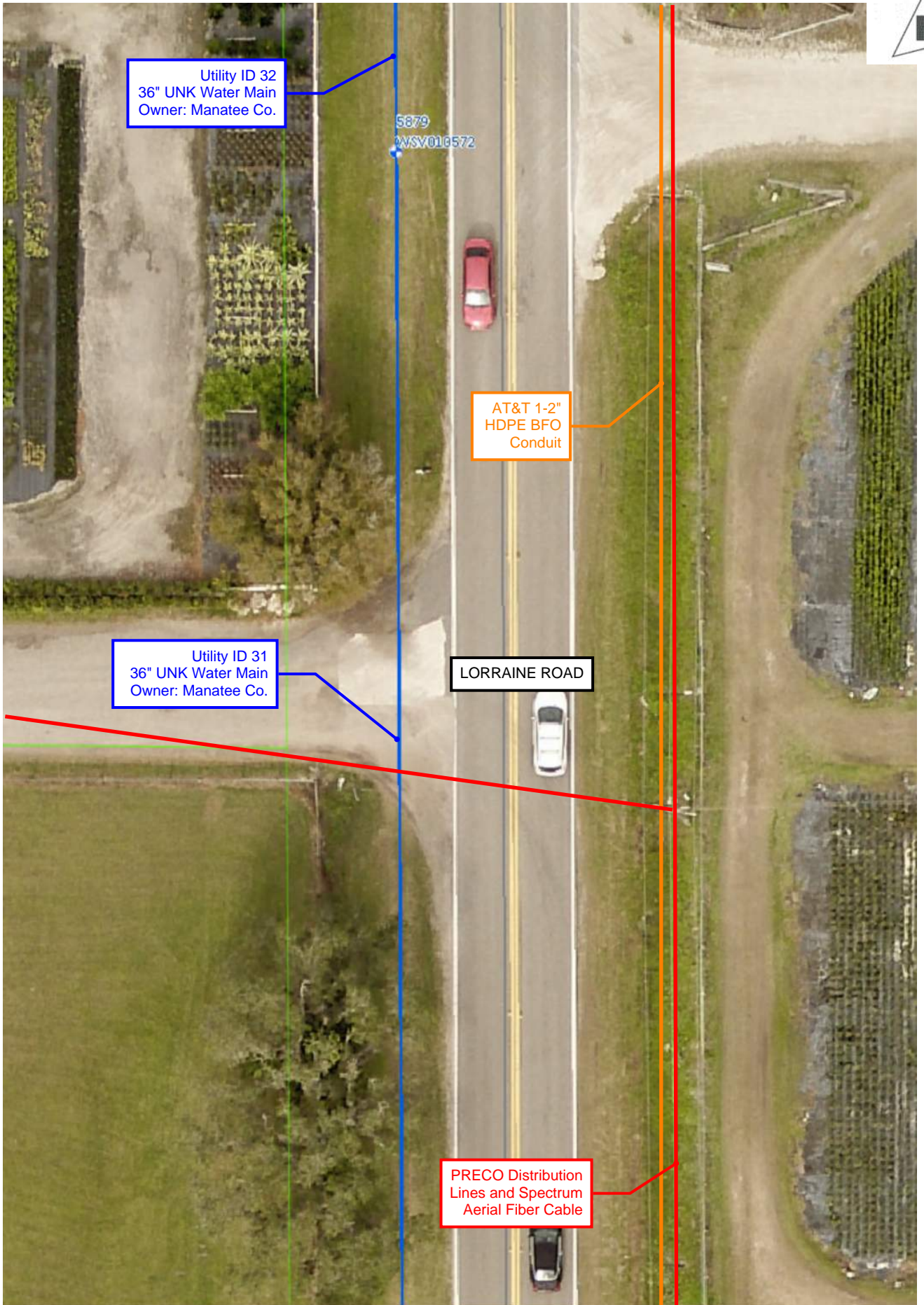


Utility ID 31
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



Utility ID 32
36" UNK Water Main
Owner: Manatee Co.

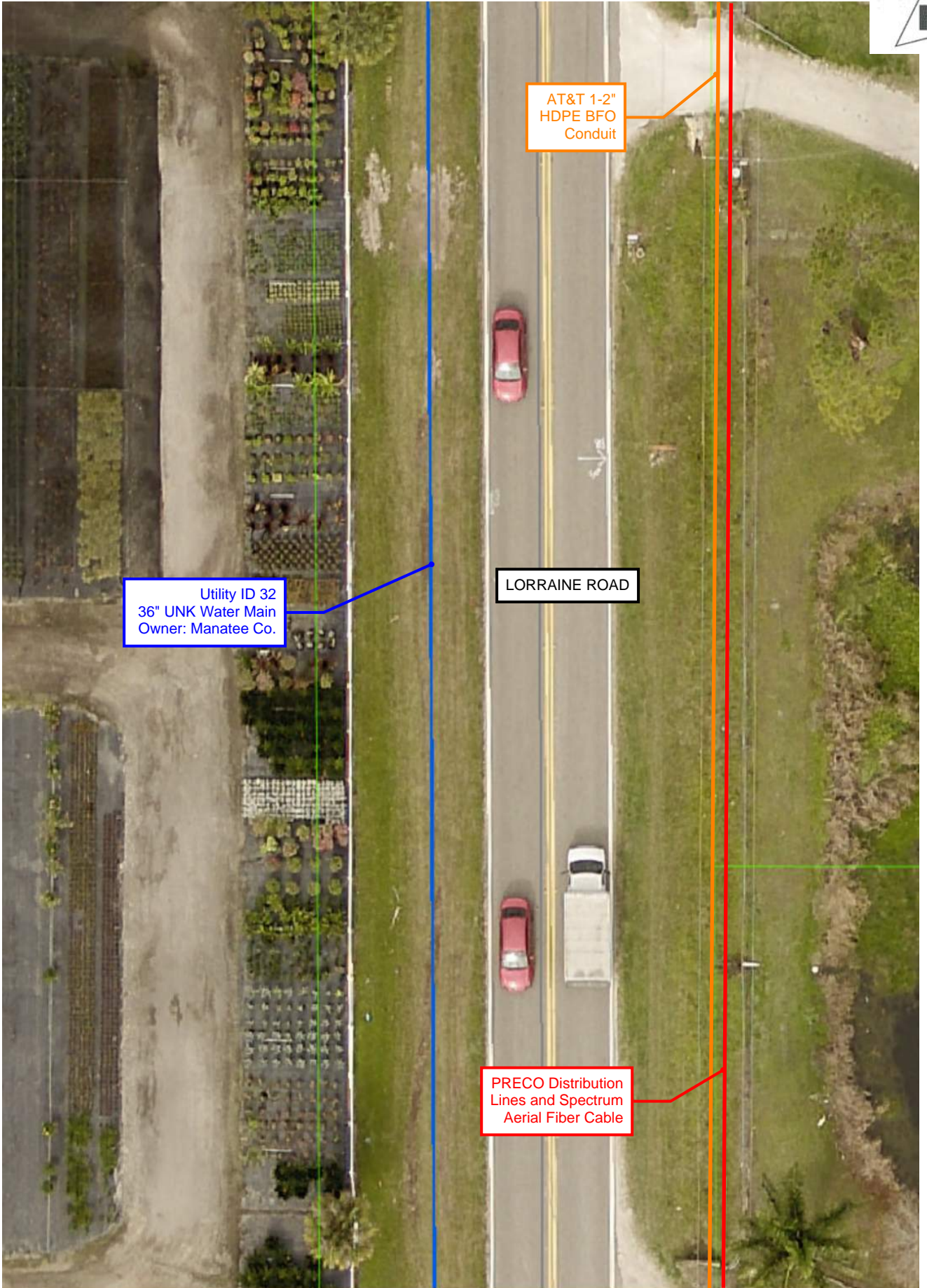
5879
WSV010572

AT&T 1-2"
HDPE BFO
Conduit

Utility ID 31
36" UNK Water Main
Owner: Manatee Co.

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

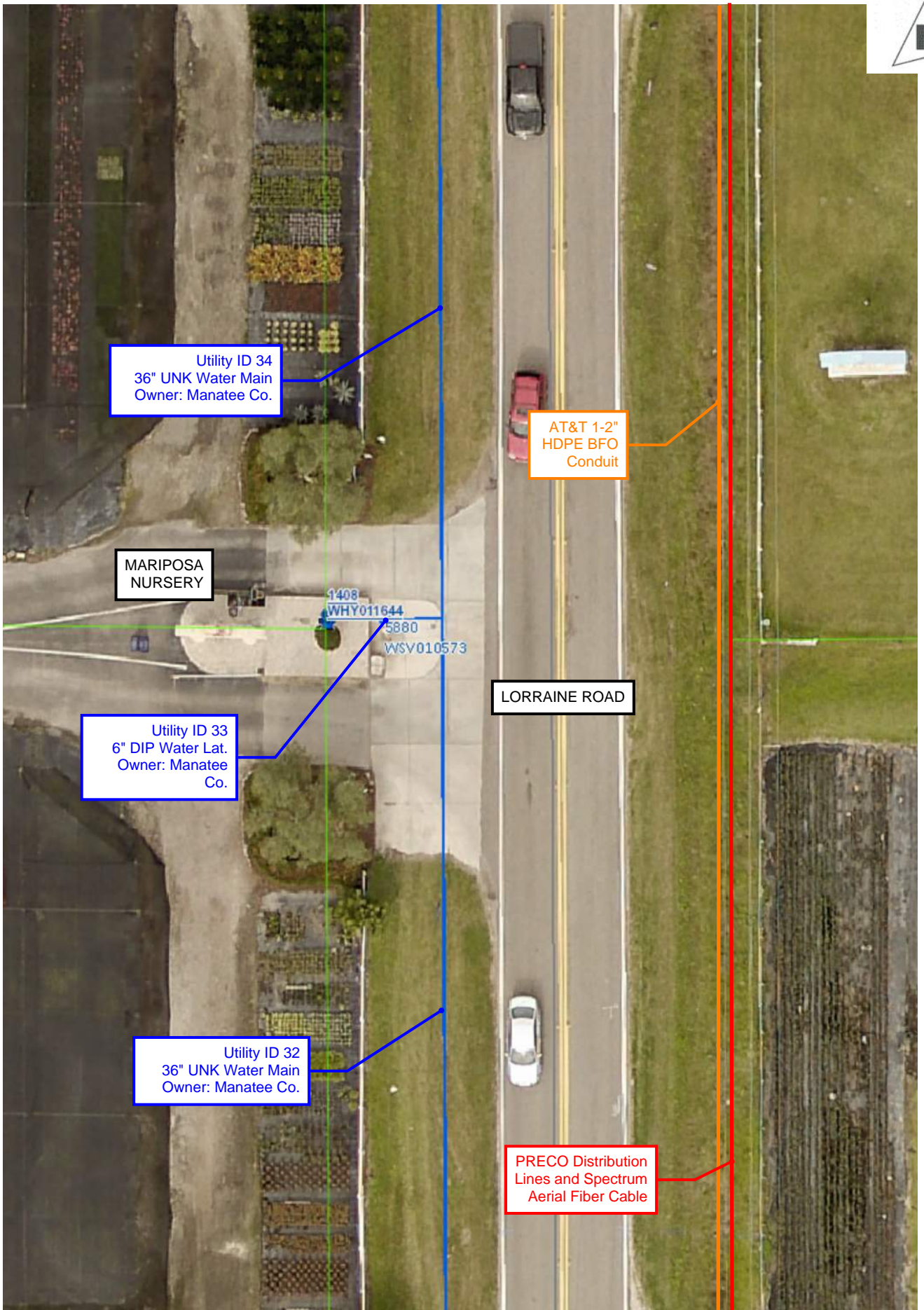


AT&T 1-2"
HDPE BFO
Conduit

Utility ID 32
36" UNK Water Main
Owner: Manatee Co.

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



Utility ID 34
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

MARIPOSA
NURSERY

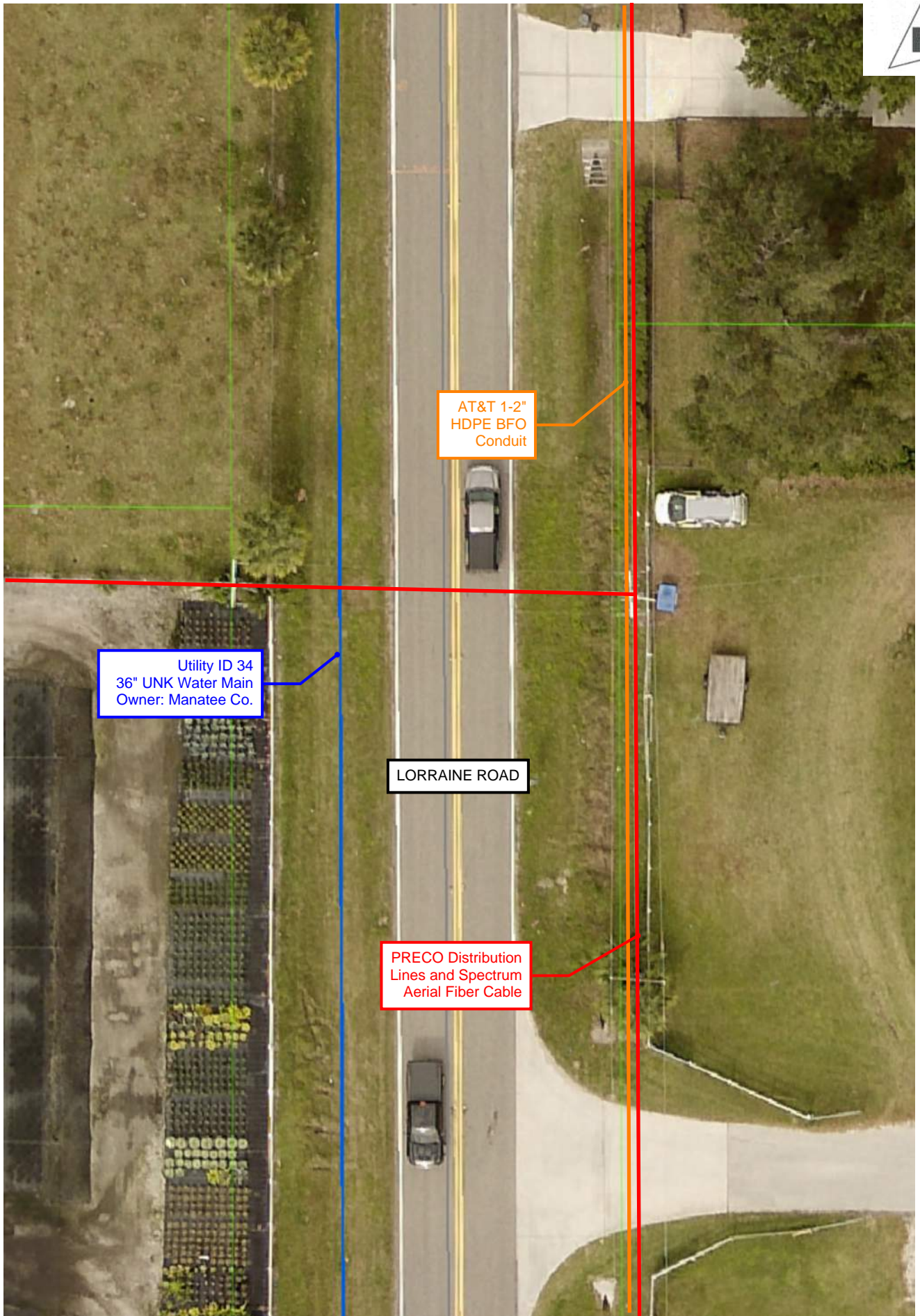
1408
WHY011644
5880
WSY010573

LORRAINE ROAD

Utility ID 33
6" DIP Water Lat.
Owner: Manatee
Co.

Utility ID 32
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

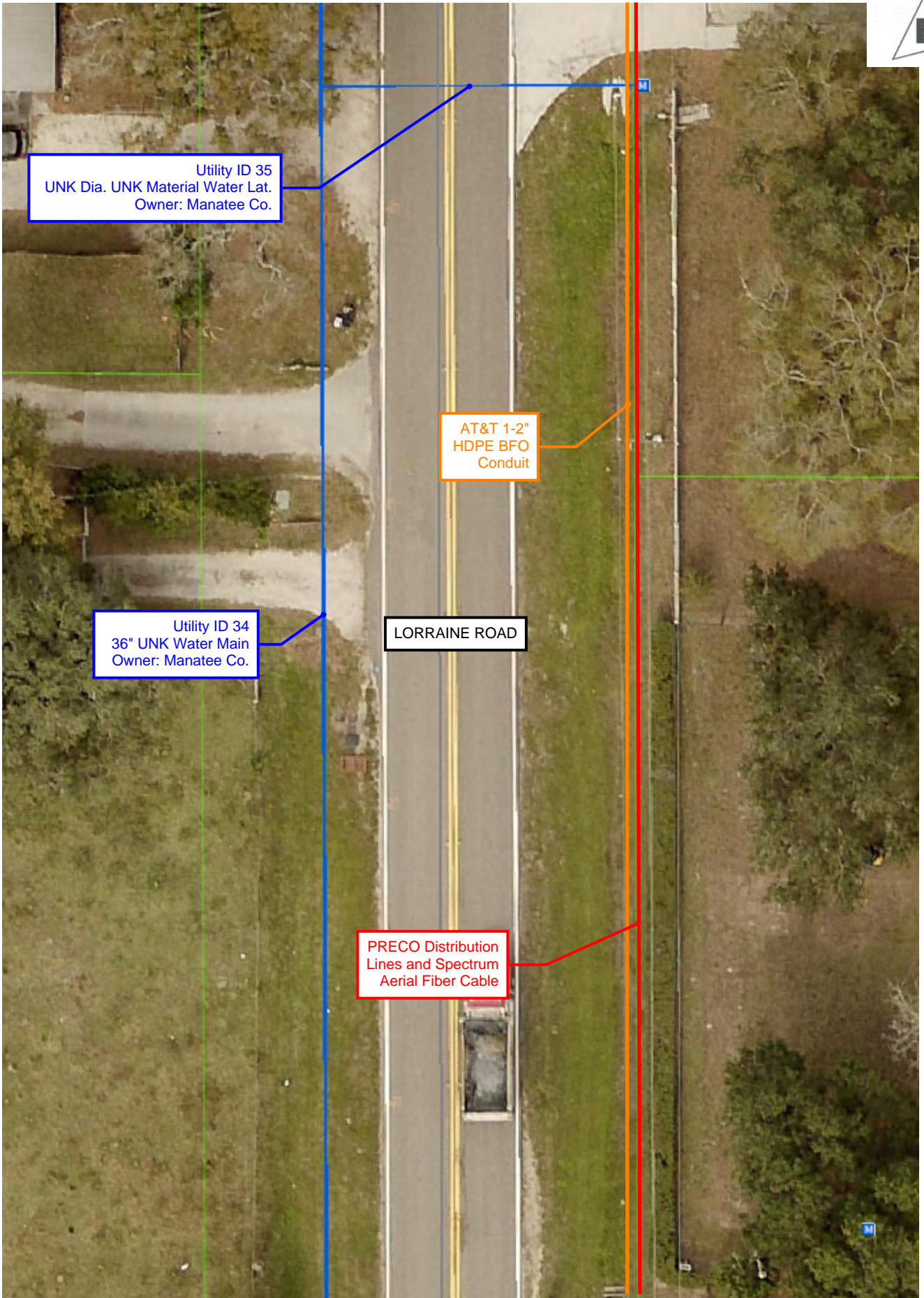


Utility ID 34
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



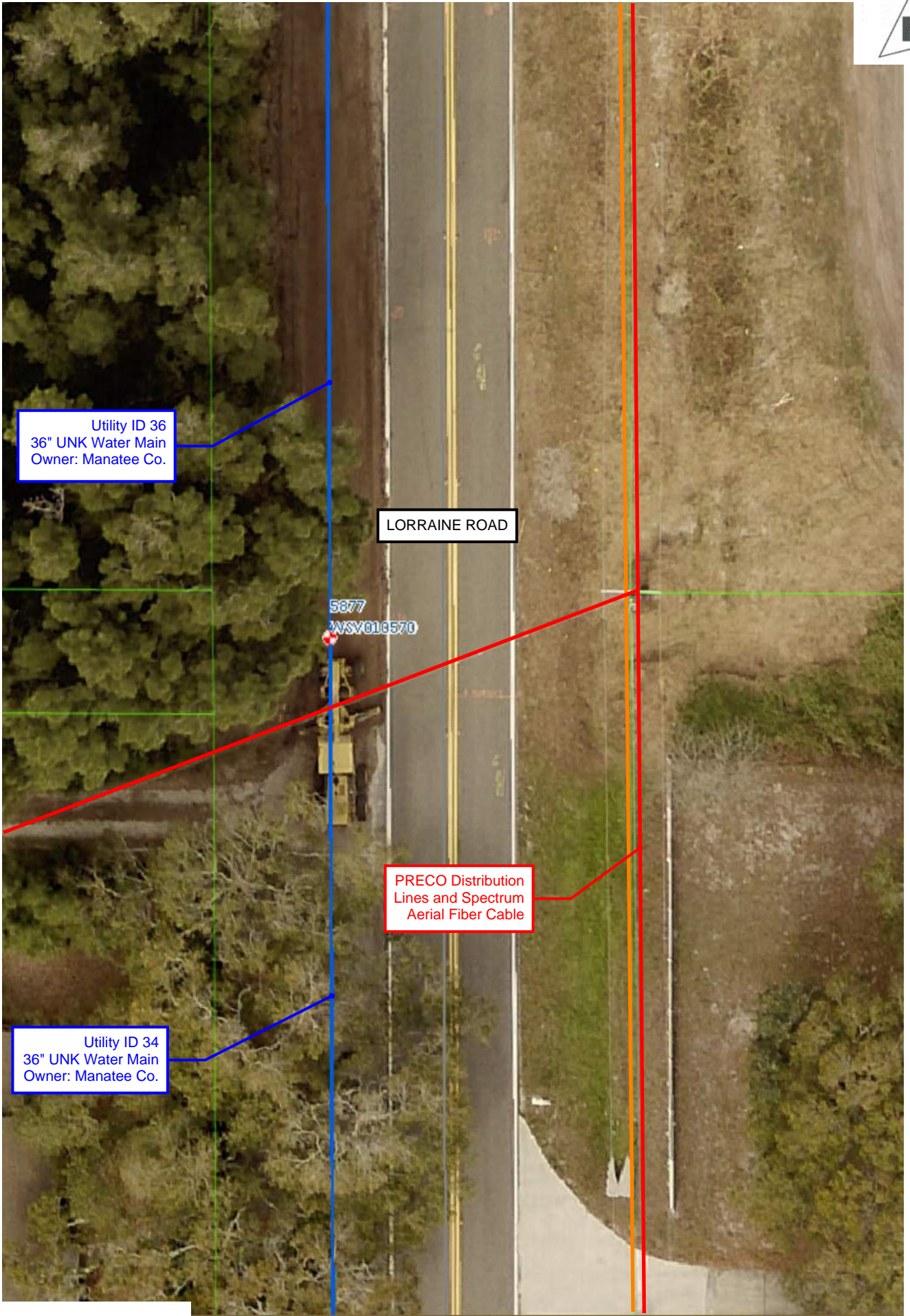
Utility ID 35
UNK Dia. UNK Material Water Lat.
Owner: Manatee Co.

