STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

TECHNICAL REPORT COVERSHEET

650-050-38
ENVIRONMENTAL
MANAGEMENT
08/22

DRAFT LOCATION HYDRAULICS REPORT

Florida Department of Transportation

District One

S.R. 70 PD&E Study

Limits of Project: From C.R. 721 South to C.R. 599/128th Avenue

Highlands and Okeechobee Counties, Florida

Financial Management Number: 450334-1-22-01

ETDM Number: 14491

Date: November 2025

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022 and executed by the Federal Highway Administration and FDOT.

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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) District One is conducting a Project Development and Environment (PD&E) Study along State Road (S.R.) 70 from County Road (C.R.) 721 South to C.R. 599/128th Avenue in Highlands County and Okeechobee Counties, Florida. The study is approximately 8.6-miles long and the project proposes the widening of the two-lane facility to a four-lane, divided facility and the inclusion of multimodal improvements. The Preferred Alternative is a four-lane divided road with 12-foot wide travel lanes, paved shoulders and turn lanes, and multi-modal improvements (i.e. shared use path) along the corridor. Additional right-of-way (ROW) is needed to accommodate the proposed improvements. Design and posted speeds of 65 mph are proposed. This is a federally funded project. In addition, all project alternatives for the S.R. 70 improvements will involve the replacement of the S.R. 70 over Kissimmee River Bridge.

The project limits are within Federal Emergency Management Agency (FEMA) flood zone A. These floodplains outfall to the Slough Ditch (C-41A) Canal and Kissimmee River (C-38 Canal), which are not considered regulatory floodways per the FEMA Floodplain Insurance Rate Maps (FIRM). Three floodplain models were developed for the following scenarios: (1) existing conditions model, to establish the 100-year 72-hour floodplain elevations for the FEMA Zone A areas, (2) a post development model, by adding the proposed corridor to the existing model and evaluating the impacts to the existing floodplain elevations, and (3) a revised post development model with the compensation of the proposed ponds to mitigate areas where the floodplain elevation demonstrated a significant increase. The results in this report are preliminary; pond size and configurations may change during final design as more detailed information becomes available.

Longitudinal encroachments to the existing floodplains will occur due to the wider footprint of S.R. 70 roadway. Transverse encroachments will occur at the new bridges over the Slough Ditch (C-41A) Canal and Kissimmee River (C-38 Canal). Based on analysis and evaluation of the pre-development and post-development floodplain results, minimal impacts from the longitudinal encroachments are anticipated. Encroachments caused by the new bridges are also anticipated to be minimal, since the new bridges will closely match the existing spans/opening that exist today.

Cross drain CD-2 is a larger cross drain that interconnects a farmland irrigation canal that discharges from the adjacent farmland into the Slough Ditch (C-41A) Canal. This double 60-inch cross drain will be replaced when the new road alignment is built. The outcome of this study suggests that upsizing this culvert to a larger 72-inch pipe is recommended to mitigate head loss due to the longer culvert crossing.

The existing bridge over Slough Ditch (C-41A) Canal will be used for the westbound traffic and the new bridge will be constructed for the eastbound traffic. The new bridge will mirror the existing to maintain the existing

minimum vertical and horizontal clearance underneath the bridges. The two proposed bridges over the Kissimmee River (C-38 Canal) will replace the existing Bridge No. 910001. The span arrangement and vertical profile of the bridges will enhance horizontal clearance of the main spans and maintain the minimum vertical clearance. A Bridge Hydraulics Report will be completed during the design phase of the project.

Coordination with the U.S. Army Corps of Engineers and South Florida Water Management District confirmed that the Kissimmee River restoration project has been completed, and the S.R. 70 improvements are not anticipated to impact those restoration efforts. No future control structure modifications and no future restoration projects are planned within the vicinity of the project. Through coordination with Highlands and Okeechobee Counties, it was determined that Highlands and Okeechobee Counties have a Community Rating System (CRS) in place, but specific CRS criteria are not anticipated to be applicable for this project. This project was found to be consistent with each county's FEMA water management plans.

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I. PROJECT INTRODUCTION

The Florida Department of Transportation (FDOT) District One is conducting a Project Development and Environment (PD&E) Study for the State Road (S.R.) 70 corridor to evaluate traffic safety improvements. The study corridor extends from County Road (C.R.) 721 South to C.R. 599/128th Avenue. S.R. 70 is a two-lane undivided rural principal arterial with a context classification of C2 Rural. S.R. 70 is part of Florida's Strategic Intermodal System (SIS) highway network and designated state hurricane evacuation route network. As part of the National Highway System, S.R. 70 is critical in the transportation network as it facilitates local and regional traffic and the movement of goods/freight.

This Location Hydraulic Report (LHR) has been completed to support the PD&E Study prepared for the future improvements of S.R. 70. This report documents the floodplain impacts associated with the proposed roadway concepts.

1.1 PROJECT LOCATION AND DATUM

This project is within Highlands and Okeechobee Counties, Florida, in Sections 26 & 25 in Township 37S and Range 32E, in Sections 30, 29, 28, 27, 26, 25 and 24 in Township 37S and Range 33E, and in Sections 18 & 19 in Township 37S and Range 34E. A Project Location Map is provided in **Figure 1** and U.S. Geological Survey (USGS) Topographic Map Quadrangles are shown in **Appendix A**. The vertical datum for the proposed improvements refers to the North American Vertical Datum (NAVD), 1988 and is expressed in feet. The latitude/longitude of the datum shift point was taken as the approximate centroid of the project limits (see **Appendix A**). This project is based on the NAVD ’88 Datum that is approximately 1.198 feet below the equivalent NGVD ’29 elevation (i.e., 100.00 NGVD ’29 = 98.802 NAVD ’88).