Utility ID 34
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



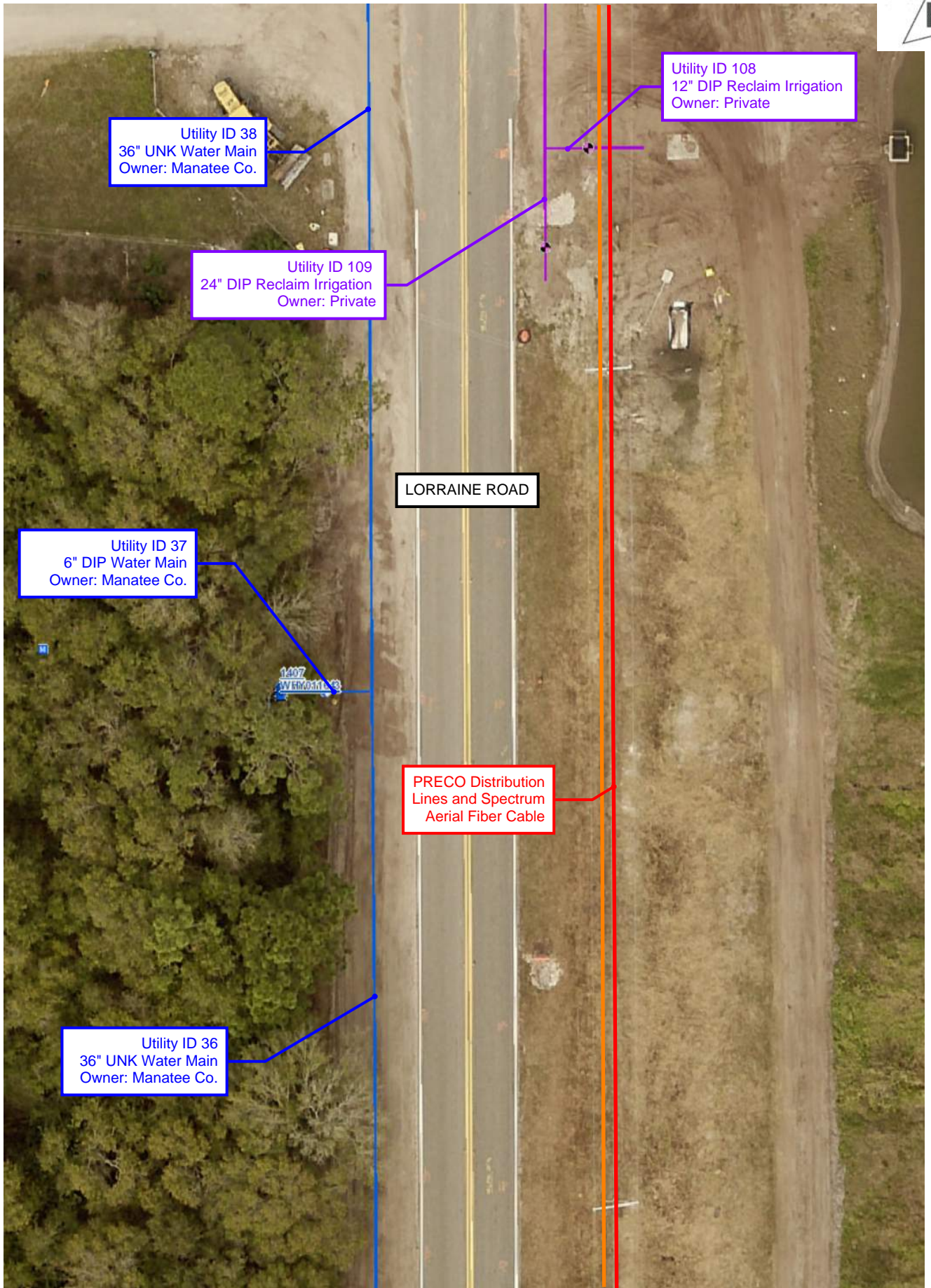
Utility ID 36
36" UNK Water Main
Owner: Manatee Co.

LORRAINE ROAD

5877
WSV016570

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

Utility ID 34
36" UNK Water Main
Owner: Manatee Co.



Utility ID 38
36" UNK Water Main
Owner: Manatee Co.

Utility ID 109
24" DIP Reclaim Irrigation
Owner: Private

Utility ID 108
12" DIP Reclaim Irrigation
Owner: Private

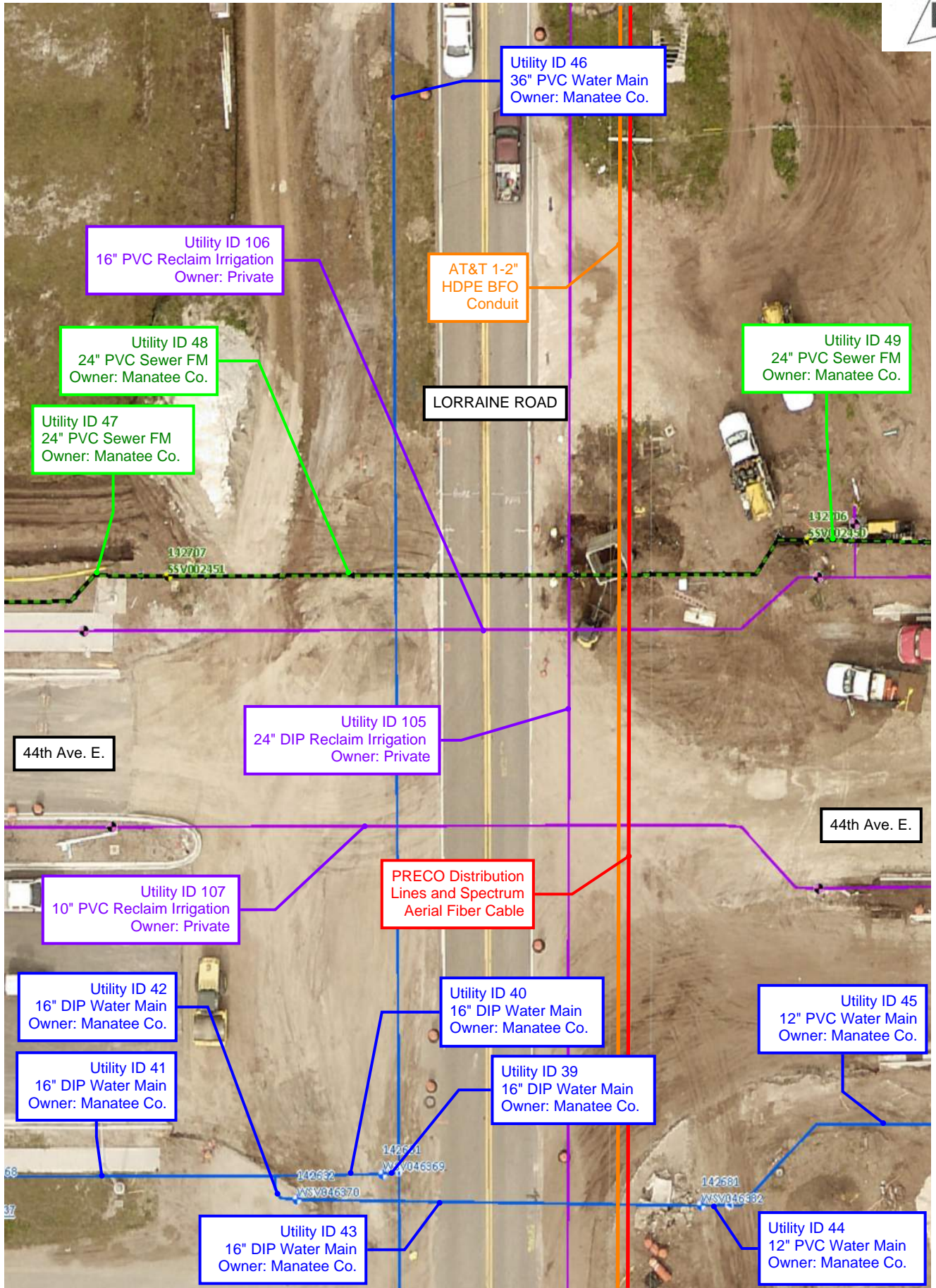
Utility ID 37
6" DIP Water Main
Owner: Manatee Co.

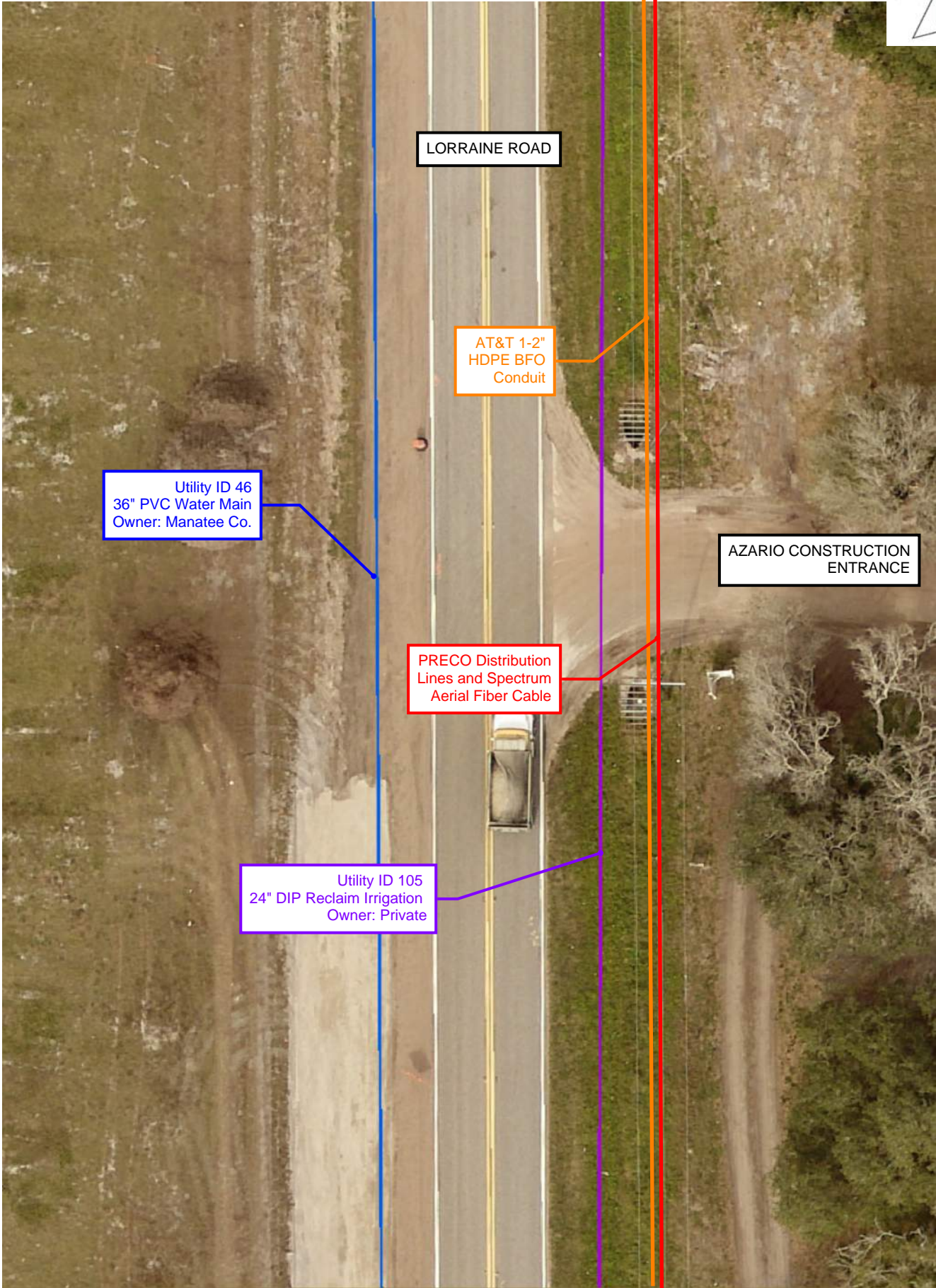
LORRAINE ROAD

1407
WEBB RD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

Utility ID 36
36" UNK Water Main
Owner: Manatee Co.





LORRAINE ROAD

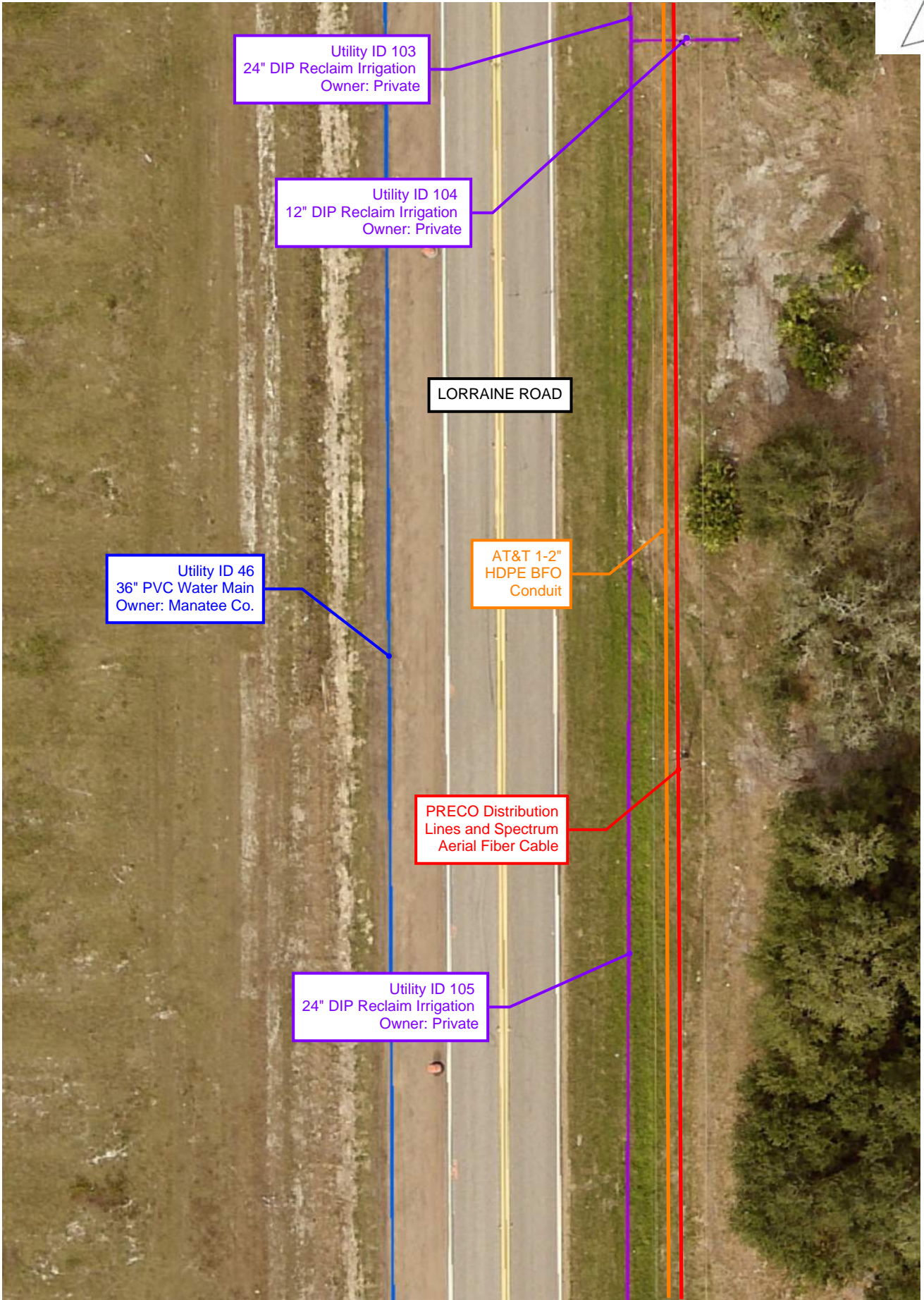
AT&T 1-2"
HDPE BFO
Conduit

Utility ID 46
36" PVC Water Main
Owner: Manatee Co.

AZARIO CONSTRUCTION
ENTRANCE

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

Utility ID 105
24" DIP Reclaim Irrigation
Owner: Private



Utility ID 103
24" DIP Reclaim Irrigation
Owner: Private

Utility ID 104
12" DIP Reclaim Irrigation
Owner: Private

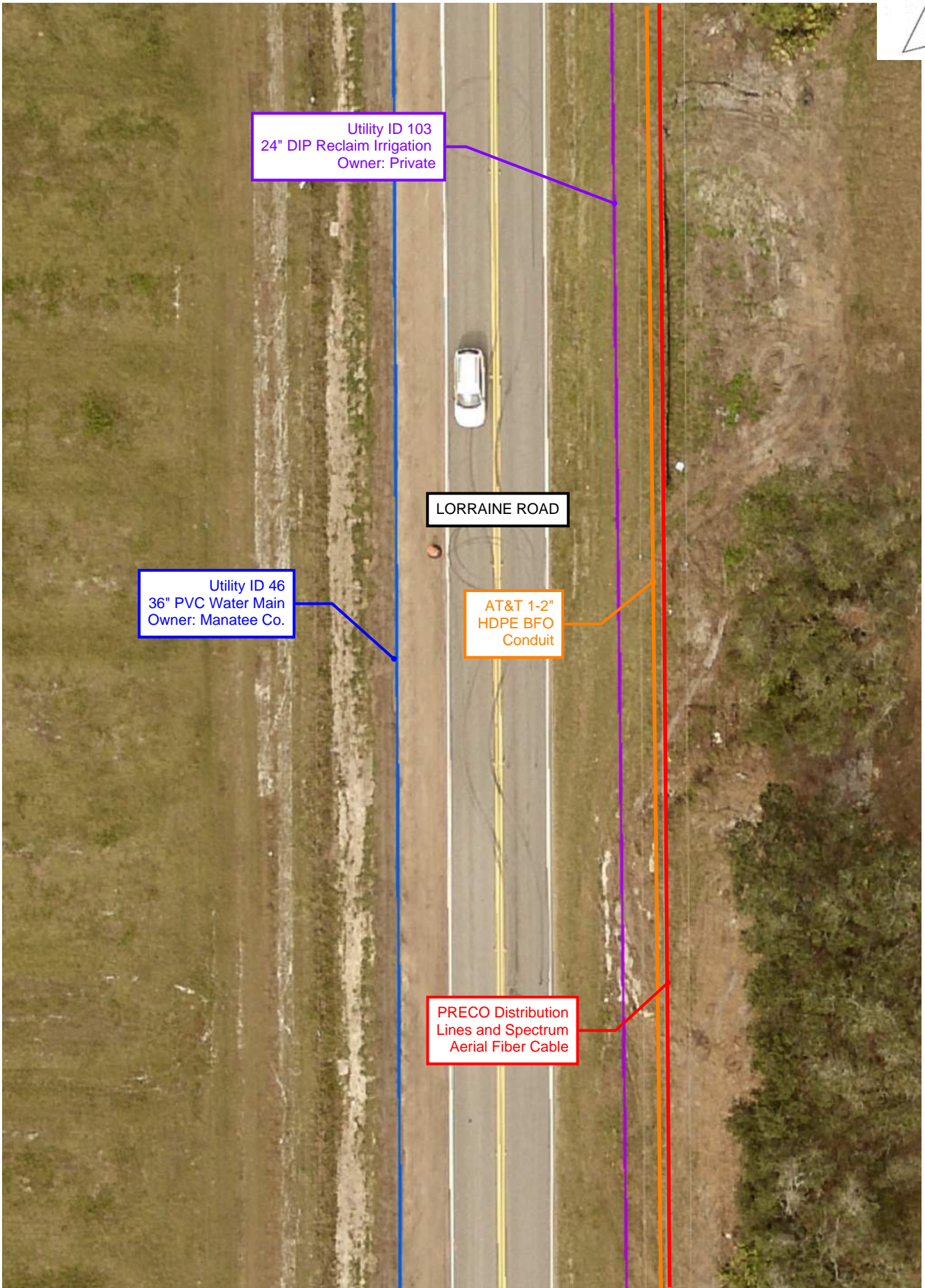
LORRAINE ROAD

Utility ID 46
36" PVC Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

Utility ID 105
24" DIP Reclaim Irrigation
Owner: Private



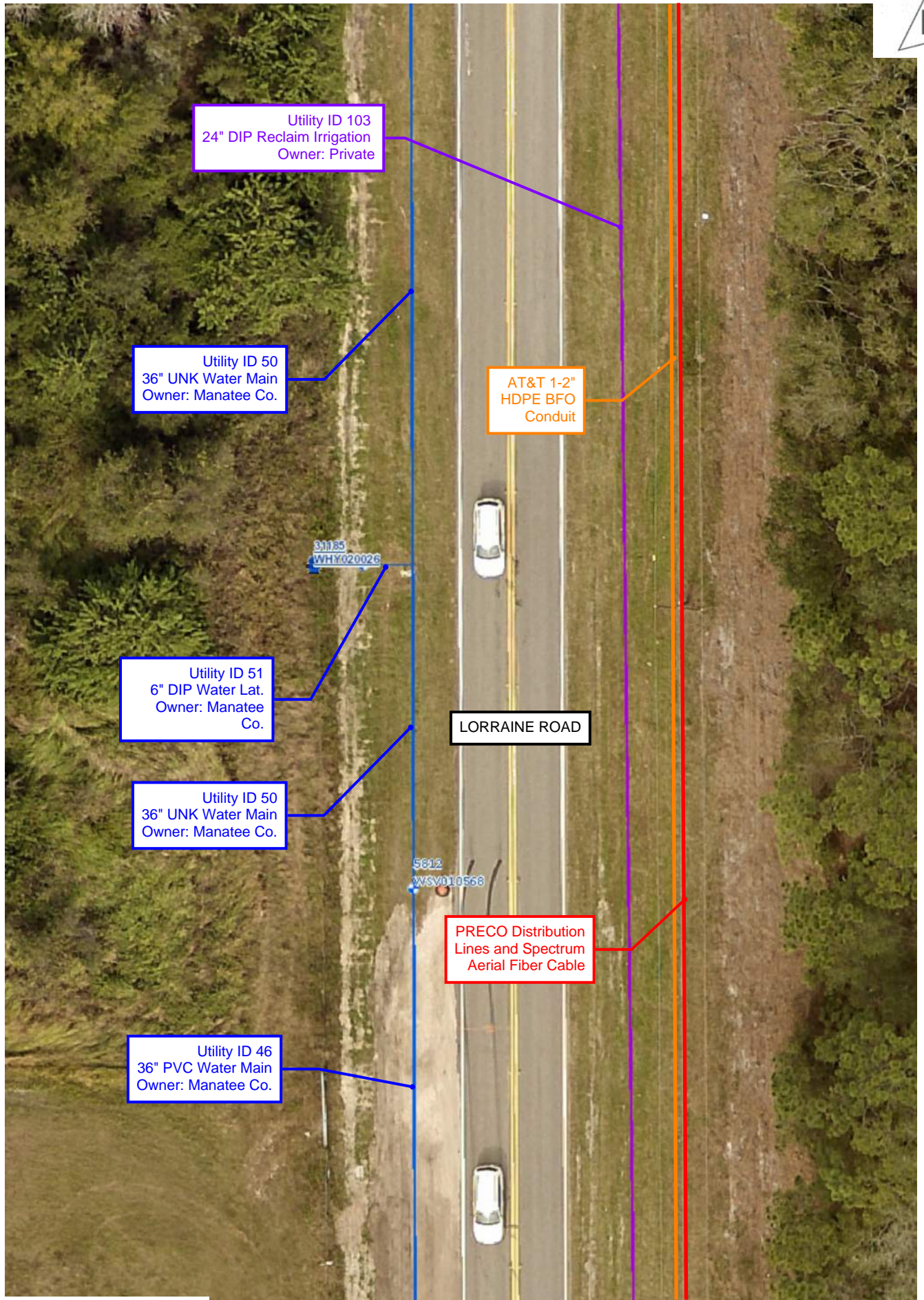
Utility ID 103
24" DIP Reclaim Irrigation
Owner: Private