1.2 PURPOSE

The purpose of the LHR is to document the risk associated with the proposed improvements as it relates to the existing base floodplain, as well as document proposed mitigation strategies to minimize impacts. Per the FDOT PD&E Manual; *“Protection of floodplains and floodways is required by EO 11988: Floodplain Management; USDOT Order 5650.2, Floodplain Management and Protection; and Federal-Aid Policy Guidance on Location and Hydraulic Design of Encroachments on Flood Plains, 23 CFR Part 650A. The intent of these regulations is to avoid or minimize highway and land use development encroachments that reduce storage and increase water surface elevations within base floodplains. Where encroachment is unavoidable, the regulations require FDOT to take appropriate measures to minimize or mitigate impacts”*. All elevation values are referenced in NAVD 1988.

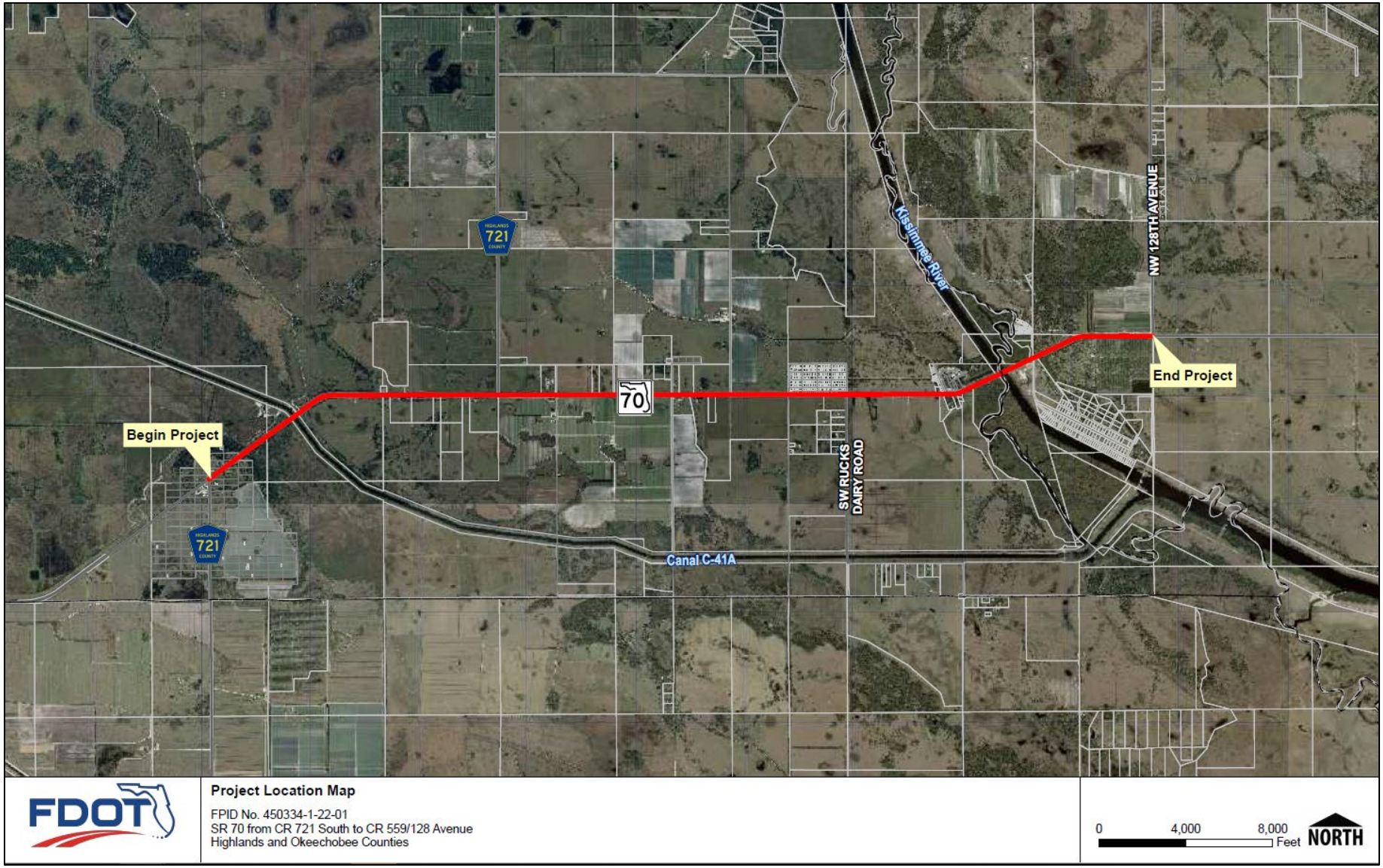


Figure 1: Project Location Map

1.3 PROJECT PURPOSE & NEED

The purpose of the project is to address traffic safety conditions on S.R. 70 from C.R. 721 S to C.R. 599/128th Avenue in Highlands and Okeechobee Counties. Other goals of the project are to maintain important east-west connectivity within the regional transportation network and accommodate freight activity within the area. The need for the project is based on safety, area wide network/system linkage, and transportation demand. By addressing safety, emergency evacuation, traffic safety conditions, and incident response times will improve. Area wide network/system linkage will aid in maintaining important east-west connectivity within the regional transportation network and transportation demand will accommodate freight activity.

1.4 EXISTING FACILITY AND PROPOSED IMPROVEMENTS

1.4.1 EXISTING FACILITY

The existing S.R. 70 corridor from C.R. 721 S to CR599/128 Ave. has a functional classification by FDOT as a Rural Principal Arterials – Other, per the Straight-Line Diagrams (SLD), see **Appendix A**. The corridor consists of a rural two-lane roadway with two typical sections 1) 10-foot travel lanes with four-foot paved shoulders and open drainage ditches on either side in Highlands County; 2) 12-foot lanes with four-foot paved shoulders and open drainage ditches on either side in Okeechobee County. There are two existing bridges within the project limits. The Slough Ditch (C-41A) Canal bridge carries S.R. 70 over the C-41A Canal and the Kissimmee River bridge carries the corridor over the Kissimmee River (C-38 Canal). No bike lanes, sidewalks, or multi-use trails exist within the corridor.

1.4.2 PROPOSED IMPROVEMENTS

The Preferred Alternative has a rural typical section with an open roadway drainage system (ditches) for the four-lane construction. The typical section includes: two 12-foot travel lanes in each direction; a 40-foot median with 8-foot inside shoulders of which 4-feet are paved; 12-foot outside shoulders of which 5-feet are paved; and a 12-foot shared use path on the south side of S.R. 70 adjacent to the eastbound travel lanes. The average width needed for the roadway right-of-way (ROW) is 260 feet but varies throughout the alignment from 210 feet to 290 feet. The proposed ROW need is mainly on the south side of S.R. 70; however, in a couple of locations ROW is needed on the north side of S.R. 70. The target, design and posted speed are 65 mph. The Kissimmee River bridge will be replaced with two new bridges, and a second bridge will be added to the Slough Ditch (C-41A) Canal roadway crossing. A new stormwater management system will be constructed.

II. RESOURCE DATA

2.1 RAINFALL DATA

Rainfall distribution data was taken from South Florida Water Management District (SFWMD) Rainfall maps (See **Appendix A**) and "built-in" non-dimensional rainfall distributions in Interconnected Channel and Pond Routing **(**ICPR) for Florida. Rainfall amount (inches) was taken from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Rainfall Data. The storms modeled for both existing and proposed conditions are in **Table 1**:

Table 1 – Rainfall Data

Source	Return Period (years)	Duration (hours)	Rainfall (inches)
SFWMD	100	72	11.0
ICPR	100	24	9.14
SFWMD	25	72	8.52
ICPR	25	24	7.68

2.2 TERRAIN DATA

A Digital Elevation Model (DEM) is a representation of the topographic surface of the Earth excluding trees, buildings, and other surface objects. DEMs are created from a variety of sources, but primarily from topographic maps. DEM's were sourced from the USGS "The National Map" application and converted to .Tiff files with units of feet and compiled into one single DEM for the purpose of this project.

2.3 SOIL DATA

Soils report and spatial data was sourced from the U.S. Department of Agriculture (USDA) Web Soil Survey application. A general description of the soil data is provided in **Appendix A.**

2.4 OTHER RESOURCES

The following resources were also utilized to complete this report:

- FDOT Drainage Manual
- FDOT Drainage Design Guide
- SFWMD ERP Applicant's Handbook II
- USGS Quadrangle Maps (Childs, Brighton)
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM)
- TR-55, Urban Hydrology for Small Watersheds
- SFWMD DBHydro

III. EXISTING CONDITIONS

3.1 EXISTING DRAINAGE

The existing land use is predominately agriculture, developed as part of a large managed, engineered and planned agribusiness. The project drains to two maintained canals owned by SFWMD, the C-38 and the C-41A. The approximate range in elevation within the vicinity of the project can range from 10.50-59.9 feet based on the DEM data collected. The project study limits fall within the Florida Waterbody Identification Numbers (WBID) 3198 (nutrients), 3202 (nutrients), 3206 (dissolved oxygen), and 3209 (un-impaired). The Florida Department of Environmental Protection (FDEP) statewide comprehensive verified list of impaired waters was reviewed to confirm the status of these WBID's. There are no Total Maximum Daily Loads (TMDLs), however, there is BMAP for total phosphorous. Runoff is split along the centerline of the road and sheet flows directly into adjacent ditches that are interconnected by side drains that ultimately outfall into the SFWMD canals mentioned previously.

3.2 FLOODPLAINS

This project is located within FEMA FIRMs 12055C0580C, 12055C0585C, 12055C0605C in Highlands County and 12093C0455C in Okeechobee County (see **Appendix C**). These FIRMs were used to identify potential floodplain and floodway encroachments.

The entire project limits are within FEMA flood zone A. These floodplains outfall to the regulated floodways SFWMD C-41A Canal and C-38 Canal. According to the FEMA Flood Zone A definition: "*The 1% annual 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. A Special Flood Hazard Area (SFHA) is the area subject to flooding by the 1% annual chance flood*." The only SFHA within the project corridor is Zone A. Zone A designates base flood zones with no flood elevation, so an existing conditions floodplain model has been developed to set 100-year base flood elevations throughout the project to identify the floodplain encroachment and mitigation strategies.