LORRAINE ROAD

Utility ID 46
36" PVC Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



Utility ID 103
24" DIP Reclaim Irrigation
Owner: Private

Utility ID 50
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

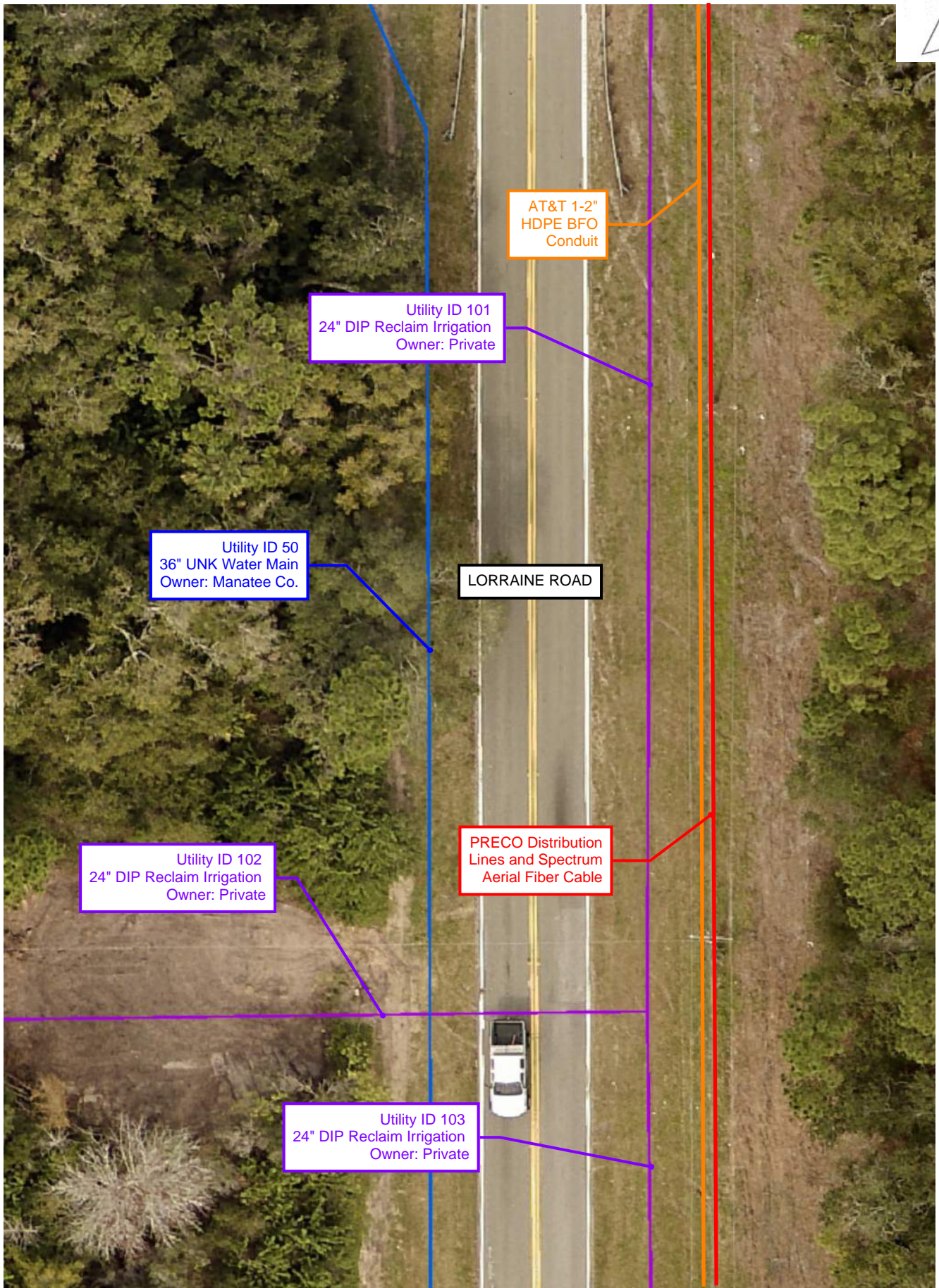
Utility ID 51
6" DIP Water Lat.
Owner: Manatee Co.

LORRAINE ROAD

Utility ID 50
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

Utility ID 46
36" PVC Water Main
Owner: Manatee Co.



AT&T 1-2"
HDPE BFO
Conduit

Utility ID 101
24" DIP Reclaim Irrigation
Owner: Private

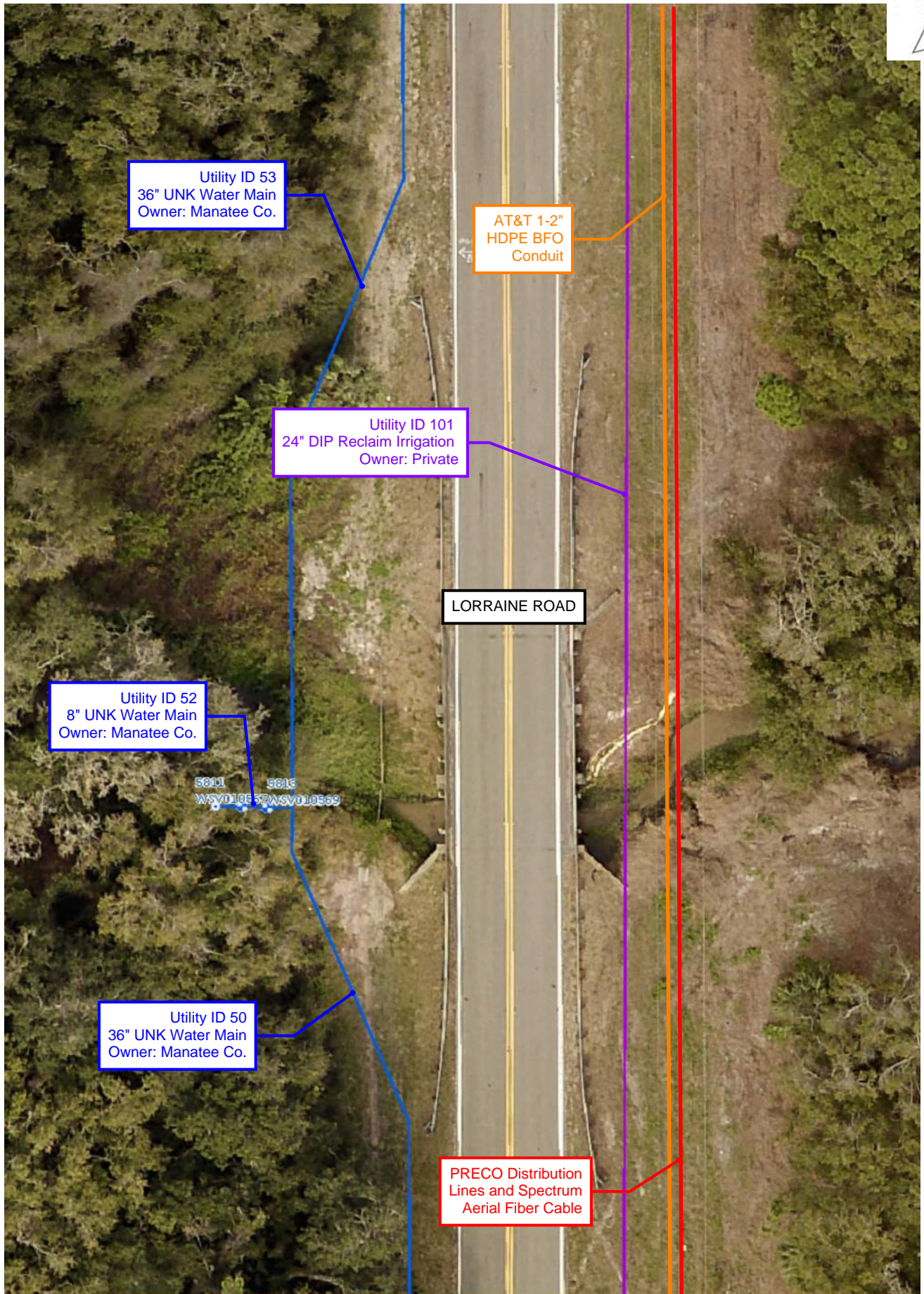
Utility ID 50
36" UNK Water Main
Owner: Manatee Co.

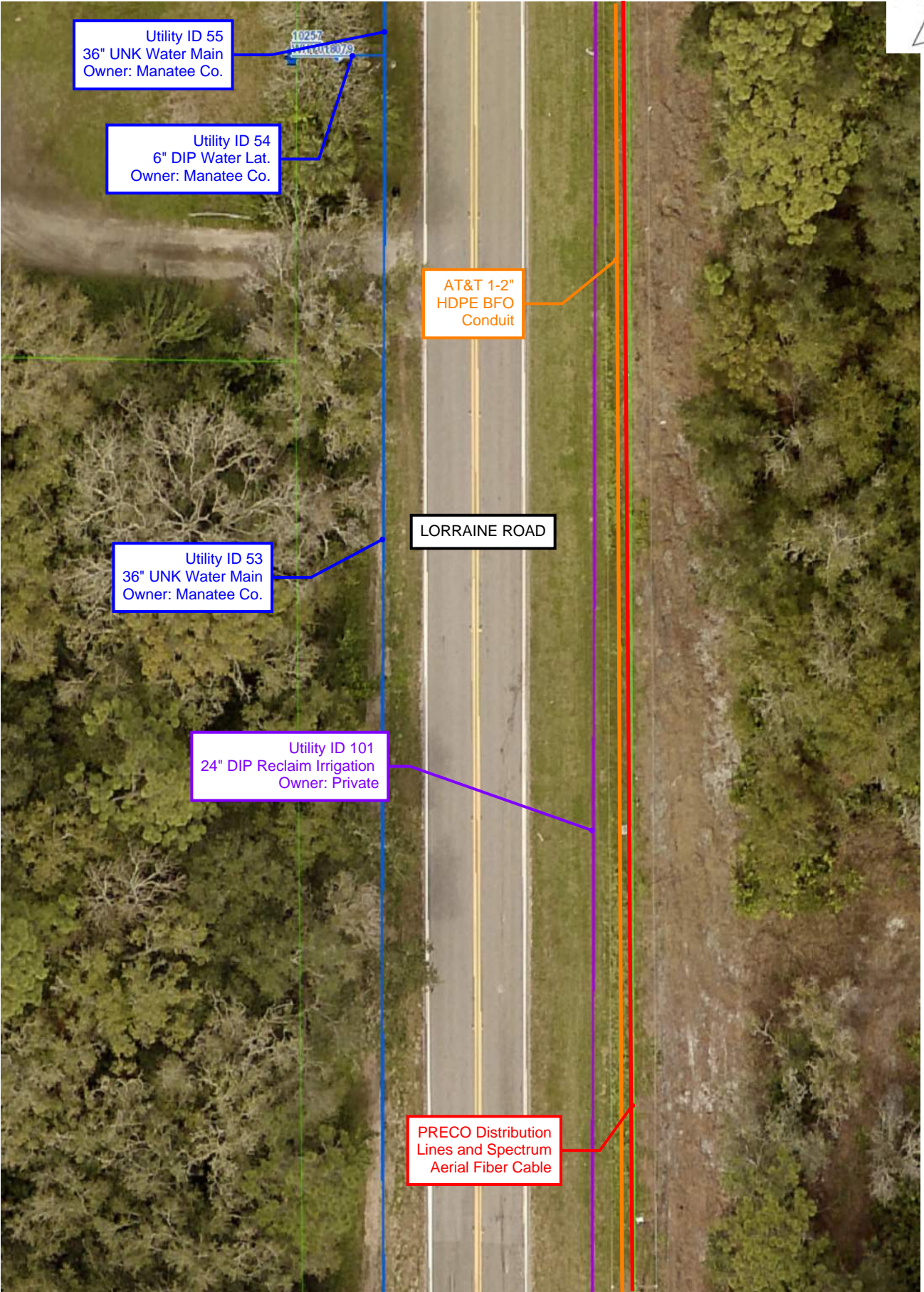
LORRAINE ROAD

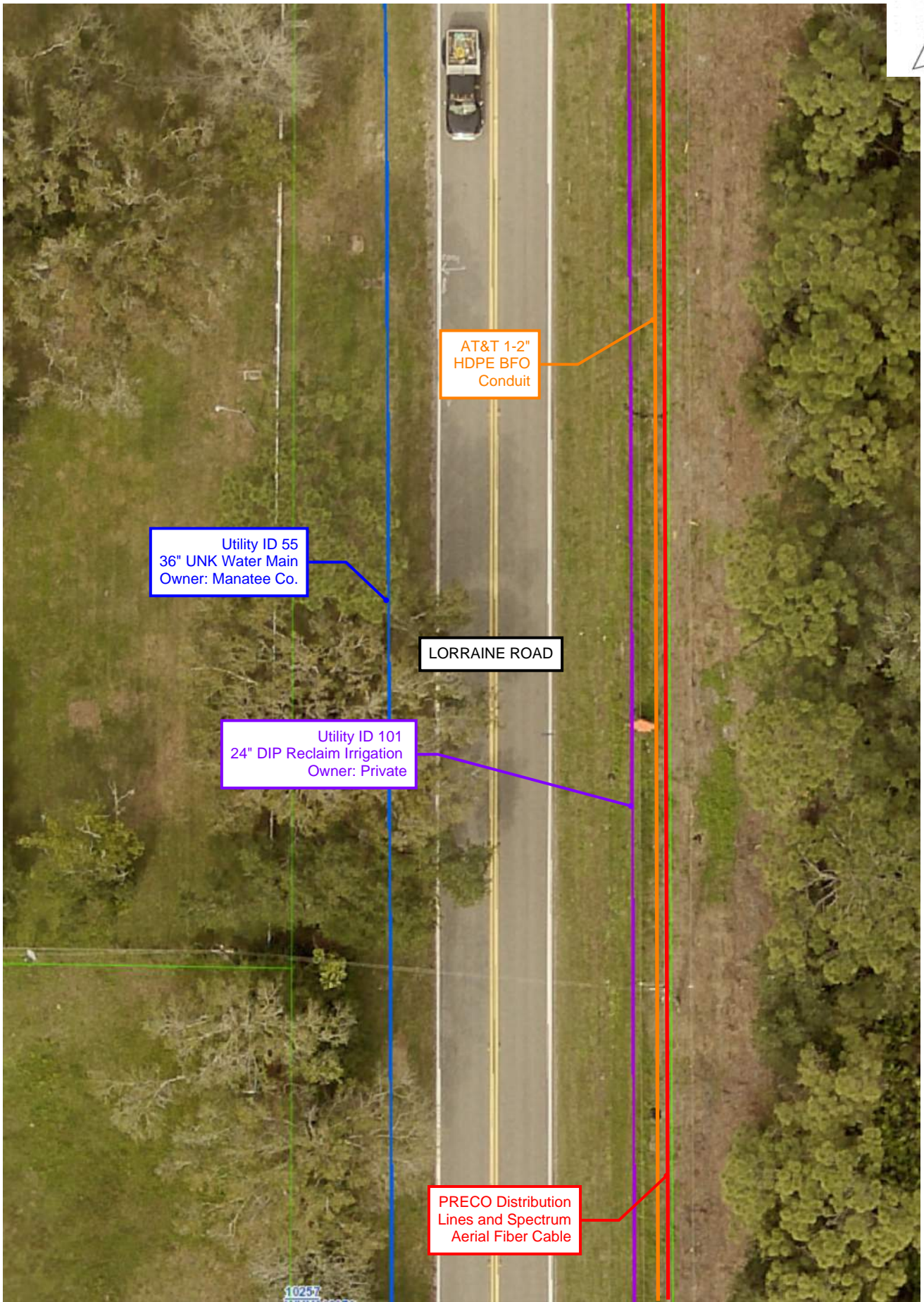
Utility ID 102
24" DIP Reclaim Irrigation
Owner: Private

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

Utility ID 103
24" DIP Reclaim Irrigation
Owner: Private







Utility ID 55
36" UNK Water Main
Owner: Manatee Co.

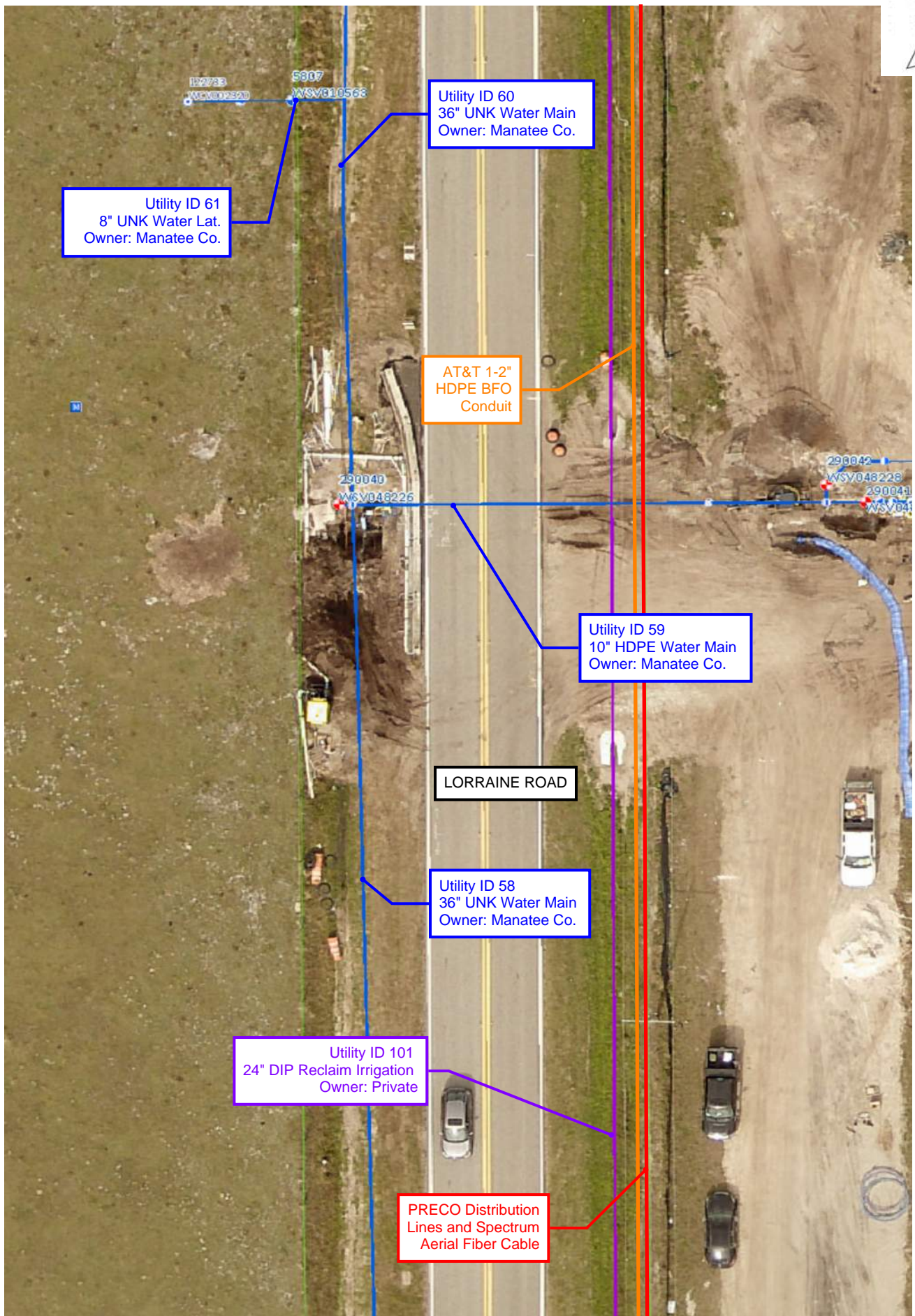
LORRAINE ROAD

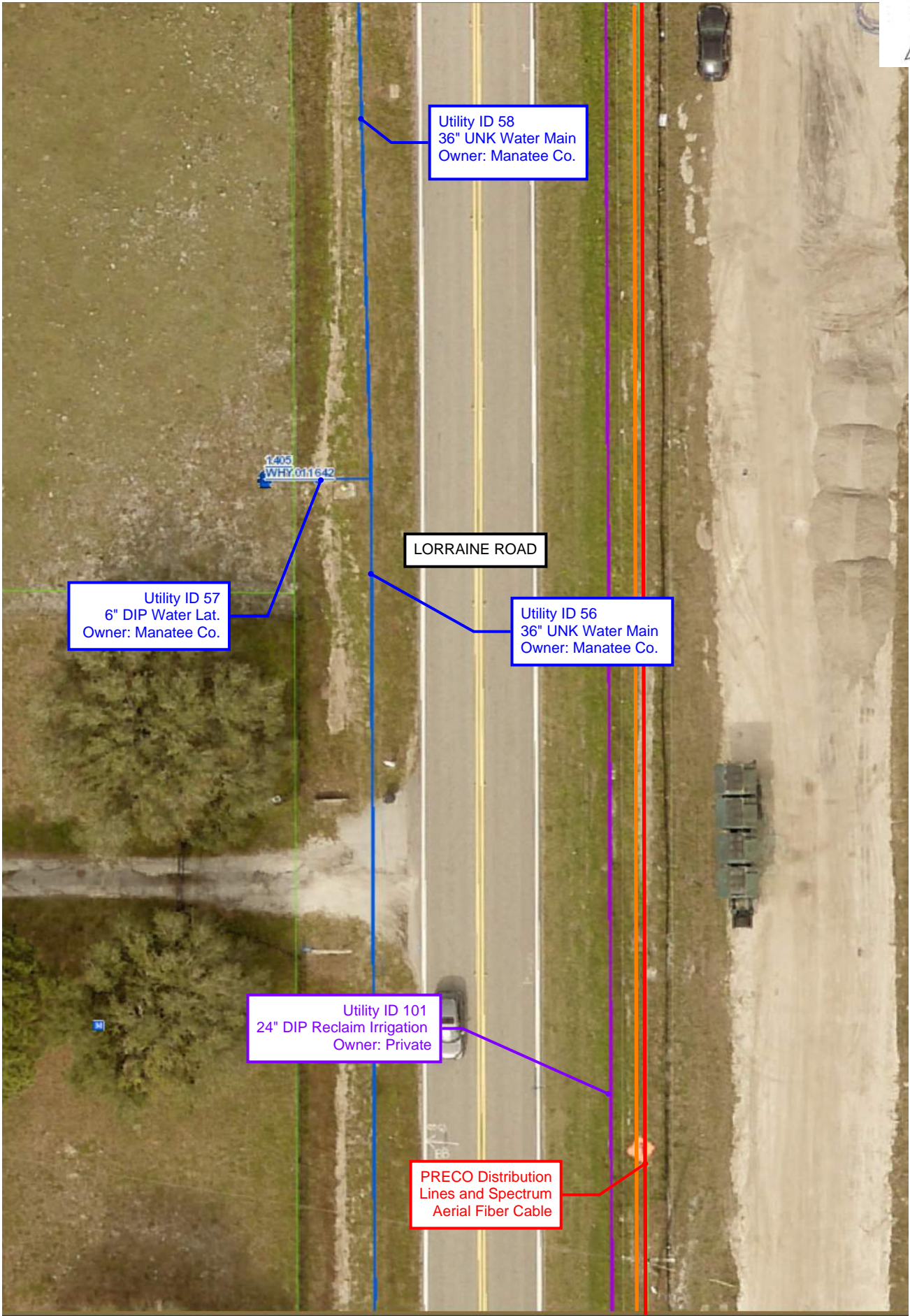
Utility ID 101
24" DIP Reclaim Irrigation
Owner: Private

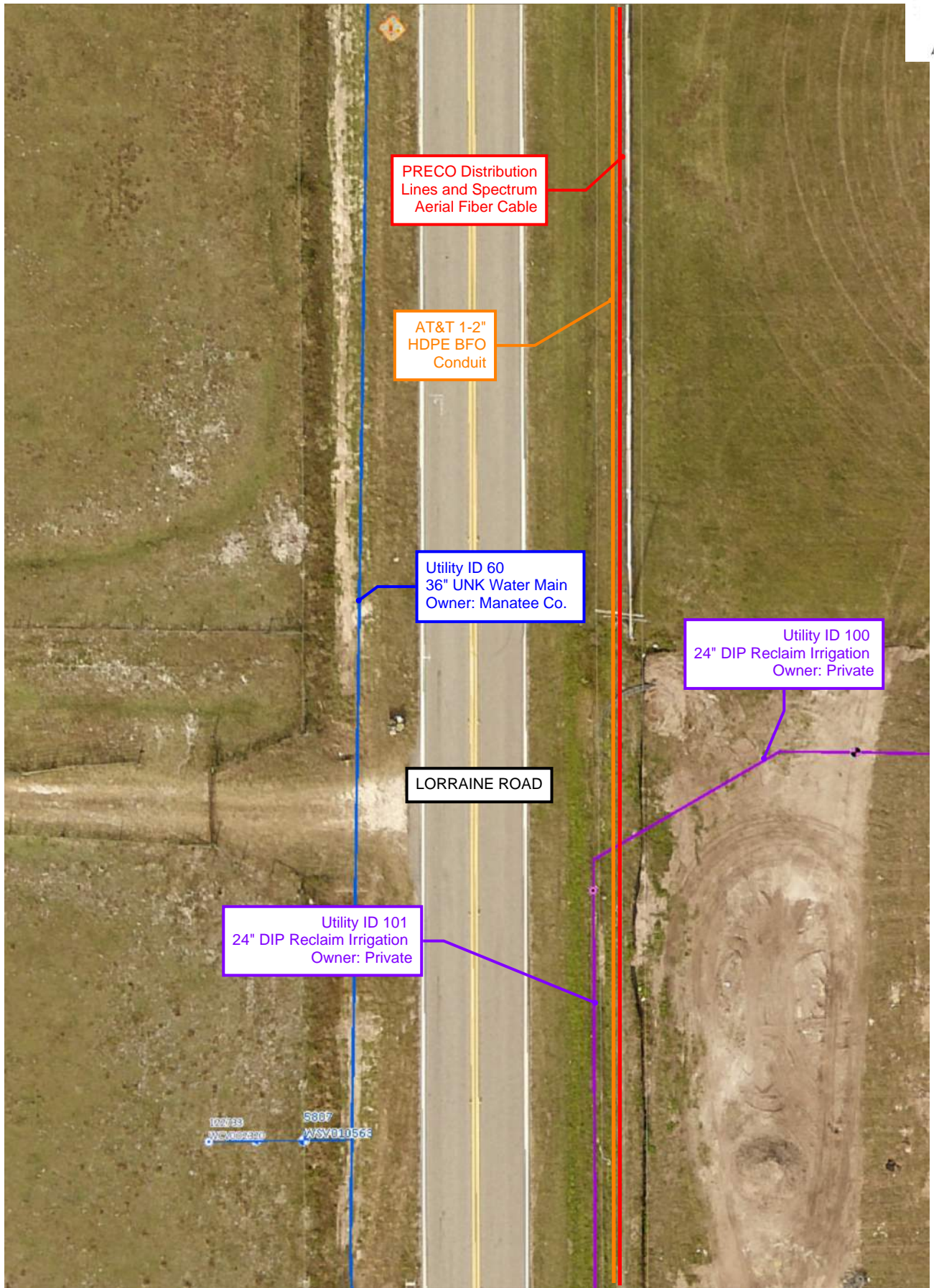
AT&T 1-2"
HDPE BFO
Conduit

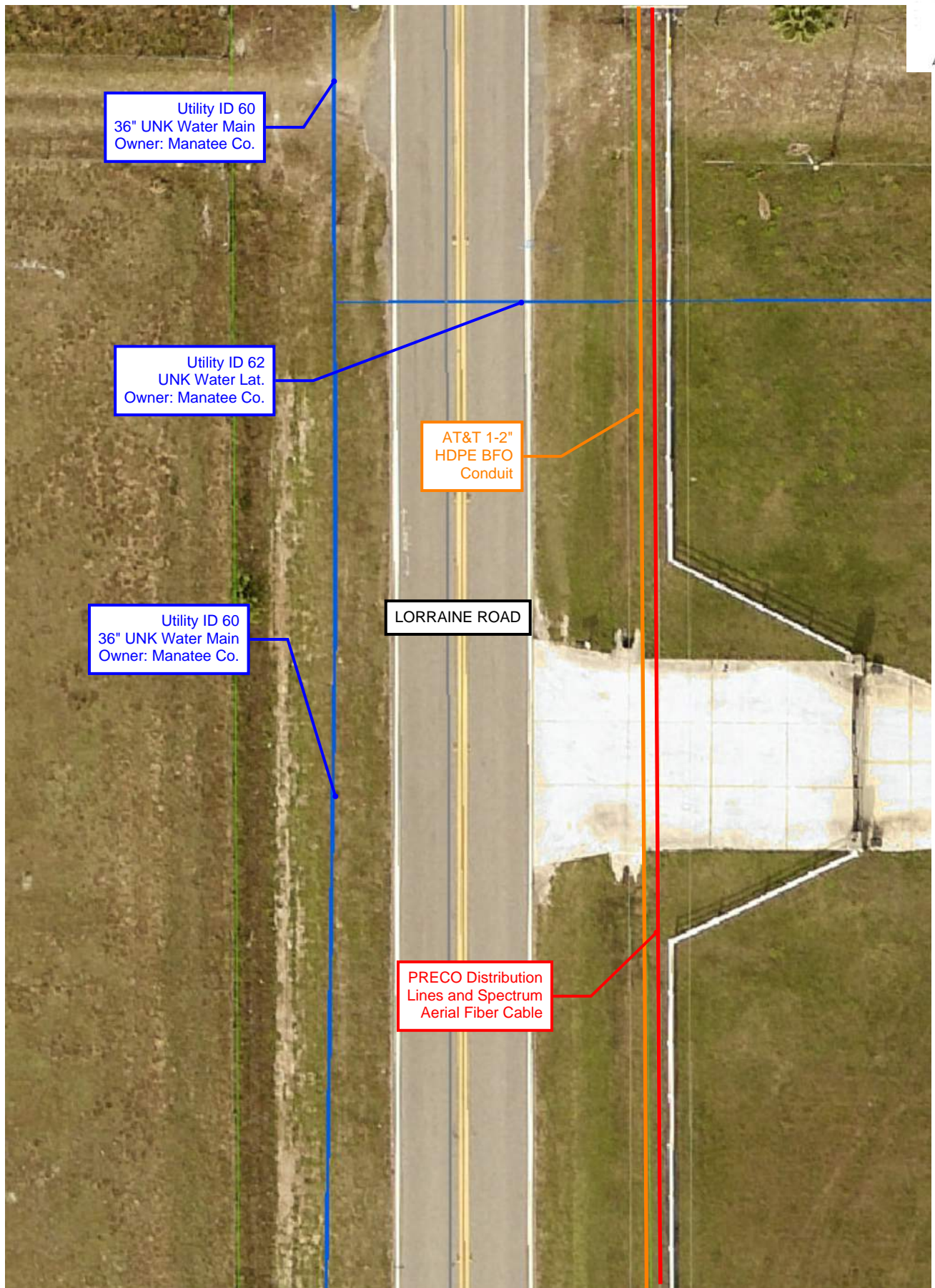
PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

10257









Utility ID 60
36" UNK Water Main
Owner: Manatee Co.

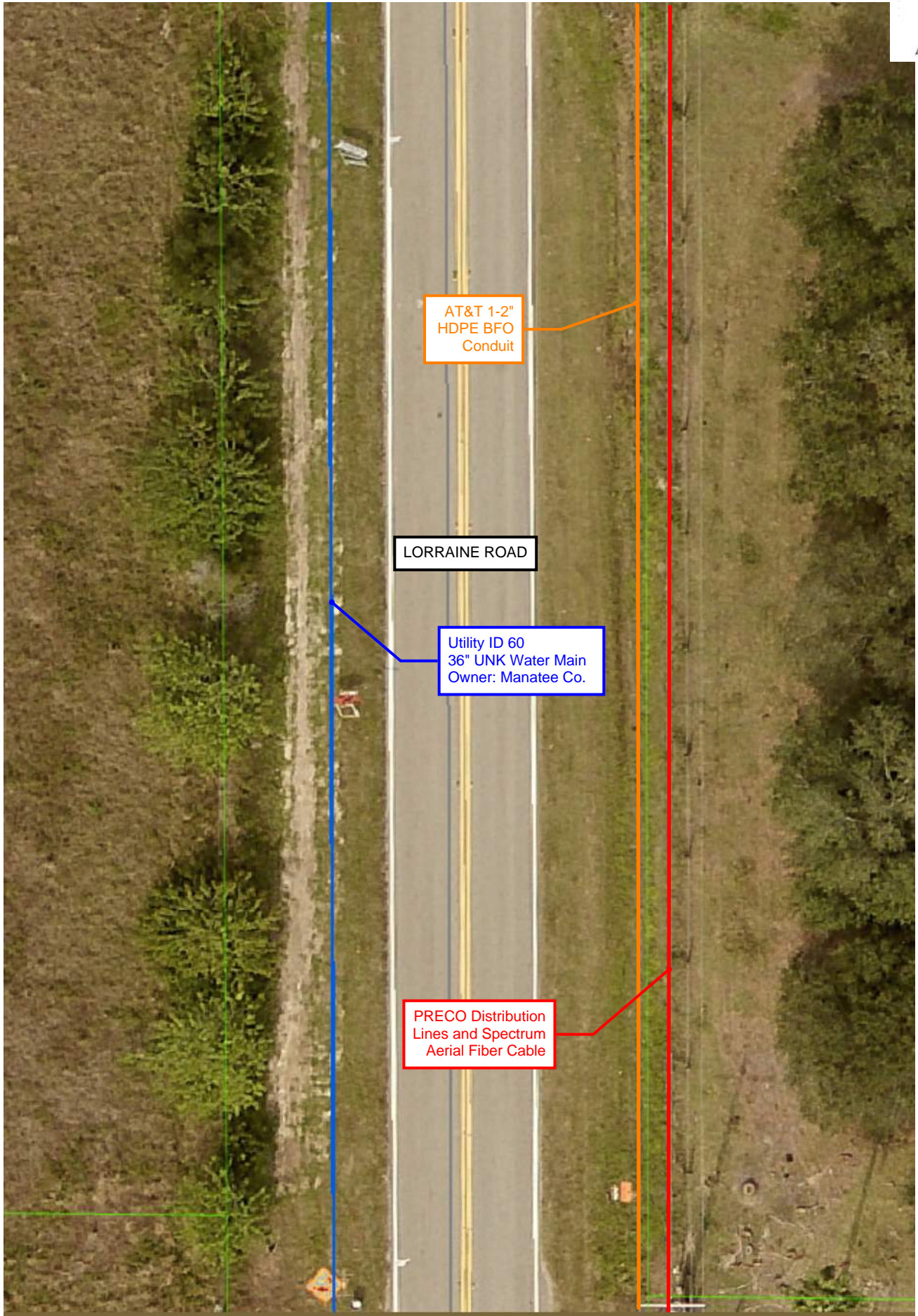
Utility ID 62
UNK Water Lat.
Owner: Manatee Co.

Utility ID 60
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

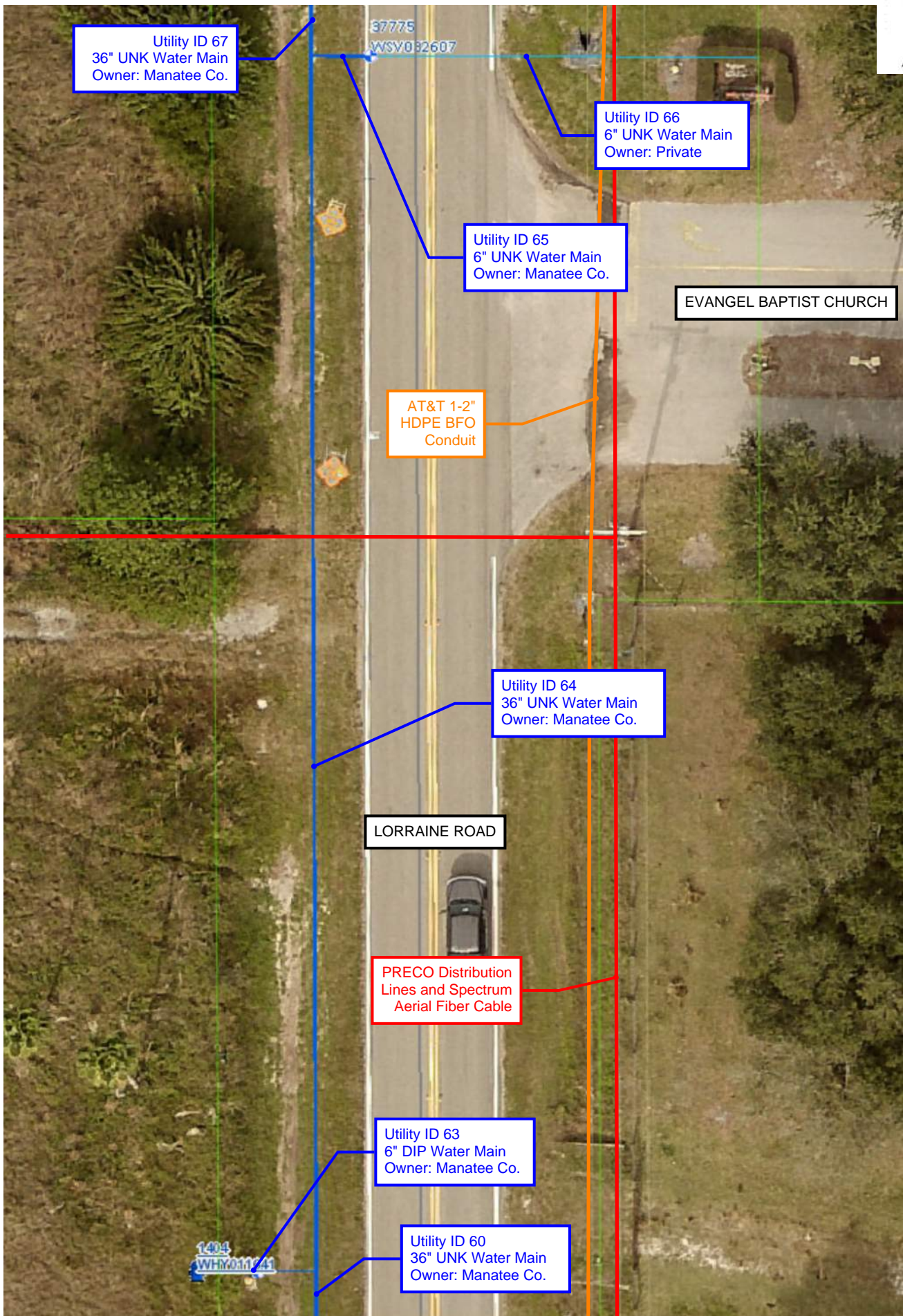


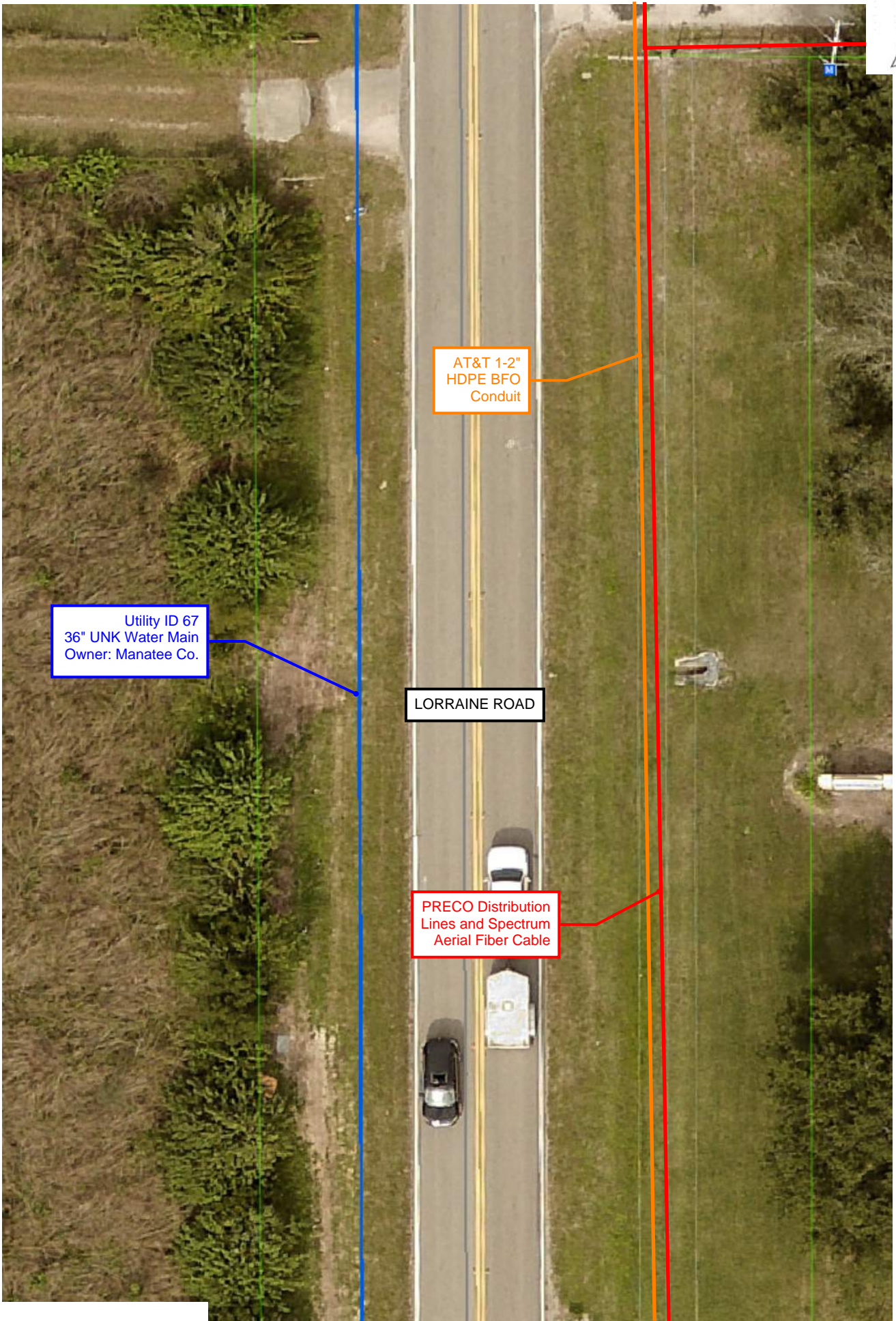
AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