3.3 CROSS DRAINS

The existing drainage along the corridor is rural roadway runoff to roadside ditches interconnected by side drains that lead to outfall directly into the Slough Ditch (C-41A) Canal and Kissimmee River (C-38 Canal). There are three (3) cross drain culverts along the corridor based on the SLD. There are also two bridges within the project limits. A table with the cross-drains is provided in **Section 4.3** below. Existing drainage basin maps are provided in **Appendix C.**

IV. PROPOSED CONDITIONS

4.1 PROPOSED DRAINAGE

The existing land use will remain mostly unchanged. New impervious areas and diminished storage will be mitigated with ponds. Flow patterns will be maintained. The range in elevation within the vicinity of the project will be preserved.

4.2 FLOODPLAIN IMPACTS

Longitudinal encroachments to the existing floodplains will occur due to the wider footprint of the S.R. 70 roadway. Transverse encroachments will occur at the new bridges over the Slough Ditch (C-41A) Canal and Kissimmee River (C-38 Canal). Based on the analysis and evaluation of the pre-development and post-development floodplain results, minimal impacts from the longitudinal encroachments to the base floodplain elevations are anticipated. Encroachments caused by the new bridges are also anticipated to be minimal, since the new bridges will closely match the existing spans/opening lengths that exist today. The SFWMD C-41A Canal and C-38 Canal are not considered regulatory floodways per the FEMA FIRM maps.

The comparison of the results of the floodplain elevation models for the existing and proposed conditions shows that of all the adjacent basins of the proposed corridor, only Basin 117 was identified in the model as having a significant increase of 0.8-foot and 0.71-foot for the 25-year 72-hour and the 100-year 24-hour floodplains, respectively. This increase is due to the filling of offsite ditches which will be mitigated during the final design stage and therefore is not necessarily attributed to a loss in floodplain storage. This basin includes a pond alternative adjacent to the Slough Ditch (C-41A) Canal. Although the stage increase is not attributed to a loss in floodplain storage, the proposed pond will provide the compensation required to mitigate the increase in base flood elevation within this basin. Detailed floodplain inundation maps and tabular results can be found in **Appendix D**.

4.3 CROSS DRAINS

The project scope did not include ground survey or topography for the project corridor. Light Detection and Ranging (LiDAR) data was obtained from NOAA which is the main source of ground elevation data for this study. As-built information was reviewed to determine relative cross drain and side drain data such as pipe sizes, inverts, and lengths. There are a total of five (5) cross drains within the project, two (2) of which are bridges. A summary of cross drains is shown in **Table 2** with supporting information provided in **Appendix D.** Cross drains CD-1 and CD-3 are drainage pipes that interconnect the roadside swales and will have no impact on the existing floodplain. These cross drains will be replaced or removed during the final design stages of the corridor. CD-2 is a larger cross drain that interconnects farmland irrigation canal that discharges from the adjacent farmland into the Slough Ditch (C-41A) Canal. This double 60-inch cross drain will be replaced when the new road alignment is built. During

Table 2 - Cross Drain Table

Cross Drain	Mile Post		Cross Drain	Cross Drain	Barrels	Exist.	Prop.	Proposed Diameter	Floodplain Impacts
Number	From	To	Diameter (in)	Diameter (FT)		Length (FT)	Length (FT)		
CD-1	29.253	29.253	24	2	1	56	N/A	–	None
CD-2	33.606	33.606	60	5	2	65	211.5	Upsize to (2)72”	Increased Capacity
CD-3	36.258	36.258	15	1.25	1	72	N/A	–	None

coordination with Highlands County (See **Appendix F** for meeting minutes), they expressed interest in a larger culvert to handle future development in the area. The consensus of this study suggests that upsizing this culvert to a larger double 72-inch pipe is recommended to mitigate head loss from the longer culvert length needed for the expanded typical section. Per the preliminary culvert analysis, a larger 72-inch culvert can handle an overtopping flow of 315.7 cubic feet/second (cfs) compared to the existing overtopping flow of 241.45 cfs with the existing 60-inch culvert. Detailed culvert analysis can be found in **Appendix D**.

The existing bridge over the Slough Ditch (C-41A) Canal will be used for the westbound traffic and the new bridge will be constructed for the eastbound traffic. The new bridge will mirror the existing as far as span arrangement and deck thickness, which maintains the existing minimum vertical and horizontal clearance underneath the bridges. The proposed bridges over the Kissimmee River (C-38 Canal) will replace the existing S.R. 70 over Kissimmee River Bridge No. 910001. They will have two 12-foot travel lanes with identical shoulders. The eastbound bridge will have a 16-foot shared use path along the south edge of the deck. The span arrangement and vertical profile of the bridges will enhance horizontal clearance of the main spans and maintain the minimum vertical clearance of 17-feet from the existing bridge. A Bridge Hydraulics Report will be completed during the design phase of the project. A summary of existing and proposed bridges within the corridor can be found in **Table 3**.