Utility ID 60
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



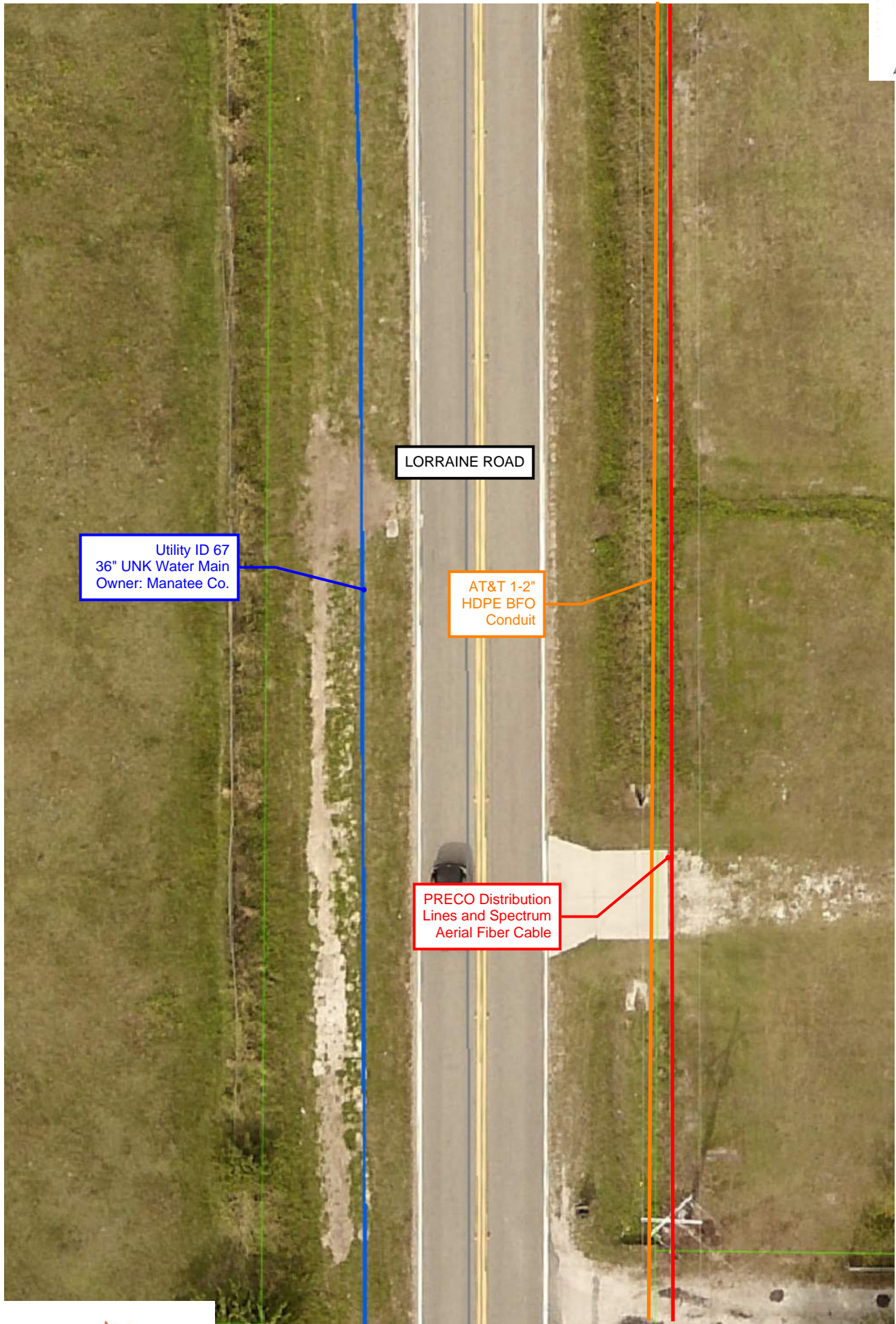


Utility ID 67
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

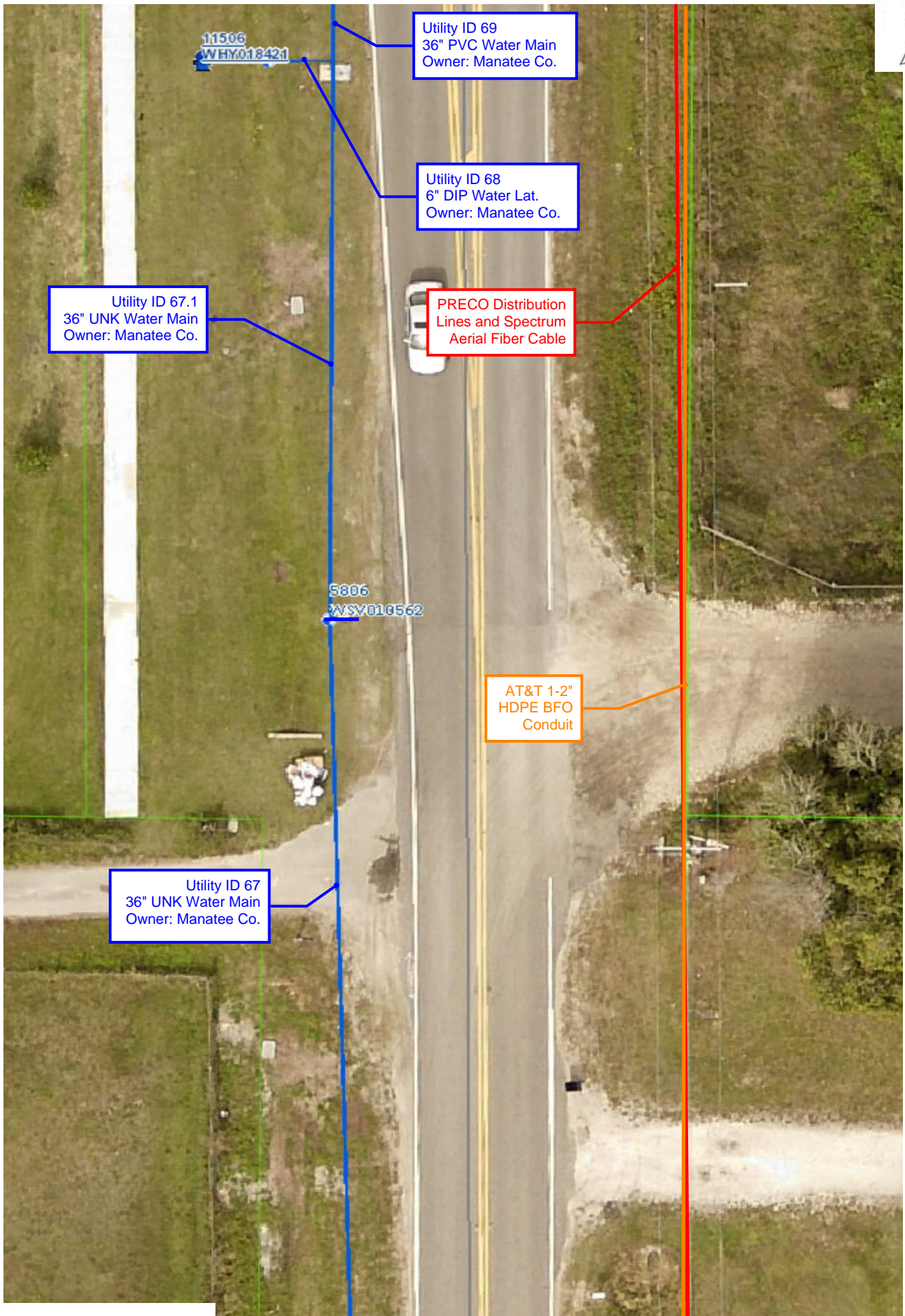


LORRAINE ROAD

Utility ID 67
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



11506
WHY018421

Utility ID 69
36" PVC Water Main
Owner: Manatee Co.

Utility ID 68
6" DIP Water Lat.
Owner: Manatee Co.

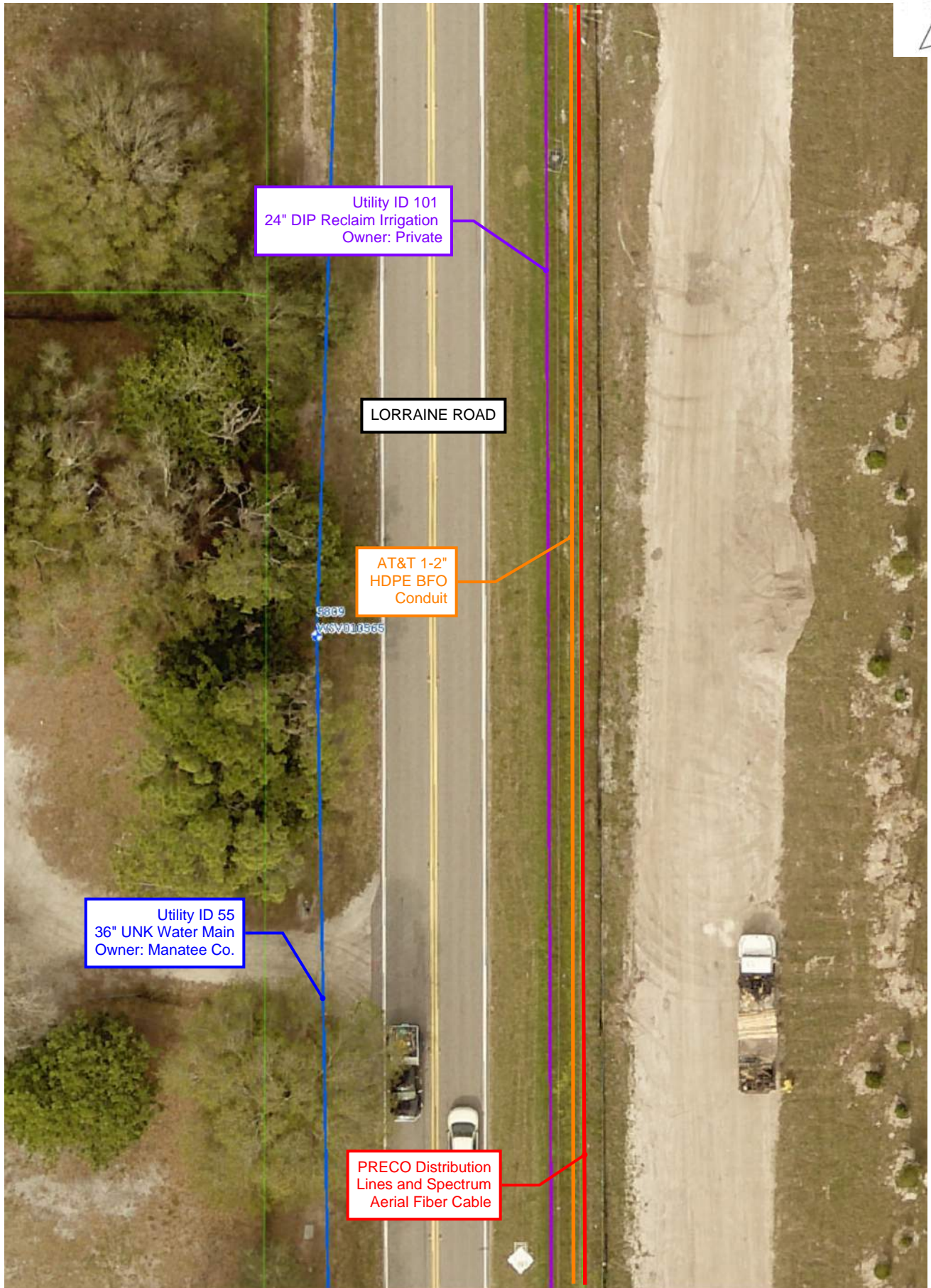
Utility ID 67.1
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

5806
WSV010562

AT&T 1-2"
HDPE BFO
Conduit

Utility ID 67
36" UNK Water Main
Owner: Manatee Co.



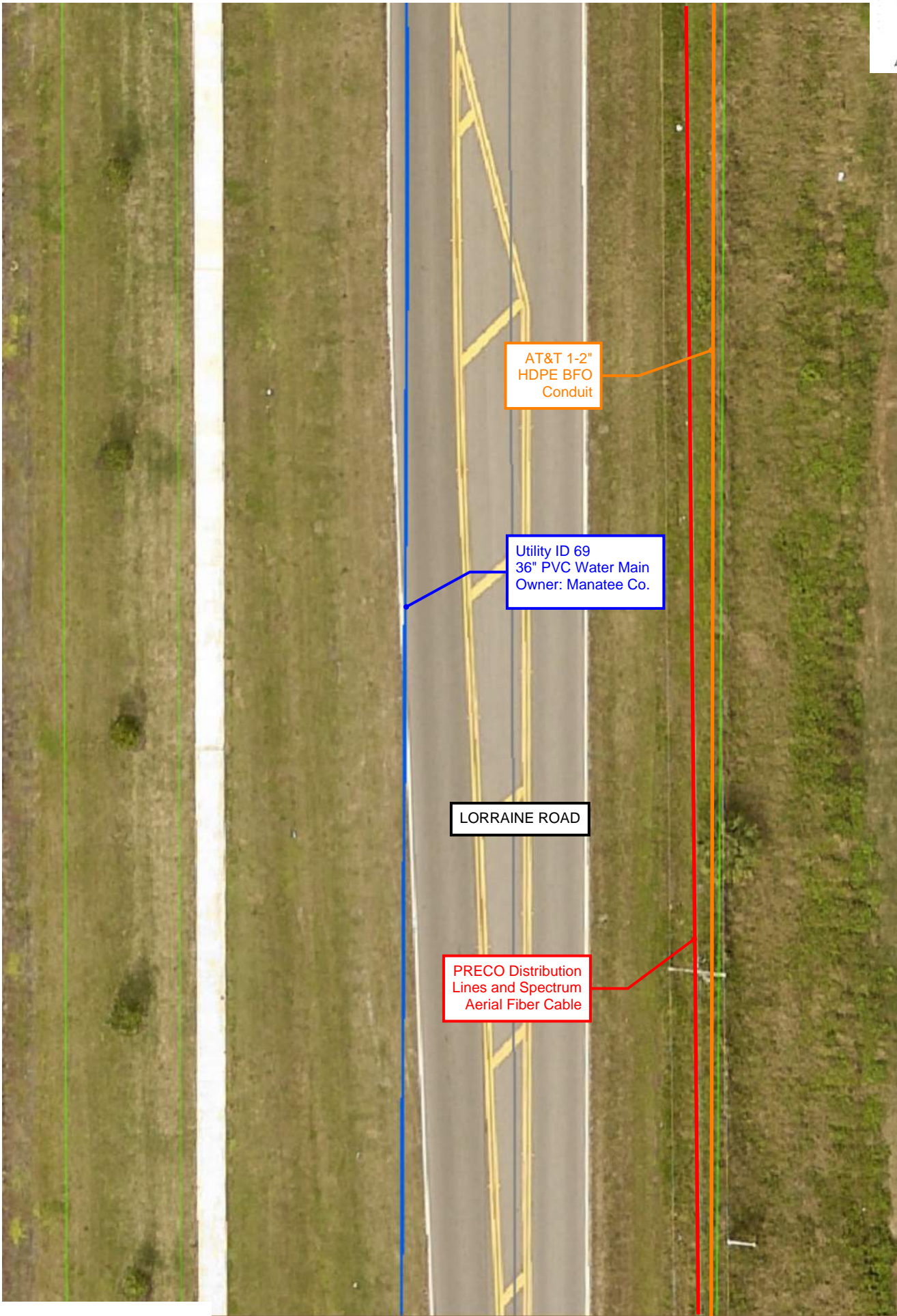
Utility ID 101
24" DIP Reclaim Irrigation
Owner: Private

LORRAINE ROAD

AT&T 1-2"
HDPE BFO
Conduit

Utility ID 55
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

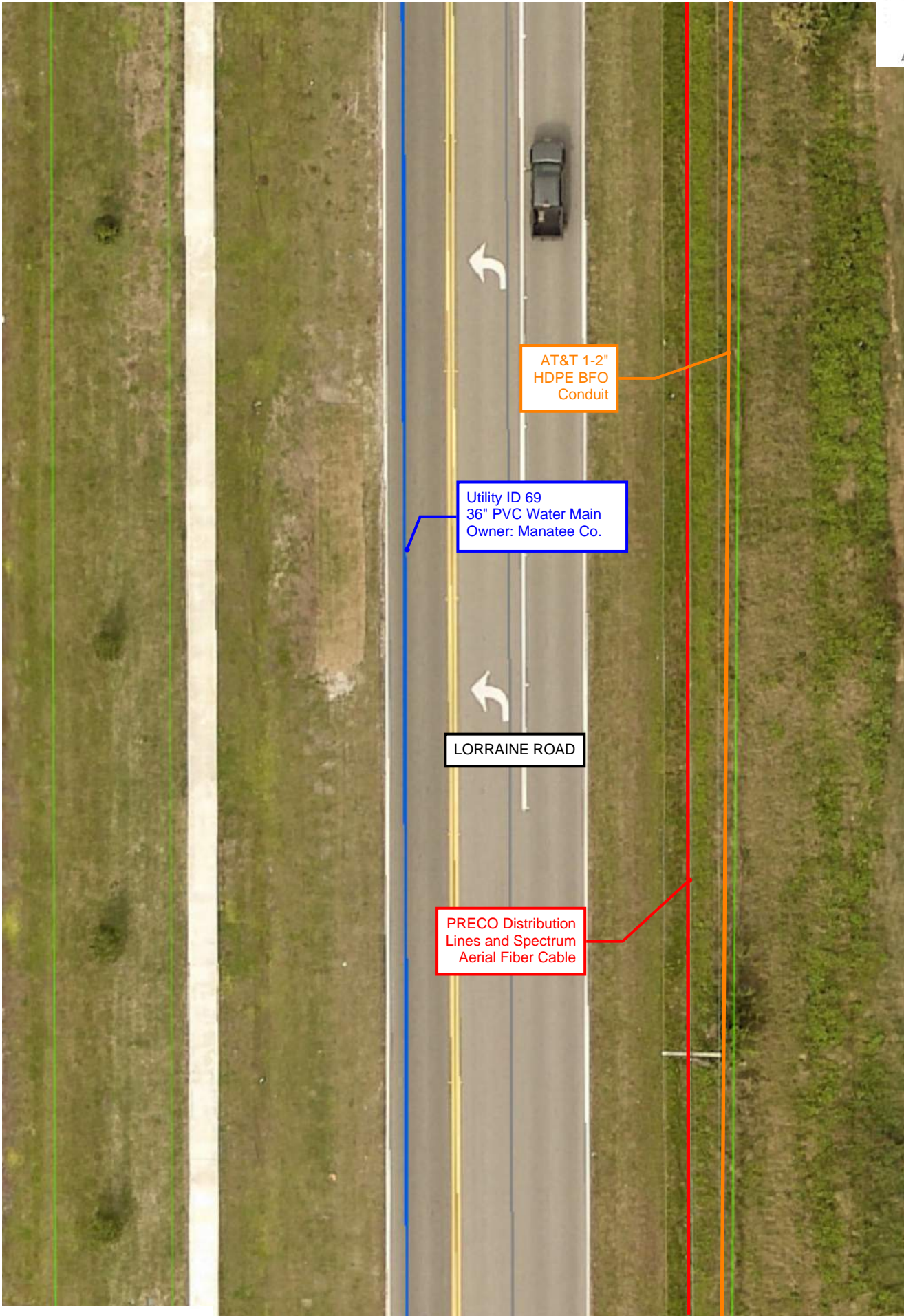


AT&T 1-2"
HDPE BFO
Conduit

Utility ID 69
36" PVC Water Main
Owner: Manatee Co.

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

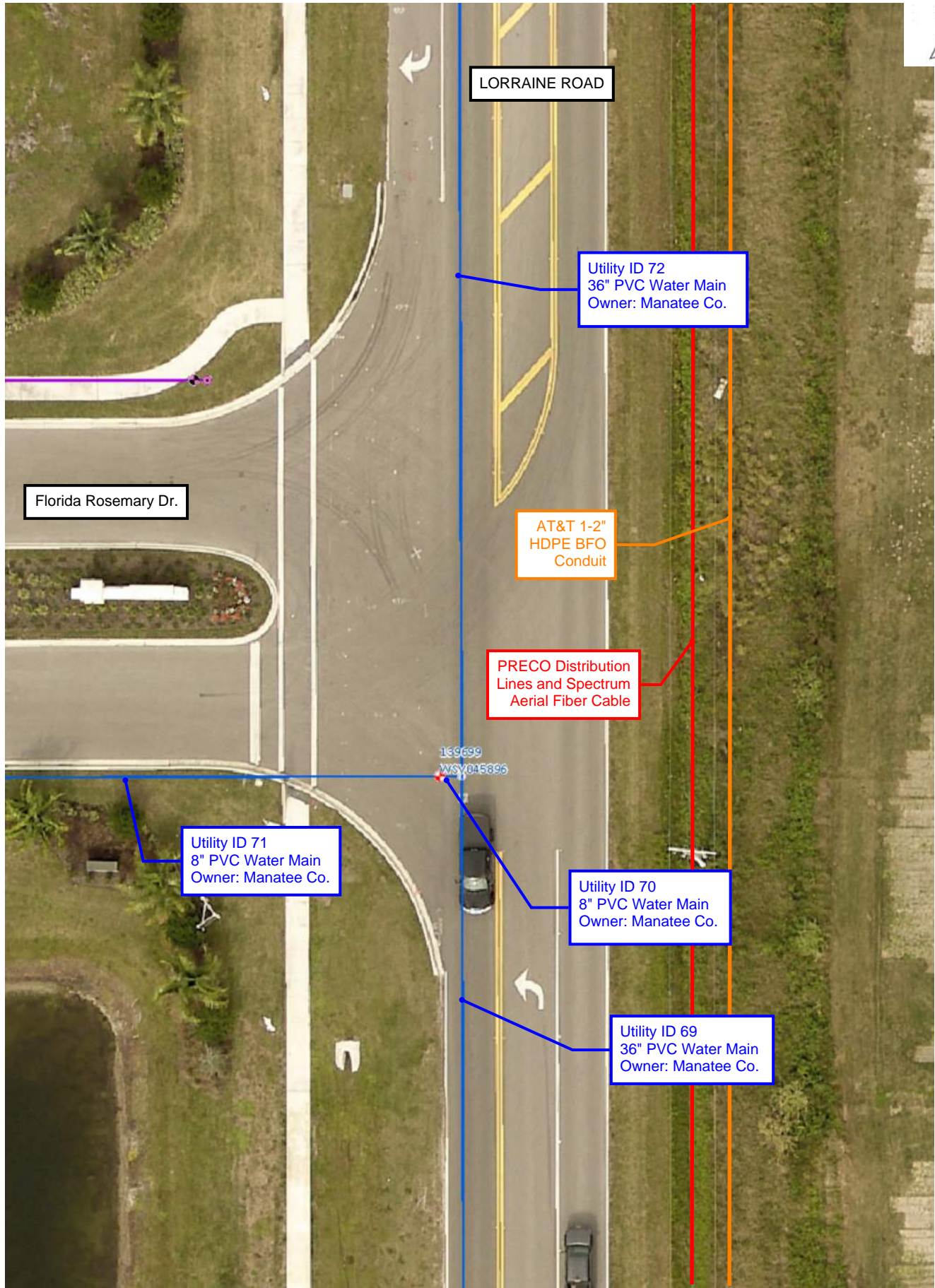


AT&T 1-2"
HDPE BFO
Conduit

Utility ID 69
36" PVC Water Main
Owner: Manatee Co.

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable



LORRAINE ROAD

Florida Rosemary Dr.

Utility ID 72
36" PVC Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

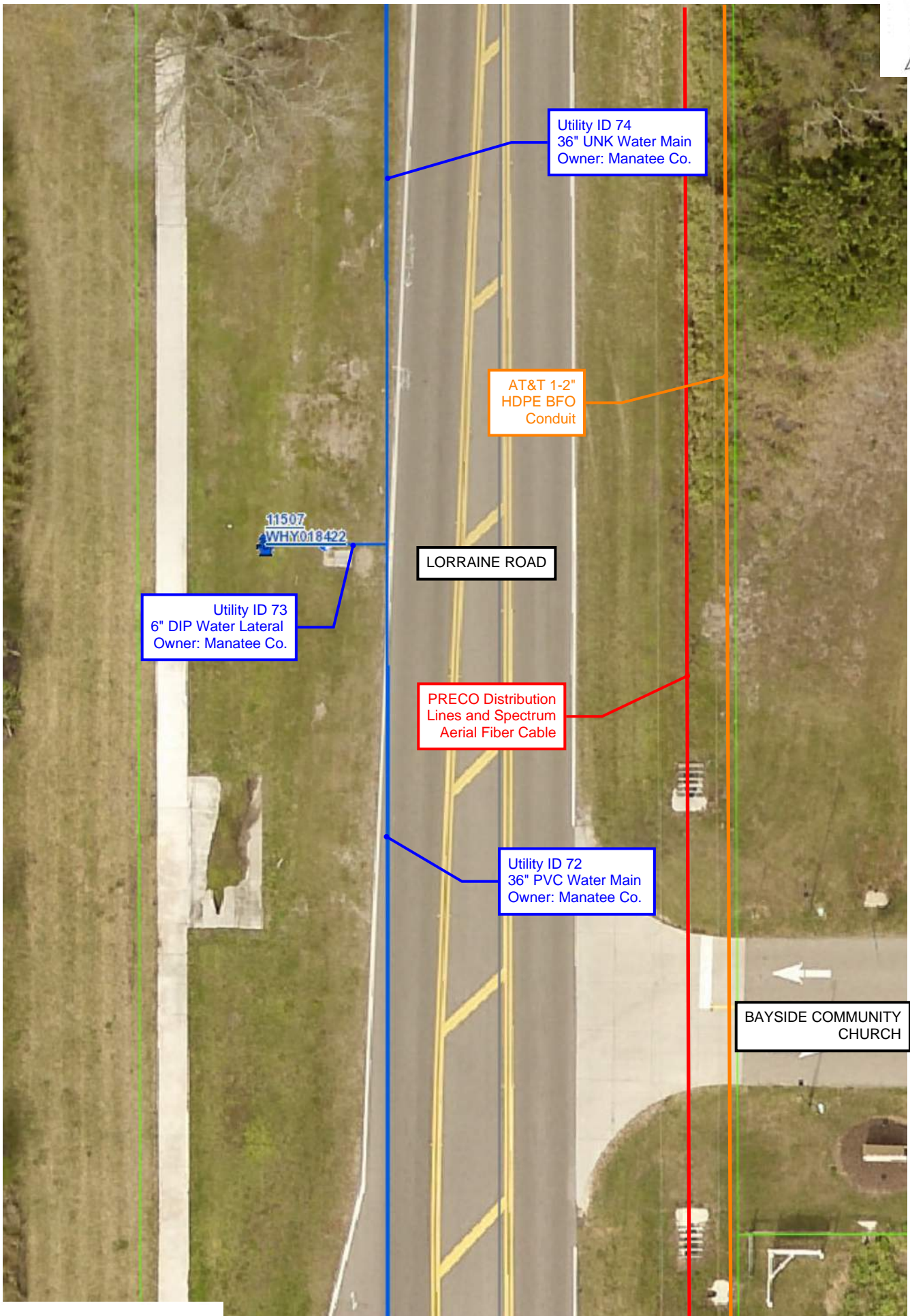
PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

Utility ID 71
8" PVC Water Main
Owner: Manatee Co.

Utility ID 70
8" PVC Water Main
Owner: Manatee Co.

Utility ID 69
36" PVC Water Main
Owner: Manatee Co.

169699
WSV045696



Utility ID 74
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

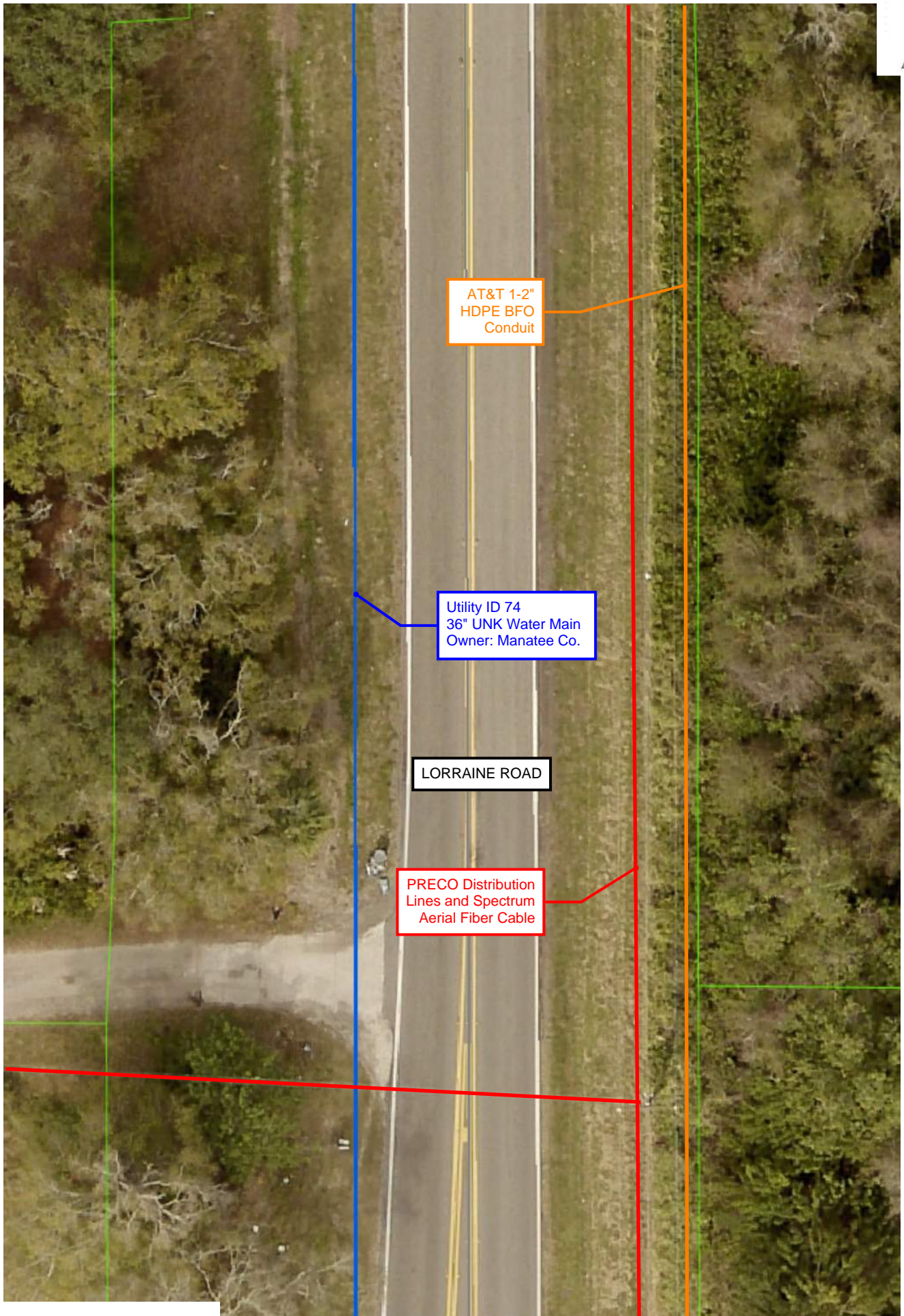
LORRAINE ROAD

Utility ID 73
6" DIP Water Lateral
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

Utility ID 72
36" PVC Water Main
Owner: Manatee Co.

BAYSIDE COMMUNITY
CHURCH

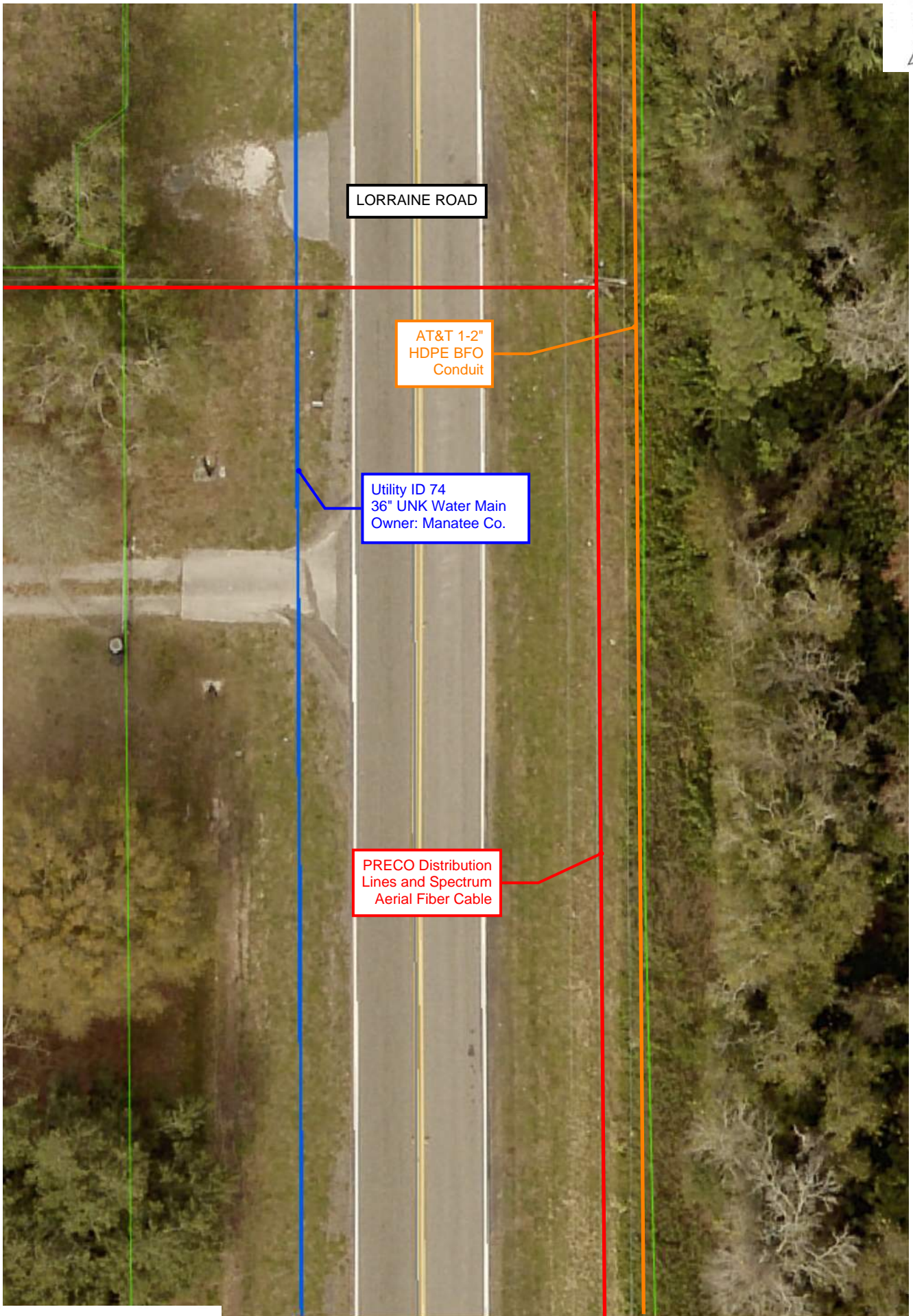


AT&T 1-2"
HDPE BFO
Conduit

Utility ID 74
36" UNK Water Main
Owner: Manatee Co.

LORRAINE ROAD

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

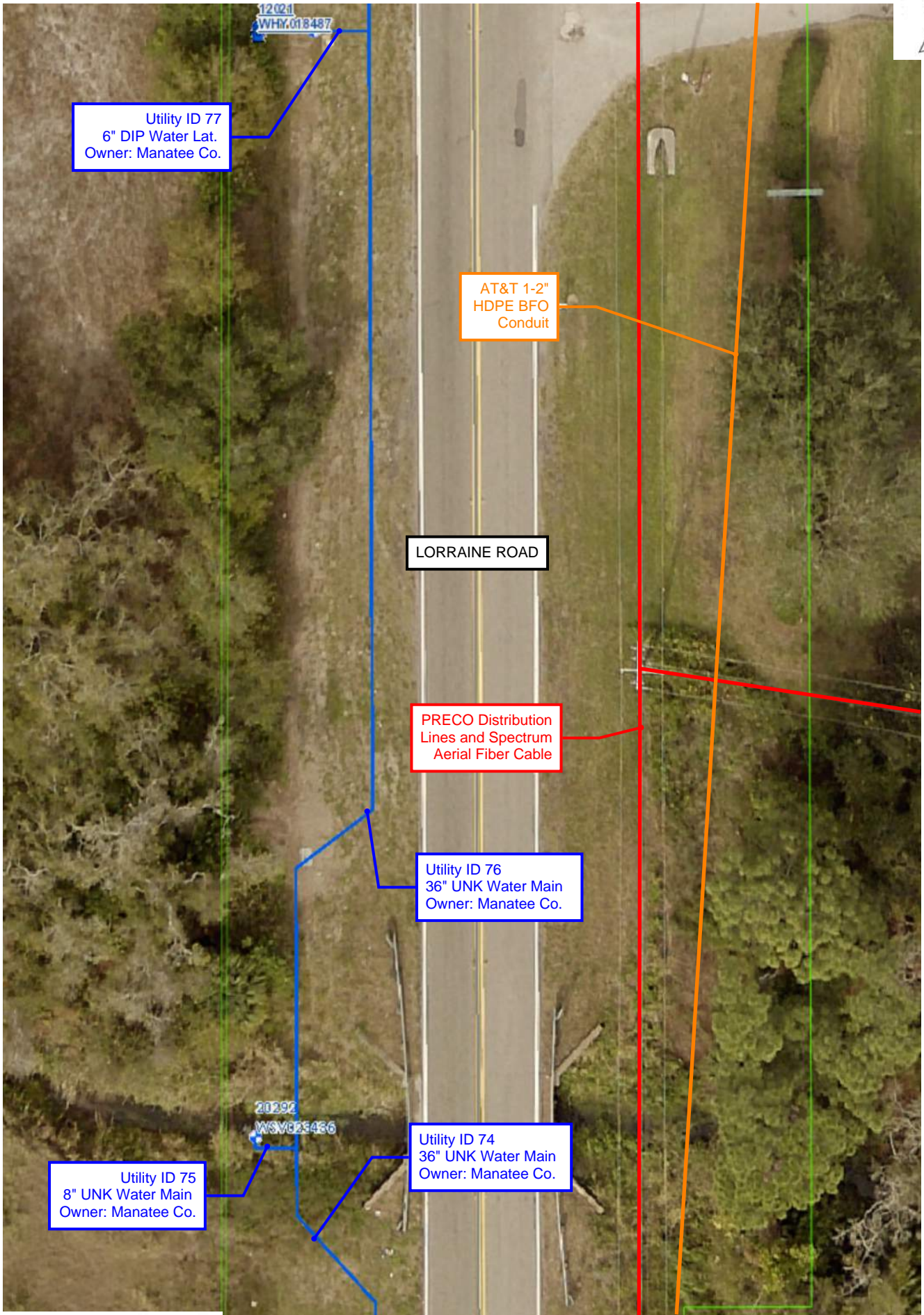


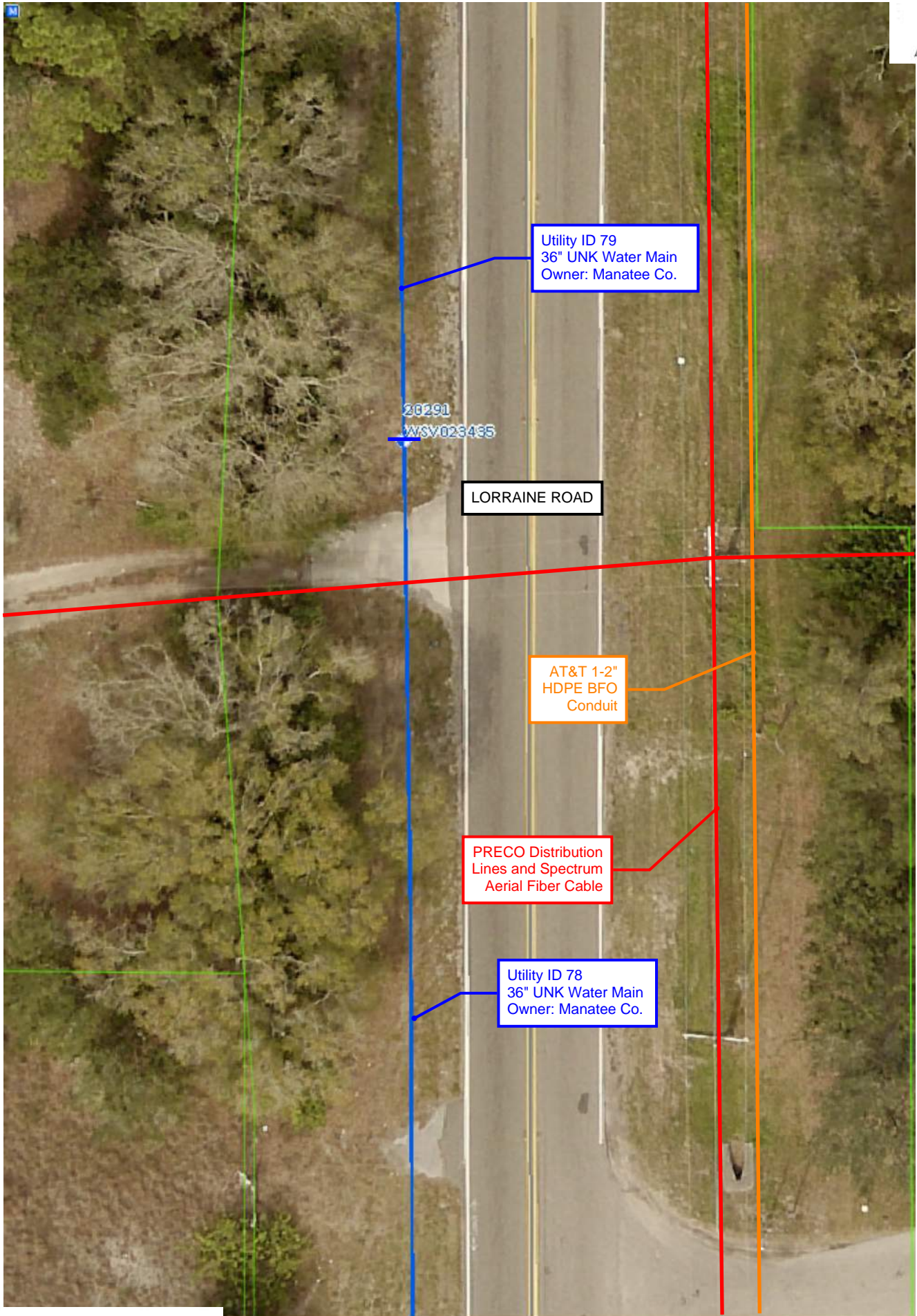
LORRAINE ROAD

AT&T 1-2"
HDPE BFO
Conduit

Utility ID 74
36" UNK Water Main
Owner: Manatee Co.

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable





20291
WSV023435

LORRAINE ROAD

Utility ID 79
36" UNK Water Main
Owner: Manatee Co.

AT&T 1-2"
HDPE BFO
Conduit

PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

Utility ID 78
36" UNK Water Main
Owner: Manatee Co.