Table 3 – Bridge Data Table

Bridge	Bridge #	Mile Post		Existing	Existing	Proposed	Proposed
		From	To	Width (FT)	Length (FT)	Width (FT)	Length (FT)
Slough Ditch Bridge	090053	30.118	30.158	47’-1”	213.5	–	-
Slough Ditch Bridge Eastbound	To be assigned	30.118	30.158	-		59’ – 5.5”	210
Kissimmee River Bridge	910001	0.000	0.080	33’ – 3”	420		
Kissimmee River Bridge Westbound	To be assigned	0.000	0.080			42’-8”	420
Kissimmee River Bridge Eastbound	To be assigned	0.000	0.080			59’ – 5.5”	420

V. FLOODPLAIN MODELING

5.1 SOFTWARE

This floodplain model was developed in conjunction with ArcGIS Pro and ICPR4. All data collection and organization was completed in ArcGIS. This is done to have a complete record of all data collection (i.e. basins, weirs, pipes) that allows for easy access across platforms and map visualization. ICPR4 is the main software used to run the hydraulics analysis of the study limits. A 1D surface flow was selected to optimize the model's run times and stability, due to the size of the watershed and amount of data required for this model.

5.2 BASIN DELINEATION

The main boundary limits for this project traverses through three main SFWMD watersheds 1) C-41N from the begin project to southwest of the C-41A Canal. 2) C-41AS from southwest of the C-41A Canal to SW Rucks Dairy Road 3) S-65E from east of Rucks Dairy Road to the end of the project. Due to the extensive size of these watersheds, the study limits were confined to areas subject to impacts from the change to the floodplain due to the proposed road improvements. To the south, the natural basin divide was taken as the C-41A Canal. To the north, the basin was terminated at farmlands. To the east, the boundary was terminated at the S-65E watershed limits. To the west, the boundary was terminated at the farmlands west of the project limits. These defined boundary limits allowed for a more streamlined model that focuses on the corridor impacts while allowing for faster and more efficient model runs.

Basin delineation was based on contours generated from the DEM. Further detailed definition was accomplished through Spatial, 3D analyst and ArcHydro tools in ArcGIS Pro and gradient symbology to determine natural basin divides throughout the project limits. A map of the boundary limits can be found in **Appendix A.**

5.3 LAND USE AND CURVE NUMBER (CN)

The land use and Curve Numbers (CN's) were obtained from the USDA Natural Resources Conservation Service (NRCS) Soil Survey application and exported to a .csv file to be used in ARCGIS Pro. Using the USDA data as a basis, we further modified to include the impervious pavement from the S.R. 70 corridor as well as updated the CN's to better reflect the classifications used in the FDOT Drainage Manual.

5.4 SOILS

Soils data and hydrologic soil groups (HSG) were obtained from USDA NRCS Soil Survey application. The data was exported to a .csv file that could be spatially referenced in ArcGIS and ICPR4. A copy of the Soil Report excerpts is included in **Appendix A.**

5.5 MODEL PARAMETERS

The boundary conditions for the model were established based on the Design High Water Stage (DHWS) for both the SFWMD C-41A and the C-38 Canals. Two sources of data were used to determine the DHWS: Canals in South Florida (CSF) (a technical support document); and DBHydro Time Series Stages. First, the DHWS was established using the CSF document, then the stage was confirmed by sourcing the time series data for the latest year from DBHydro and confirming that the actual stage readings correlate with the stage outlined in the CSF document. In general, the time series data had small variances from day to day which is expected of a controlled canal. As such the DHWS from the CSF was used as the boundary stage.

- C-41A: 24.5' (NGVD), 23.30' (NAVD)
- C-38: 22.0' (NGVD), 20.80' (NAVD).

The Storage Capacity tool as part of Spatial Analyst was used in ArcGIS to extract stage/storage relationships from the DEM's for each of the nodes. Stages were taken at 0.1' increments until the storage would begin to level off, at which point 1' increments were used.

Existing pipes along the corridor consisted of side drains under driveways that interconnected the ditches. Most of the data for the pipes was extracted from FDOT as-built plans for FPID: 425226-1-52-01 & 445474-1-52-01. A select number of pipes did not have as-built data to reference, so pipe size and elevation were estimated from Google Earth and the DEM.

Irregular weirs were used in ICPR4 to define flow connectivity between basin boundaries and eliminate glass wall conditions. Points were generated at 50-foot intervals along the basin boundaries and using ArcGIS, elevation values were extracted for each point from the DEM. This allowed a very accurate representation of the terrain by which basins were delineated.

5.6 MODEL DEBUGGING

The "No Rainfall" storm event simulations were first run to find model instabilities and errors, such as incorrect weir and pipe connections, stage/storage discrepancies and odd spikes in the weir cross section points. The simulations were run until all errors and warnings were eliminated. The 100-year storm was then run and input, time series and max report were generated. The reports highlight some initial stages and storage anomalies that were due to either an outlier in the stage/storage relationship or a missed weir connection. These anomalies were fixed through subsequent model runs where stage storage values and weir cross sections were adjusted to reflect more accurately the real characteristics of the terrain.

5.7 MODEL RESULTS & VALIDATION

The modeling results from the 100-year simulation yielded base flood elevations for each basin within the project limits. These base flood elevations were then compared on top of the DEM to determine how accurate the results are in comparison to the Zone A FEMA Firm maps. Although the FEMA flood maps show a less detailed and more generalized floodplain, we see a direct correlation along the Slough Ditch (C-41A) Canal, Kissimmee River (C-38 Canal) and along the drainage ditches throughout the project limits. Furthermore, the S.R. 70 corridor was generally above the max stages generated from the 100-year base flood elevations. There is one segment of the corridor just north of the C-41A canal that was below the max stages, and these correlated with the edge of pavement (EOP) elevations from the DEM as well. The post development model shows that the basins adjacent to the improved corridor generally show no increase in the floodplain maximum stages except for Basin 117. The 100-year 24-hour floodplain map showed an increase from 25.41-feet to 26.1-feet in the proposed condition for this basin. Stage storage was then added to node N-117A to model the proposed condition which includes the storage provided by the proposed pond. The resulting maximum stage for B-117 in the revised post development model is 25.48-feet.