LORRAINE ROAD

AT&T 1-2"
HDPE BFO
Conduit

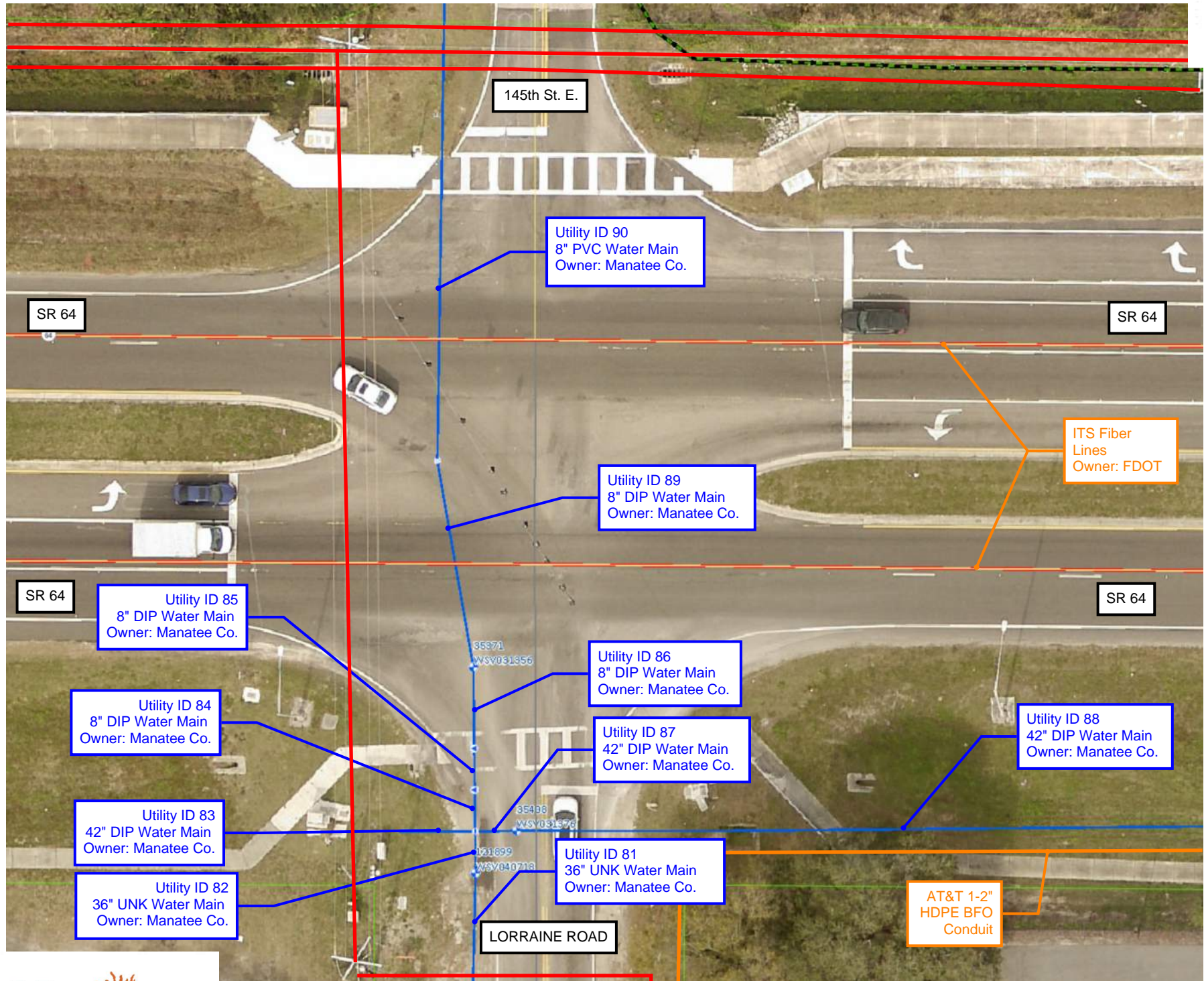
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36" UNK Water Main
Owner: Manatee Co.

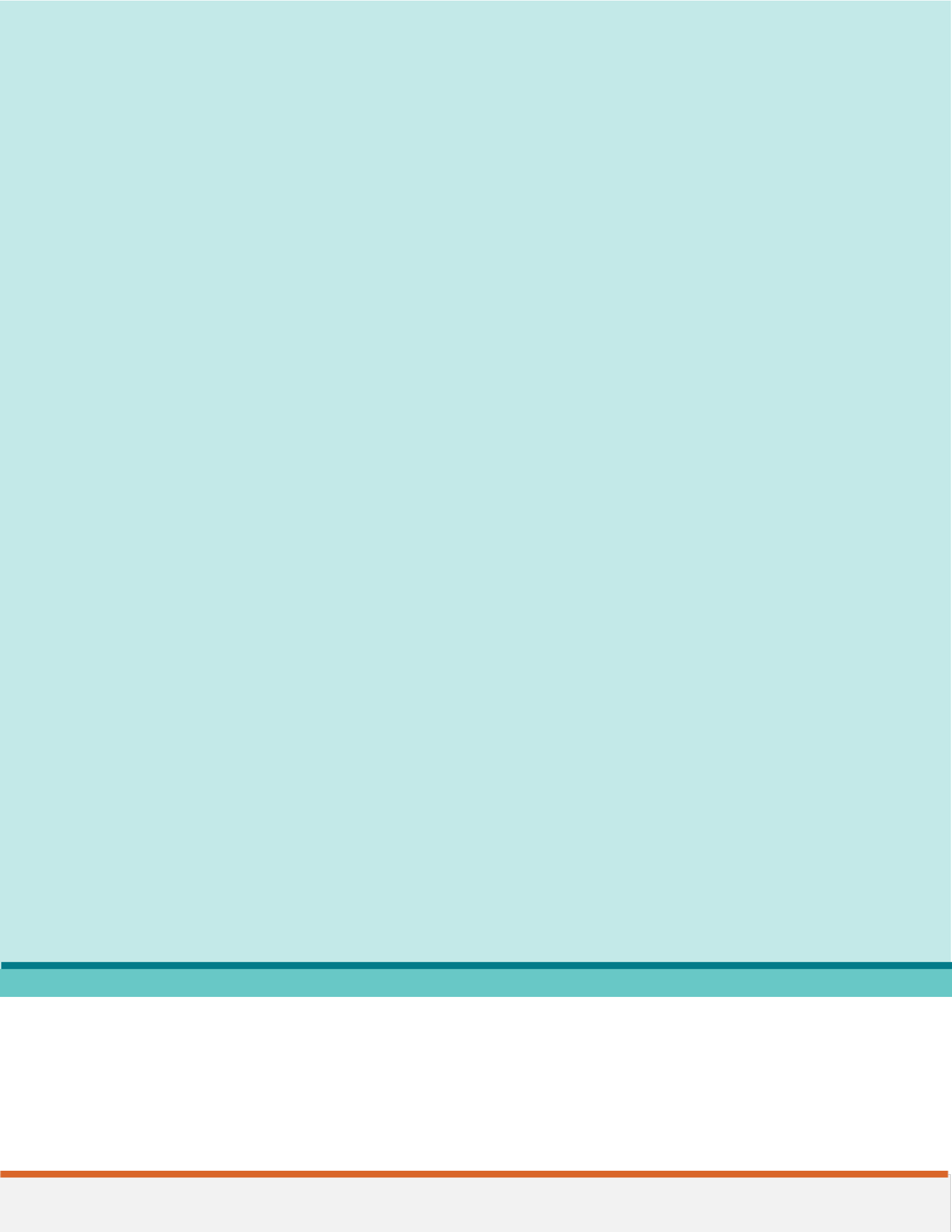
PRECO Distribution
Lines and Spectrum
Aerial Fiber Cable

4688
WHY 014899

Utility ID 80
8" UNK Water Main
Owner: Manatee Co.

Utility ID 79
36" UNK Water Main
Owner: Manatee Co.





Appendix H – Agency Coordination Minutes

Upper Manatee River Road
SWFWMD Pre-Application Minutes

THIS FORM IS INTENDED TO FACILITATE AND GUIDE THE DIALOGUE DURING A PRE-APPLICATION MEETING BY PROVIDING A PARTIAL "PROMPT LIST" OF DISCUSSION SUBJECTS. IT IS NOT A LIST OF REQUIREMENTS FOR SUBMITTAL BY THE APPLICANT.



**SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
RESOURCE REGULATION DIVISION
PRE-APPLICATION MEETING NOTES**

**FILE
NUMBER:**

PA 408905

Date:	10/7/2021		
Time:	2:00		
Project Name:	Lorraine Road		
District Engineer:	Monte Ritter		
District ES:	Jeff Glas		
Attendees:	Jason Starr Jason.Starr@hdrinc.com , Paul Herman, Scott Ennis, Barry Lenz, Eric Shroyer, Darin Rice		
County:	Manatee	Sec/Twp/Rge:	3,10,15/35/19
Total Land Acreage:		Project Acreage:	acres

Prior On-Site/Off-Site Permit Activity:

- ERP 3052.270 (Rangeland Parkway from Lorraine Road to Uihlein Road); ERP 33170.019 (44th Avenue Phase IV)

Project Overview:

- Proposed road widening from two to four lanes from north of SR 70 to SR 64. Six basins/stormwater ponds are proposed. Proposed activity will qualify for a new Individual SWERP.

Environmental Discussion: (Wetlands On-Site, Wetlands on Adjacent Properties, Delineation, T&E species, Easements, Drawdown Issues, Setbacks, Justification, Elimination/Reduction, Permanent/Temporary Impacts, Secondary and Cumulative Impacts, Mitigation Options, SHWL, Upland Habitats, Site Visit, etc.)

- Wetlands and surface waters present, impacts proposed.
- Provide the limits of jurisdictional wetlands and surface waters. Roadside ditches or other water conveyances, including permitted and constructed water conveyance features, can be claimed as surface waters per Chapter 62-340 F.A.C. if they do not meet the definition of a swale as stated under Rule 403.803 (14) F.S.
- Provide appropriate mitigation using UMAM for impacts, if applicable.
- The site is located in the Manatee River ERP Basin. Mitigation Banks that serve this area include the Manatee Mitigation and Braden River. For an interactive map of permitted mitigation banks and their service areas, use this [LINK](#).
- If the wetland mitigation is appropriate and the applicant is proposing to utilize mitigation bank credit as wetland mitigation, the following applies: Provide letter or credit availability or, if applicable, a letter of reservation from the wetland mitigation bank. The wetland mitigation bank current credit ledgers can be found out the following link: <https://www.swfwmd.state.fl.us/business/epermitting/environmental-resource-permit>, Go to "ERP Mitigation Bank Wetland Credit Ledgers"
- Demonstrate elimination and reduction of wetland impacts.
- Maintain minimum 15 foot, average 25 foot wetland conservation area setback or address secondary impacts.
- Please demonstrate that adverse impacts to the wetland hydro-periods will not occur by providing hydrographs of the 2.33 year mean annual storm. The graph should start and end at the pop-off elevation with Existing Condition and Proposed Condition hydrographs superimposed for comparison. Please provide a supporting narrative for the hydrographs explaining any variations that are shown. The invert of the agricultural ditches may be the existing 'pop-off' elevation, or SHWL of the wetland and may need to be considered when designing the storm water management system.
- Determine SHWL's at pond locations, wetlands, and OSWs.
- Determine normal pool elevations of wetlands.
- Determine 'pop-off' locations and elevations of wetlands.
- Please note, the Florida Department of Environmental Protection (FDEP) has assumed the Federal dredge and fill permitting program under section 404 of the Federal Clean Water Act within certain waters. State 404 Program streamlining intentions direct Agency staff to coordinate joint site visits for overall consistency between the two State programs. As such, District staff and the FDEP will need to conduct a joint site visit

for evaluation of the wetland/surface water systems proposed for impact. District staff will coordinate with FDEP staff on determining dates/times of joint Agency availability. Upon determination of joint availability, staff will provide the applicant's representative with site visit scheduling options.

Site Information Discussion: (SHW Levels, Floodplain, Tailwater Conditions, Adjacent Off-Site Contributing Sources, Receiving Waterbody, etc.)

- Watersheds – Braden River and Mill Creek. 100-year floodplain onsite per watershed study. Watershed Model information may be available for download using the following link: <https://watermatters.sharefile.com/d-s8c9019e00fd243908654e733a6b2016c>
- WBIDs – Wolf Slough (WBID 1909) and Mill Creek (WBID 1872B). WBIDs are not currently listed for nutrient related impairments. WBIDs need to be independently verified by the consultant
- Document/justify SHWE's at pond locations, wetlands, and OSWs.
- Provide documentation to support tailwater conditions for quality and quantity design
- Contamination issues need to be resolved with the FDEP. Check FDEP MapDirect layer for possible contamination points within/adjacent to the project area. [FDEP Map Direct](#)

- Petroleum Contamination Monitoring Sites (PCTS) Facility ID No. 8510898 located within or adjacent to site.

Please verify with FDEP if it has current contamination issues after the application is submitted.

For known contamination within the site or within 500' beyond the proposed stormwater management system:

- After the application is submitted, please contact FDEP staff listed below and provide them with the ERP Application ID # along with a mounding analysis (groundwater elevation versus distance) of the proposed stormwater management system that shows the proposed groundwater mound will not adversely impact the contaminated area. FDEP will review the plans submitted to the District and mounding analysis to determine any adverse impacts. Provide documentation from FDEP that the proposed construction will not result in adverse impacts. This is required prior to the ERP Application being deemed complete.

For known offsite contamination between 1500' and 500' beyond the site: - FDEP may also require a mounding analysis (groundwater elevation versus distance) for the proposed stormwater systems. SWFWMD will issue the permit when contamination sites are located outside the 500 ft radius prior to concurrence from DEP, however, it is the Permittee's responsibility to resolve contaminated site assessment concerns with the FDEP prior to beginning any construction activities. A permit condition will be used to reiterate this. You are advised to contact DEP as soon as possible, preferably during permit application period.

- FDEP Contacts:

- For projects located within Citrus, Hernando, Pasco, Hillsborough, Pinellas, Manatee, Polk and Hardee Counties: Yanisa Angulo Yanisa.angulo@floridadep.gov

- Any wells on site should be identified and their future use/abandonment must be designated.
- Stormwater retention and detention systems are classified as moderate sanitary hazards with respect to public and private drinking water wells. Stormwater treatment facilities shall not be constructed within 100 feet of an existing public water supply well and shall not be constructed within 75 feet of an existing private drinking water well. Subsection 4.2, A.H.V.II.
- District data collection sites (Unnamed at Lorraine Road 6 – Site ID 25822, Wolf Slough at Lorraine – Site ID 25823, and Unnamed at Lorraine Road 4 – Site ID 25824) may be impacted by proposed construction. Contact the District's Data Steward at Data.Maps@watermatters.org under the subject line "PRIORITY ERP Data Evaluation" to coordinate protection or relocation of the data collection site.

Water Quantity Discussions: (Basin Description, Storm Event, Pre/Post Volume, Pre/Post Discharge, etc.)

- Demonstrate that post development peak discharges from proposed project area will not cause an adverse impact for a 25-year, 24-hour storm event.
- Demonstrate that site will not impede the conveyance of contributing off-site flows.
- Demonstrate that the project will not increase flood stages up- or down-stream of the project area(s).
- Provide equivalent compensating storage for all 100-year, 24-hour floodplain impacts if applicable. Providing cup-for-cup storage in dedicated areas of excavation is the preferred method of compensation, if no impacts to flood conveyance are proposed and storage impacts and compensation occur within the same basin. In this case, tabulations should be provided at 0.5-foot increments to demonstrate encroachment and compensation occur at the same levels. Otherwise, storage modeling will be required to demonstrate no increase in flood stages will occur on off-site properties, using the mean annual, 10-year, 25-year, and 100-year storm events for the pre- and post-development conditions.

Water Quality Discussions: (Type of Treatment, Technical Characteristics, Non-presumptive Alternatives, etc.)

- **Presumptive Water Quality Treatment for Alterations to Existing Public Roadway Projects:**
 - Refer to Section 4.5 A.H.V.II for Alterations to Existing Public Roadway Projects.
 - Refer to Sections 4.8, 4.8.1 and 4.8.2 A.H.V.II for Compensating Stormwater Treatment, Overtreatment, and Offsite Compensation.
 - All co-mingled existing & new impervious that is proposed to be connected to a treatment pond will require treatment for an area equal to the co-mingled existing & new impervious (times ½” for dry treatment or 1” for wet treatment). This applies whether or not equivalent treatment concepts are used.
 - However, if equivalent treatment concepts are used it is possible to strategically locate the pond(s) so that the minimum treatment requirement may be for an area equivalent to the new impervious area only. That is, co-mingled existing & new impervious that is not connected to a treatment pond may bypass treatment (as per Section 4.5(2), A.H.V.II); if the ‘total impervious area’ that is connected to the treatment pond(s) is at least equivalent to the area of new impervious only. The ‘total impervious area’ that is connected to the pond(s) may be composed of co-mingled existing & new impervious.
 - Offsite impervious not required to be treated; but may be useful to be treated when using equivalent treatment concepts.
 - Existing treatment capacity displaced by any road project will require additional compensating volume. Refer to Subsection 4.5(c), A.H.V.II.

Sovereign Lands Discussion: (Determining Location, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP)

- The project may be located within state owned sovereign submerged lands (SSSL). Be advised that a title determination will be required from FDEP to verify the presence and/or location of SSSL.
- If use of SSSL is proposed, authorization will be required. Refer to Chapter 18-21, F.A.C. and Chapter 18-20, F.A.C. for guidance on projects that impact SSSL and Aquatic Preserves.
- Include discussion on the potential type of SSSL authorization that may be required. Refer to Chapter 18-21.005, F.A.C.

Operation and Maintenance/Legal Information: (Ownership or Perpetual Control, O&M Entity, O&M Instructions, Homeowner Association Documents, Coastal Zone requirements, etc.)

- The permit must be issued to entity that owns or controls the property. Manatee County will be permittee.
- Provide evidence of ownership or control by deed, easement, contract for purchase, etc.

Application Type and Fee Required:

- SWERP Individual – Sections A, C, and E of the ERP Application. Fee will be based on project area and amount of wl/sw impacts.
- Consult the [fee schedule](#) for different thresholds.

Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits – WUP, WOD, Well Construction, etc.)

- An application for an individual permit to construct or alter a dam, impoundment, reservoir, or appurtenant work, requires that a notice of receipt of the application must be published in a newspaper within the affected area. Provide documentation that such noticing has been accomplished. Note that the published notices of receipt for an ERP can be in accordance with the language provided in Rule 40D-1.603(10), F.A.C.
- The plans and drainage report submitted electronically must include the appropriate information required under Rules 61G15-23.005 and 61G15-23.004 (Digital), F.A.C. The following text is required by the Florida Board of Professional Engineers (FBPE) to meet this requirement when a digitally created seal is not used and must appear where the signature would normally appear:

ELECTRONIC (Manifest): *[NAME] State of Florida, Professional Engineer, License No. [NUMBER] This item has been electronically signed and sealed by [NAME] on the date indicated here using a SHA authentication code. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies*

DIGITAL: *[NAME] State of Florida, Professional Engineer, License No. [NUMBER]; This item has been digitally signed and sealed by [NAME] on the date indicated here; Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.*

- Provide soil erosion and sediment control measures for use during construction. Refer to ERP Applicant's Handbook Vol. 1 Part IV Erosion and Sediment Control.
- Demonstrate that excavation of any stormwater ponds does not breach an aquitard (see Subsection 2.1.1, A.H.V.II) such that it would allow for lesser quality water to pass, either way, between the two systems. In those geographical areas of the District where there is not an aquitard present, the depth of the pond(s) shall not be excavated to within two (2) feet of the underlying limestone which is part of a drinking water aquifer. [Refer to Subsection 5.4.1(b), A.H.V.II]
- If lowering of SHWE is proposed, then burden is on Applicant to demonstrate no adverse onsite or offsite impacts as per Subsection 3.6, A.H.V.II. Groundwater drawdown 'radius of influence' computations may be required to demonstrate no adverse onsite or offsite impacts. Please note that new roadside swales or deepening of existing roadside swales may result in lowering of SHWE. Proposed ponds with control elevation less than SHWE may result in adverse lowering of onsite or offsite groundwater.
- On December 17, 2020, the Environmental Protection Agency (EPA) formally transferred permitting authority under CWA Section 404 from the U.S. Army Corps of Engineers (Corps) to the State of Florida for a broad range of water resources within the State. The primary State 404 Program rules are adopted by the Florida Department of Environmental Protection (FDEP) as Chapter 62-331 of the Florida Administrative Code (F.A.C.). While the State 404 Program is a separate permitting program from the Environmental Resource Permitting program (ERP) under Chapter 62-330, F.A.C., and agency action for State 404 Program verifications, notices, or permits shall be taken independently from ERP agency action, the FDEP and the Southwest Florida Water Management District (SWFWMD) will be participating in a Joint application Process. Upon submittal of an ERP application that proposes dredge/fill activities in wetlands or surface waters within state assumed waters, the SWFWMD will forward a copy of your application to the FDEP for activities under State 404 jurisdiction. The applicant may choose to have the State 404 Program and ERP agency actions issued concurrently to help ensure consistency and reduce the need for project modifications that may occur when the agency actions are issued at different times. Additional information on the FDEP's 404 delegation can be found at: <https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/state-404-program>
- Additionally, for those projects located in areas where the Corps retains jurisdiction, the applicant is advised that the District will not send a copy of an application that does not qualify for a State Programmatic General Permit (SPGP) to the U.S. Army Corps of Engineers. If a project does not qualify for a SPGP, you will need to apply separately to the Corps using the appropriate federal application form for activities under federal jurisdiction. Please see the Corps' Jacksonville District Regulatory Division Sourcebook for more information about federal permitting. Please call your local Corps office if you have questions about federal permitting. Link: <http://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/>

Disclaimer: The District ERP pre-application meeting process is a service made available to the public to assist interested parties in preparing for submittal of a permit application. Information shared at pre-application meetings is superseded by the actual permit application submittal. District permit decisions are based upon information submitted during the application process and Rules in effect at the time the application is complete.

Upper Manatee River Road
Manatee County Coordination Minutes

Meeting Minutes

Project: Manatee County Corridors Evaluation

Subject: Lorraine Road, Upper Manatee River Road Drainage Discussion

Date: Wednesday, September 01, 2021

Location: WebEx Meeting 1793 96 5250

Attendees: Ken Kohn, Manatee County
Eric Shroyer, Manatee County
Tom Gerstenberger, Manatee County
Darin Rice, Manatee County
Jason Starr, HDR PM
Paul Herman, HDR

Topic	Facilitator	Start	End
1. Drainage / Stormwater Management Resources and Recommendations	Jason Starr	2:00 PM	3:00 PM

- County staff offered the following resources and **recommendations** for design phase stormwater management facility analysis. *It is noted the scope of the Lorraine Road and Upper Manatee River Road Project Development and Corridor Study Reports is to perform preliminary analysis to determine drainage system needs, potential outfall locations, and preliminary pond sizes (volume and area) for storm water treatment and attenuation:*
 - County offered ICPR4 2014 Mill Creek Watershed Model which has been accepted by SWFWMD.
 - County has ICPR3 Braden River Watershed Model, currently being converted to ICPR4.
 - Use watershed models to analyze existing crossings and areas of inundation.
 - Models should be used to set pond control elevations to match initial stage of receiving nodes, considered lowest SHW for pond design.
 - Post stormwater management would be integrated into a post-condition model to demonstrate no stage increase over pre-condition throughout model.
 - Upper Manatee River Road (UMRR) has no modeling. Assume lowest feasible control elevations for ponds.
 - The Copperlefe development has a model of Gates Creek from SR 64 to Gates Creek Subdivision is available.
 - ZNS Engineers for Warner Crossing development (NW corner of SR 64 and UMRR) has modeled Gates Creek.