VI. AGENCY COORDINATION

Coordination with various agencies has been completed to provide additional documentation regarding the works of the U.S. Army Corps of Engineers (USACE), SFWMD, Highlands County, and Okeechobee County. The coordination specifically addressed any plans for future stream and wetland restoration of the Kissimmee River, proposed control structure modifications that would affect floodplains, and whether additional or longer structures may be necessary to cross the floodplain or restored stream channels. Based on meetings with these agencies, the following has been determined:

- The Kissimmee River restoration project has been completed, and the S.R. 70 improvements are not anticipated to have an adverse impact on those restoration efforts.
- No future control structure modifications are anticipated.
- There are no future planned restoration projects within the vicinity of the project.
- There are no regulated floodways within the project corridor, and as such a no-rise certification is not required.
- Highlands County and Okeechobee County have a Community Rating System (CRS) in place but are largely centered around structural development and specific CRS criteria are not anticipated for this project.

Detailed Meeting minutes regarding the topics discussed with the various agencies have been included in **Appendix F.**

VII. RISK EVALUATION AND PROJECT CLASSIFICATION

7.1 RISK EVALUATION

There are no significant changes in flood risk associated with this project. The proposed corridors' encroachment into existing floodplains will not have a significant potential for interruption or termination of transportation facilities needed for emergency vehicles or used as an evacuation route. In addition, no significant adverse impacts on natural and beneficial floodplain values are anticipated and no significant impacts to highway users are expected.

7.2 PROJECT CLASSIFICATION

The improved corridor has minimal impacts to the existing floodplain. The project is anticipated to provide a net improvement to the floodplain as a result of the proposed pond sites and roadside ditches. Furthermore, there will be no significant or adverse impacts on natural and beneficial floodplain values, no significant change in flood risk, and no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes.

Following the PD&E Manual Figure 13-1 Flood Plain Statements, the project can be categorized as:

STATEMENT 4: PROJECTS ON EXISTING ALIGNMENT INVOLVING REPLACEMENT OF EXISTING DRAINAGE STRUCTURES WITH NO RECORD OF DRAINAGE PROBLEMS

"The proposed structure will perform hydraulically in a manner equal to or greater than the existing structure, and backwater surface elevations are not expected to increase. Thus, there will be no significant adverse impacts on natural and beneficial floodplain values. There will be no significant change in flood risk, and there will not be a significant change in the potential for interruption or termination of emergency services or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant."

VIII. CONCLUSIONS

The purpose of location hydraulic analysis is to set 100-year base flood elevations within the study limits and identify the potential for floodplain impacts associated with corridor improvements. As detailed in the report, the proposed alignment and typical section is expected to have minimal to no impact on the existing floodplain. The double 60" cross drain (CD-2) is recommended to be replaced with an upsized 72-inch pipe to mitigate head loss from the longer culvert length. The proposed bridge over Slough Ditch (C-41A) Canal will mirror the existing to maintain the minimum vertical and horizontal clearance. The proposed bridges over the Kissimmee River (C-38 Canal) will replace the existing Bridge No. 910001. The span arrangement and vertical profile of the bridges will enhance horizontal clearance of the Main Spans and maintain the minimum vertical clearance. The floodplain analysis performed in this report indicates that the existing floodplains in adjacent basins to the corridor will have minimal impacts.

IX. REFERENCES

The design team collected and reviewed data from the following sources:

- FDOT Drainage Manual, January 2024
- FDOT Drainage Design Guide, January 2024
- FDOT Straight Line Diagram, 09060000 (2019), 91070000 (2022)
- Natural Resources Conservation Service (NRCS) Soil Survey of Highland/Okeechobee Counties
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for Highlands County (12055C0580C, 12055C0585C, 12055C0605C)
- Federal Emergency Management Agency (FEMA) for Okeechobee County (12093C0455C)
- FDOT 425227-1-52-01 As-builts
- National Oceanic Atmospheric Administration LIDAR data
- Field reviews (2023)
- South Florida Water Management District
- US Army Corps of Engineers

Appendix A
Figures and Data

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

BRIGHTON QUADRANGLE
FLORIDA
7.5-MINUTE SERIES

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 17R

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery	NAIP,	November 2019
Roads	U.S. Census Bureau,	2016
Names	GNIS, 1979 -	2019
Hydrography	National Hydrography Dataset, 2003 -	2019
Contours	National Elevation Dataset, 2010 -	2016
Boundaries	Multiple sources; see metadata file 2018 -	2019
Public Land Survey System	BLM,	2020
Wetlands	FWS National Wetlands Inventory	2010

UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
ML
Grid Zone Designation
17R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1 MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 5 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

A-1

QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Basinger SW
2 Fort Basinger
3 Taylor Creek SW
4 Brighton NW
5 Okeechobee NW
6 Brighton SW
7 Brighton SE
8 Okeechobee SW

ADJOINING QUADRANGLES

ROAD CLASSIFICATION

Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

BRIGHTON, FL
2021

NSN 7643016360330
NGA REF NO. USGSX24K5468

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

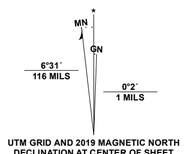
The National Map US Topo

OKEECHOBEE NW QUADRANGLE
FLORIDA
7.5-MINUTE SERIES

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid:Universal Transverse Mercator, Zone 17R