Project: Manatee County Corridors Evaluation

Subject: Lorraine Road, Upper Manatee River Road Drainage Discussion

Date: Wednesday, September 01, 2021

- The Mill Creek watershed model has a boundary condition east of Ft. Hamer. The tailwater used for UMRR would have to be adjusted based on location.
- The formal design of UMRR stormwater management would require creating a model of the UMRR corridor for setting tailwaters, by integrating the noted vicinity models. The model would be used to set tailwater conditions through the 100-year event, from SR64, northward.

2 Lorraine Road Drainage / Stormwater Management

- Lorraine Road study limits involves two primary drainage basins with differing stormwater management water quality and water quantity criteria. Wolf Slough (Evers Reservoir) SR 64 to 44th Avenue, and Mill Creek from 44th Avenue to SR 70.
- Wolf Slough: SWFWMD Wet detention water quality 1.5" of contributing basin. Water Quantity Attenuation: SWFWMD 25-Yr, 24 Hr. Post Volume <= 75% Pre. Rate Attenuation.
- Mill Creek: SWFWMD Wet detention water quality 1" of contributing basin. Water Quantity Attenuation: SWFWMD 25-Yr, 24 Hr. Post Volume <= 50% Pre. Rate Attenuation.
- County described problem area of flooding along Lorraine occurs at the Wolf Slough overtopping its banks at the Lorraine Road double box culvert crossing south Rangeland Parkway.
- The SW Duck Dog LLC parcels being evaluated for potential pond sites (SW corner of Lorraine Road and SR 70) is pursuing future development plans for an apartment complex. County suggested the report write-up should indicate these parcels are pursuing future development plans, and joint use pond sites could be coordinated with future development.

3 Upper Manatee River Road (UMRR) Drainage / Stormwater Management

- Gates Creek (outfall for UMRR from SR 64 through north of 2nd Avenue W.) has no Watershed Management Plan. Therefore, stormwater management ponds for UMRR use SWFWMD presumptive criteria; wet detention water quality of 1" for contributing basin, and SWFWMD 25-Yr, 24-Hr Post <= Pre. Rate Attenuation.
- Gates Creek subdivision floods. Check for water ponding on the low edges of travel lanes or shoulders. UMRR has never been closed due to flooding. A major flooding event occurred on 12/18/2020; approximately 6" inches rainfall in 4-hours.

Project: Manatee County Corridors Evaluation

Subject: Lorraine Road, Upper Manatee River Road Drainage Discussion

Date: Wednesday, September 01, 2021

- Use FEMA FIRM August 1, 2021 for 100-Year flood stage. Manatee River at UMRR has both riverine and storm surge velocity flood stages.
- There is a substantial double culvert along Waterlefe frontage to consider in alignments and stormwater management.
- UMRR design is based on Thorough Criteria; stormdrain system 25-Yr., and road crown must be six-inches above 100-year stage.
- The County will soon have 2019 LiDar available of the UMRR corridor vicinity, including Mill Creek.

Appendix I – Cost Estimate

LORRAINE ROAD

**RECOMMENDED ALTERNATIVE CONSTRUCTION COST ESTIMATE
October 15, 2021**

<i>Description</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Item Price</i>
CLEARING & GRUBBING	LS/AC	59.502	\$15,000.00	\$892,530.00
REMOVAL OF EXISTING STRUCTURES/BRIDGES	SF	1,680	\$48.42	\$81,345.60
EARTHWORK (ROADWAY EXCAVATION/EMBANKMENT)	CY	191,993	\$8.37	\$1,606,981.41
EARTHWORK (POND EXCAVATION/EMBANKMENT)	CY	70,684	\$8.37	\$591,625.08
TYPE B STABILIZATION	SY	172,371.2	\$5.40	\$930,804.48
OPTIONAL BASE, BASE GROUP 09	SY	119,310.4	\$18.34	\$2,188,152.74
MILLING EXISTING ASPHALT PAVEMENT, 1.5" AVG DEPTH	SY	1,212	\$1.98	\$2,399.17
SUPERPAVE ASPHALTIC CONC, TRAFFIC C, PG 76-22	TN	19,686.2	\$107.28	\$2,111,935.54
ASPHALT CONCRETE FRICTION COURSE, TRAFFIC C, FC-12.5, PG 76-22	TN	9,943.1	\$117.23	\$1,165,629.61
CONCRETE CLASS NS, GRAVITY WALL	CY	430	\$764.52	\$328,743.60
INLETS, CURB,TYPE P-4, <10'	EA	50	\$8,444.17	\$422,208.50
INLETS, CURB,TYPE J-4, <10'	EA	50	\$9,195.40	\$459,770.00
INLETS, DITCH BOTTOM, TYPE C MODIFIED - BACK OF SIDEWALK, < 10'	EA	50	\$3,226.54	\$161,327.00
INLETS, DITCH BOTTOM, TYPE H,<10'	EA	6	\$8,213.10	\$49,278.60
PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18" SD	LF	4,600	\$92.47	\$425,362.00
PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 24" SD	LF	480	\$109.90	\$52,752.00
PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 36" SD	LF	15,020	\$139.00	\$2,087,780.00
MITERED END SECTION, OPTIONAL ROUND, 24" CD	EA	6	\$2,013.47	\$12,080.82
PIPE HANDRAIL - GUIDERAIL, ALUMINUM	LF	1,000	\$49.47	\$49,470.00
CONCRETE CURB & GUTTER, TYPE AB	LF	20,654	\$25.33	\$523,165.82
CONCRETE CURB & GUTTER, TYPE F	LF	29,684	\$25.33	\$751,895.72
TRAFFIC SEPARATOR CONCRETE, SPECIAL - VARIABLE WIDTH	SY	2,241	\$102.22	\$229,075.02
CONCRETE SIDEWALK AND DRIVEWAYS, 4" THICK	SY	22,778	\$43.44	\$989,476.32
CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	4,189	\$58.18	\$243,716.02
GUARDRAIL REMOVAL	LF	527	\$1.94	\$1,022.38
PERFORMANCE TURF, SOD	SY	87,066	\$2.69	\$234,207.54
ROADWAY SUBTOTAL				\$16,592,734.97
RAISE PAVEMENT MARKER, TYPE B	EA	1,300	\$3.33	\$4,329.00
PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS	1	\$34,688.98	\$34,688.98
THERMOPLASTIC STANDARD, WHITE, SOLID, 12" FOR CROSSWALK AND ROUNDABOUT	LF	2,766	\$2.50	\$6,915.00
THERMOPLASTIC STANDARD, WHITE, SOLID, 18" FOR DIAGONALS AND CHEVRONS	LF	60	\$3.51	\$210.60
THERMOPLASTIC STANDARD, WHITE, SOLID, 24" FOR STOP LINES AND CROSSWALK	LF	643	\$4.83	\$3,105.69
THERMOPLASTIC STANDARD, WHITE,2-4 DOTTED GUIDELINE/6-10 GAP EXTENSION, 6"	GM	0.644	\$2,125.86	\$1,369.05
THERMOPLASTIC STANDARD, WHITE, MESSAGE OR SYMBOL	EA	41.000	\$122.03	\$5,003.23
THERMOPLASTIC STANDARD, WHITE, ARROW	EA	122	\$63.19	\$7,709.18
THERMOPLASTIC STANDARD, YELLOW, SOLID, 18" FOR DIAGONALS AND CHEVRONS	LF	180	\$3.56	\$640.80
THERMOPLASTIC STANDARD, YELLOW,2-4 DOTTED GUIDELINE/6-10 DOTTED EXTENSION LINE, 6"	GM	0.424	\$2,239.59	\$949.59
THERMOPLASTIC, PREFORMED, WHITE, SOLID, 24" FOR CROSSWALK	LF	2,280	\$14.58	\$33,242.40
THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM	11.790	\$4,099.38	\$48,331.69
THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, 6", 10-30 SKIP OR 3-9 LANE DROP	GM	5.280	\$1,564.27	\$8,259.35
THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, 6"	GM	5.878	\$4,138.26	\$24,324.69
SIGNING AND PAVEMENT MARKING SUBTOTAL				\$179,079.25
TRAFFIC SIGNAL, NEW, 59th Avenue E	LS	1	\$500,000.00	\$500,000.00
TRAFFIC SIGNAL MODIFICATION, Rangeland Parkway	LS	1	\$150,000.00	\$150,000.00
TRAFFIC SIGNAL MODIFICATION, 44th Avenue E	LS	1	\$150,000.00	\$150,000.00
SIGNALIZATION SUBTOTAL				\$800,000.00

LORRAINE ROAD

RECOMMENDED ALTERNATIVE CONSTRUCTION COST ESTIMATE
October 15, 2021

<i>Description</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Item Price</i>
CONDUIT, OPEN TRENCH	LF	22,530	\$10.50	\$236,565.00
CONDUIT, DIRECTIONAL BORE	LF	5,798	\$21.96	\$127,324.08
PULL & SPLICE BOX, 13" X 24" COVER SIZE	EA	150	\$765.09	\$114,763.50
LIGHTING CONDUCTOR, F&I, INSULATED, No. 8-6	LF	30,040	\$1.93	\$57,977.20
LIGHT POLE COMPLETE, F&I, STANDARD POLE/FOUNDATION, 40' MOUNTING HEIGHT	EA	112	\$5,642.38	\$631,946.56
LIGHT POLE COMPLETE, F&I, STD POLE, SPECIAL FOUNDATION, 40' MOUNTING HEIGHT	EA	38	\$10,592.09	\$402,499.42
LOAD CENTER, F&I, SECONDARY VOLTAGE	EA	4	\$15,057.66	\$60,230.64
LIGHTING SUBTOTAL				\$1,631,306.40
BOX CULVET EXTENSION (NB055)	LS	1	\$65,000.00	\$65,000.00
BRIDGE REPLACEMENT (134045), ESTIMATED 45' LONG X 110' WIDE	SF	4,950	\$150.00	\$742,500.00
BRIDGE REPLACEMENT (NB2009), ESTIMATED 15' LONG X 110' WIDE	SF	1,650	\$150.00	\$247,500.00
STRUCTURES SUBTOTAL				\$1,055,000.00
PROJECT SUBTOTAL				\$20,258,120.62
MOBILIZATION	10%			\$2,025,812.06
TRAFFIC CONTROL	15%			\$3,038,718.09
SUBTOTAL				\$25,322,650.78
CONTINGENCY (PROJECT UNKNOWNNS, ITEMS NOT ESTIMATED)	25%			\$6,330,662.69
PROJECT TOTAL				\$31,653,313.47

Lorraine Road - Right of Way Parcel Identification

PARTIAL

Roadway							
	Parcel ID	Owner Name	Primary Address	Take Size (SF)	Full Take, Partial Take, or Easement?	Residential Rear Yard Take?	Residential Side Yard Take?
Parcel Impact 1	582202859	THE OASIS AT LAKEWOOD RANCH LLC	14520 59TH AVE E, BRADENTON FL 34211	307	Partial	No	No
Parcel Impact 2	582305504	HUTCHINS, JOSEPH E; HUTCHINS, BRENDA L	5828 LORRAINE RD, BRADENTON FL 34211-9207	2,547	Partial	No	No
Parcel Impact 3	582310109	RISEN SAVIOR EVANGELICAL LUTHERAN CHURCH WELS INC	14605 59TH AVE E, BRADENTON FL 34211-5403	3,760	Partial	No	No
Parcel Impact 4	582306502	TTL LUXURY PROPERTIES LLC	5802 LORRAINE RD, BRADENTON FL 34211	6,648	Partial	No	No
Parcel Impact 5	582306007	CHABAD LUBAVITCH OF BRADENTON INC	5712 LORRAINE RD, BRADENTON FL 34211-9267	6,651	Partial	No	No
Parcel Impact 6	582201109	SCHOOL BOARD OF MANATEE COUNTY	59TH AVE E, BRADENTON FL 34211	8,567	Partial	No	No
Parcel Impact 8	581910209	LAKEWOOD RANCH STEWARDSHIP DISTRICT	LORRAINE RD, BRADENTON FL 34211	5,623	Partial	No	No
Parcel Impact 10	582210209	CARRINGTON, PAUL; CARRINGTON, TARA	5504 LORRAINE RD, BRADENTON FL 34211-9603	3,937	Partial	No	No
Parcel Impact 12	581910403	BELLA TERRA HOLDINGS LLC	5505 LORRAINE RD, BRADENTON FL 34211-9212	5,903	Partial	No	No
Parcel Impact 13	581910452	AMH DEVELOPMENT LLC	5427 LORRAINE RD, BRADENTON FL 34211-9270	10,230	Partial	No	No
Parcel Impact 14	582210159	CHANG, RICK K; CHANG, WILMA	5428 LORRAINE RD, BRADENTON FL 34211-9266	1,430	Partial	No	No
Parcel Impact 15	582100004	HYMA, DENNIS G; HYMA, JANICE L	5418 LORRAINE RD, BRADENTON FL 34211-9266	9,232	Partial	No	No
Parcel Impact 16	581910262	AMH DEVELOPMENT LLC	5409 LORRAINE RD, BRADENTON FL 34211	1,237	Partial	No	No
Parcel Impact 17	582110003	SAID, DIAELDIN E; WHITE, JENNIFER	5410 LORRAINE RD, BRADENTON FL 34211-9266	1,691	Partial	No	No
Parcel Impact 18	582020053	MAKEEVER, DONALD S; MAKEEVER, DONALD S REVOCABLE TRUST DTD 05/18/00	5340 LORRAINE RD, BRADENTON FL 34211-9227	23,166	Partial	No	No
Parcel Impact 19	582010005	MAKEEVER, DONALD S; MAKEEVER, DONALD S REVOCABLE TRUST DTD 05/18/00	5320 LORRAINE RD, BRADENTON FL 34211	1,360	Partial	No	No
Parcel Impact 20	582011003	WISH, NADEEN J	5308 LORRAINE RD, BRADENTON FL 34211-9227	20,321	Partial	No	No
Parcel Impact 21	580510209	MAKEEVER, DONALD S; MAKEEVER, DONALD S REVOCABLE TRUST DTD 05/18/00	LORRAINE RD, BRADENTON FL 34211	24,522	Partial	No	No
Parcel Impact 22	580510159	MAKEEVER, GARRETT SANFORD	5114 LORRAINE RD, BRADENTON FL 34211-5302	11,777	Partial	No	No
Parcel Impact 23	580500007	MILLER, EUGENE E; MILLER, CHRISTINA M; MILLER, EUGENE E & CHRISTINA M REVOCABLE LIVING TRUST DTD 10/27/14; AKA MILLER, CHRISTINA H	5108 LORRAINE RD, BRADENTON FL 34211-5302	11,764	Partial	No	No
Parcel Impact 24	580400209	CENTKO, JILL REV TRUST U/A/D 10/10/19	5102 LORRAINE RD, BRADENTON FL 34211	23,492	Partial	No	No
Parcel Impact 25	580700179	PIATEK, MITCHELL P; PIATEK, PATRICIA A	5040 LORRAINE RD, BRADENTON FL 34211-5301	10,818	Partial	No	No
Parcel Impact 26	580700309	BRUN WIBAUX, FRANCOIS X; BRUN WIBAUX, RONDELL M	5020 LORRAINE RD, BRADENTON FL 34211-5301	25,337	Partial	No	No
Parcel Impact 27	580200004	MAIRIPOSA NURSERY INC	4950 LORRAINE RD, BRADENTON FL 34211-9265	12,379	Partial	No	No
Parcel Impact 28	580810208	FOUNDATION FOR JEWISH PHILANTHROPIES INC	4951 LORRAINE RD, BRADENTON FL 34211-9269	740	Partial	No	No
Parcel Impact 29	580210102	SCHERER, JOHN L; SCHERER, JULIA B; SCHERER, JOHN & JULIA FAMILY TRUST DTD 10/31/96	4926 LORRAINE RD, BRADENTON FL 34211-9265	9,020	Partial	No	No
Parcel Impact 30	580800001	PICCHIETTI, MICHAEL JOSEPH; PICCHIETTI, BRENDA L	4925 LORRAINE RD, BRADENTON FL 34211-9269	2,432	Partial	No	No
Parcel Impact 31	580210003	AQUASAFRA LAND LLC	4920 LORRAINE RD, BRADENTON FL 34211-9265	6,234	Partial	No	No
Parcel Impact 32	580210052	STRICKLAND, MICHAEL C	4908 LORRAINE RD, BRADENTON FL 34211-9265	610	Partial	No	No
Parcel Impact 33	580810109	BONGART GROUP LLC	4919 LORRAINE RD, BRADENTON FL 34211-9269	4,198	Partial	No	No
Parcel Impact 34	579900579	SMR NORTH 70 LLC	LORRAINE RD, BRADENTON FL 34211	3,865	Partial	No	No
Parcel Impact 35	580900359	SMR NORTHEAST LLC	44TH AVE E, BRADENTON FL 34211	12,918	Partial	No	No
Parcel Impact 36	579900859	SMR NORTH 70 LLC	4820 LORRAINE RD, BRADENTON FL 34211-9205	10,664	Partial	No	No
Parcel Impact 37	579900809	SMR NORTH 70 LLC	4810 LORRAINE RD, BRADENTON FL 34211	16,029	Partial	No	No
Parcel Impact 38	579900369	SCHROEDER-MANATEE RANCH INC	LORRAINE RD, BRADENTON FL 34211	17,980	Partial	No	No
Parcel Impact 39	577210057	GILBERT, CAROLYN E	4314 LORRAINE RD, BRADENTON FL 34211-9264	6,725	Partial	No	No
Parcel Impact 40	577200009	ARBOR CARE OF SOUTHWEST FLORIDA LLC	4304 LORRAINE RD, BRADENTON FL 34211-9264	13,696	Partial	No	No
Parcel Impact 42	577210008	GANEY, JOSEPH R JR; GANEY, DIANE K	4210 LORRAINE RD, BRADENTON FL 34211-9225	13,695	Partial	No	No
Parcel Impact 43	577110166	DIVITA, DAVID PAUL; DIVITA, MARTI JO	4112 LORRAINE RD, BRADENTON FL 34211-9224	10,778	Partial	No	No
Parcel Impact 44	577110075	CARLSEN, PAUL	3920 LORRAINE RD, BRADENTON FL 34211-9263	26,608	Partial	No	No
Parcel Impact 45	577100050	CARLSEN, PAUL	3810 LORRAINE RD, BRADENTON FL 34211-9210	17,840	Partial	No	No
Parcel Impact 46	577100001	CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS, CORPORATION OF PRESIDING BISHOP	3704 LORRAINE RD, BRADENTON FL 34211-9209	18,368	Partial	No	No
Parcel Impact 47	577112006	SHORELINE LAND INVESTMENT CO	3604 LORRAINE RD, BRADENTON FL 34211-9262	17,919	Partial	No	No
Parcel Impact 48	577111008	CHIU, LILI; CHIU, LILI REV LIVING TRUST DTD 9/26/16	3518 LORRAINE RD, BRADENTON FL 34211-9261	16,781	Partial	No	No
Parcel Impact 49	580035259	LENNAR HOMES LLC	3501 SCRUB CREEK RUN, BRADENTON FL 34211	17,780	Partial	No	No
Parcel Impact 50	580034959	LENNAR HOMES LLC	14410 FLORIDA ROSEMARY DR, BRADENTON FL 34211	4,427	Partial	No	No
Parcel Impact 51	580035159	LENNAR HOMES LLC	FLORIDA ROSEMARY DR, BRADENTON FL 34211	17,209	Partial	No	No
Parcel Impact 52	576700058	ADVANTA IRA SERVICES LLC FBO RANDOLYN LAFERNEY #8006206	2912 LORRAINE RD, BRADENTON FL 34211-9662	8,058	Partial	No	No
Parcel Impact 53	576410209	NSA PROPERTY HOLDINGS LLC	2709 LORRAINE RD, BRADENTON FL 34211-9301	7,236	Partial	No	No
Parcel Impact 54	576710057	BROOKS, DANIEL ALAN; BROOKS, HAILI CHEYENNE	2906 LORRAINE RD, BRADENTON FL 34211-9662	6,747	Partial	No	No
Parcel Impact 55	576600001	SM DUCK DOG 2 LLC	2710 LORRAINE RD, BRADENTON FL 34211-9602	10,042	Partial	No	No
Parcel Impact 56	576900104	SM DUCK DOG 2 LLC	2610 LORRAINE RD, BRADENTON FL 34211-9601	9,412	Partial	No	No
Parcel Impact 57	576400209	NSA PROPERTY HOLDINGS LLC	14710 SR 64 E, BRADENTON FL 34211-9301	1,003	Partial	No	No
Parcel Impact 58	576900153	SADWIN, HOWARD; CROFUT, SCOTT A; CROFUT, RASHELLE R	14410 SR 64 E, BRADENTON FL 34212	362	Partial	No	No

Pond							
	Parcel ID	Owner Name	Primary Address	Take Size (SF)	Full Take, Partial Take, or Easement?	Residential Rear Yard Take?	Residential Side Yard Take?
Parcel Impact 34	579900579	SMR NORTH 70 LLC	LORRAINE RD, BRADENTON FL 34211	111,254	Partial	No	No
Parcel Impact 59	581910169	SMR NORTHEAST LLC	RANGELAND PKWY, BRADENTON FL 34211	268,080	Partial	No	No
Parcel Impact 37	579900809	SMR NORTH 70 LLC	4810 LORRAINE RD, BRADENTON FL 34211	202,878	Partial	No	No
Parcel Impact 55	576600001	SM DUCK DOG 2 LLC	2710 LORRAINE RD, BRADENTON FL 34211-9602	143,567	Partial	No	No
Parcel Impact 56	576900104	SM DUCK DOG 2 LLC	2610 LORRAINE RD, BRADENTON FL 34211-9601	66,186	Partial	No	No

FULL

Total Takes (Roadway and Pond)							
	Parcel ID	Owner Name	Primary Address	Take Size (SF)	Full Take, Partial Take, or Easement?	Residential Rear Yard Take?	Residential Side Yard Take?
Parcel Impact 7	582200909	LAKEWOOD RANCH STEWARDSHIP DISTRICT	LORRAINE RD, BRADENTON FL 34211	305	Full	-	-
Parcel Impact 9	579902319	LAKEWOOD RANCH STEWARDSHIP DISTRICT	LORRAINE RD, BRADENTON FL 34212	14,532	Full	-	-
Parcel Impact 11	582210259	SMR NORTH 70 LLC	LORRAINE RD, BRADENTON FL 34211-9603	9,278	Full	-	-
Parcel Impact 41	577210107	HILDEBRAND, JUSTIN	4220 LORRAINE RD, BRADENTON FL 34211-9225	129,373	Full	-	-



Eric S. Shroyer, PE

Project Manager
Manatee County Public Works