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery	NAIP,	November 2019
Roads	U.S. Census Bureau,	2016
Names	GNIS,	1979 - 2020
Hydrography	National Hydrography Dataset,	1899 - 2019
Contours	National Elevation Dataset,	2010
Boundaries	Multiple sources; see metadata file	2018 - 2019
Public Land Survey System	BLM,	2020
Wetlands	FWS National Wetlands Inventory	2010



UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
NL
Grid Zone Designation
17R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1
MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000
FEET

CONTOUR INTERVAL 5 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

A-2

QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Fort Basinger
2 Taylor Creek SW
3 Taylor Creek SE
4 Brighton
5 Okeechobee
6 Brighton SE
7 Okeechobee SW
8 Okeechobee SE

ADJOINING QUADRANGLES

ROAD CLASSIFICATION

Expressway — Local Connector
Secondary Hwy — Local Road
Ramp — 4WD
Interstate Route — US Route — State Route

OKEECHOBEE NW, FL
2021

NSN 7643016360931
NGA REF NO. USGSX24K33018

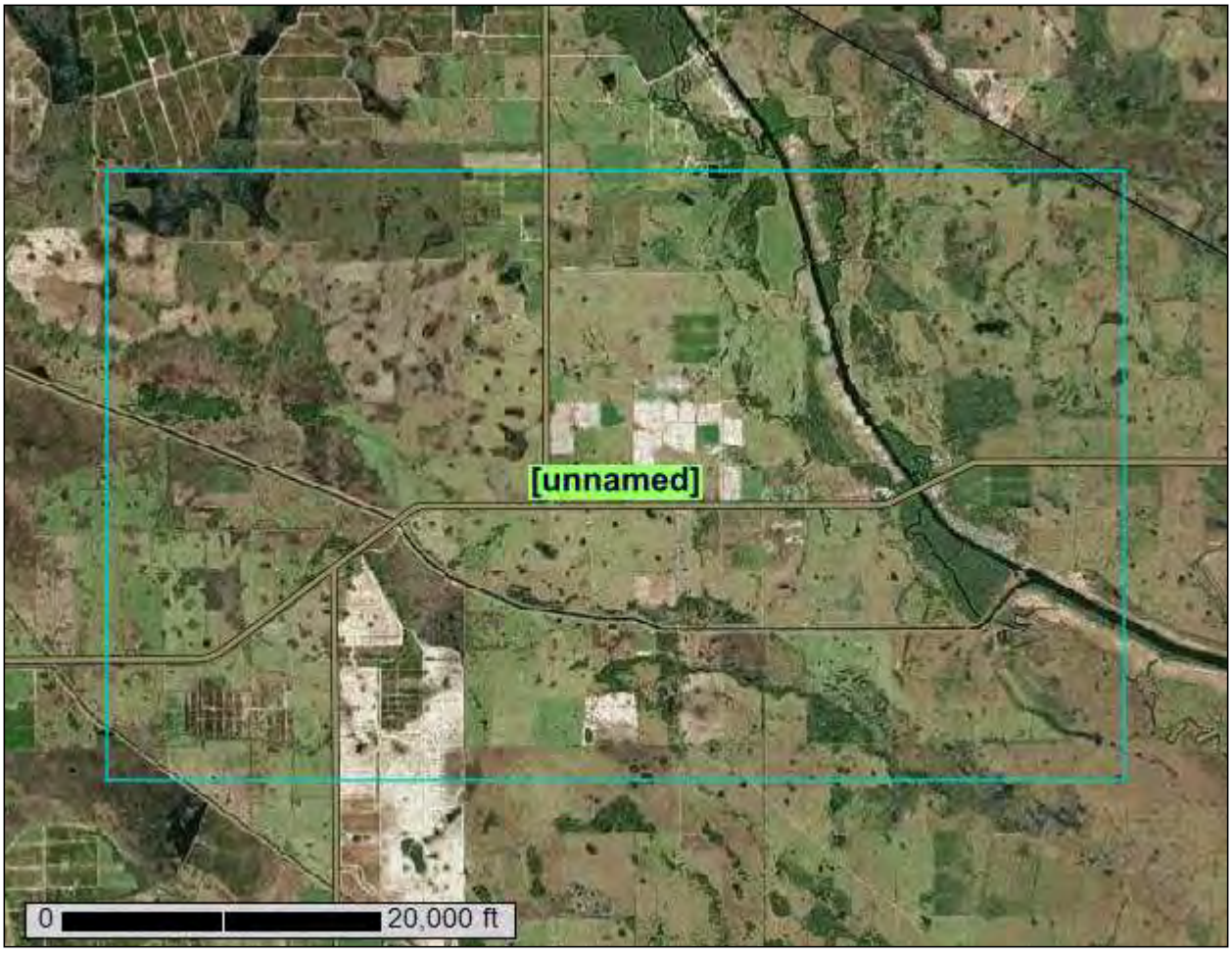
United States Department of Agriculture

NRCS

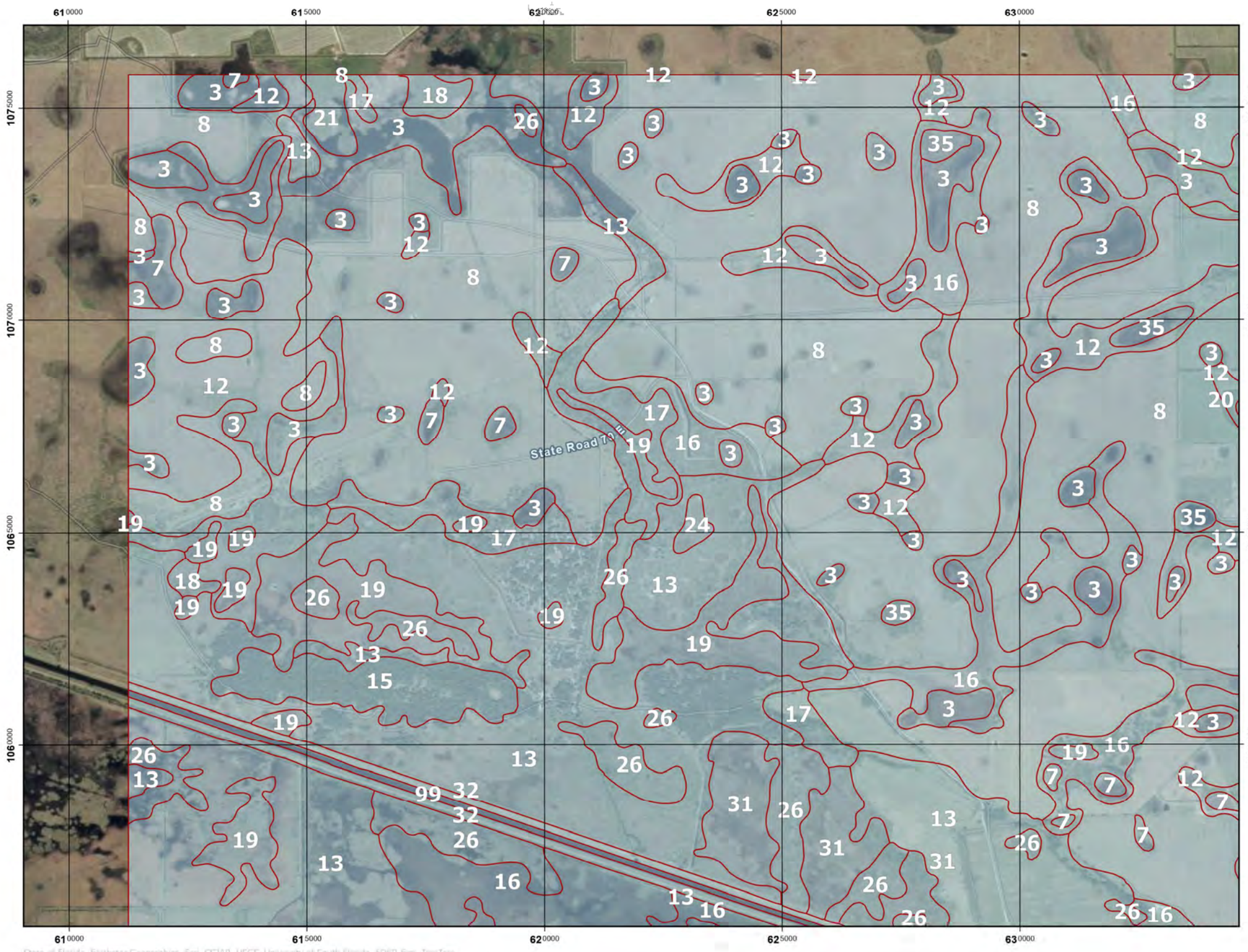
Natural Resources Conservation Service

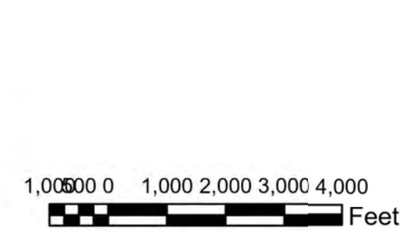
A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

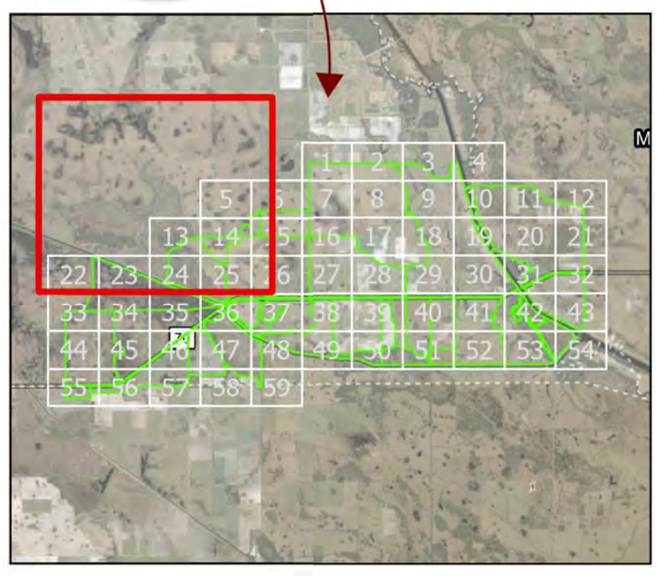
Custom Soil Resource Report for Glades County, Florida, Highlands County, Florida, and Okeechobee County, Florida



Soils Map Unit Symbols







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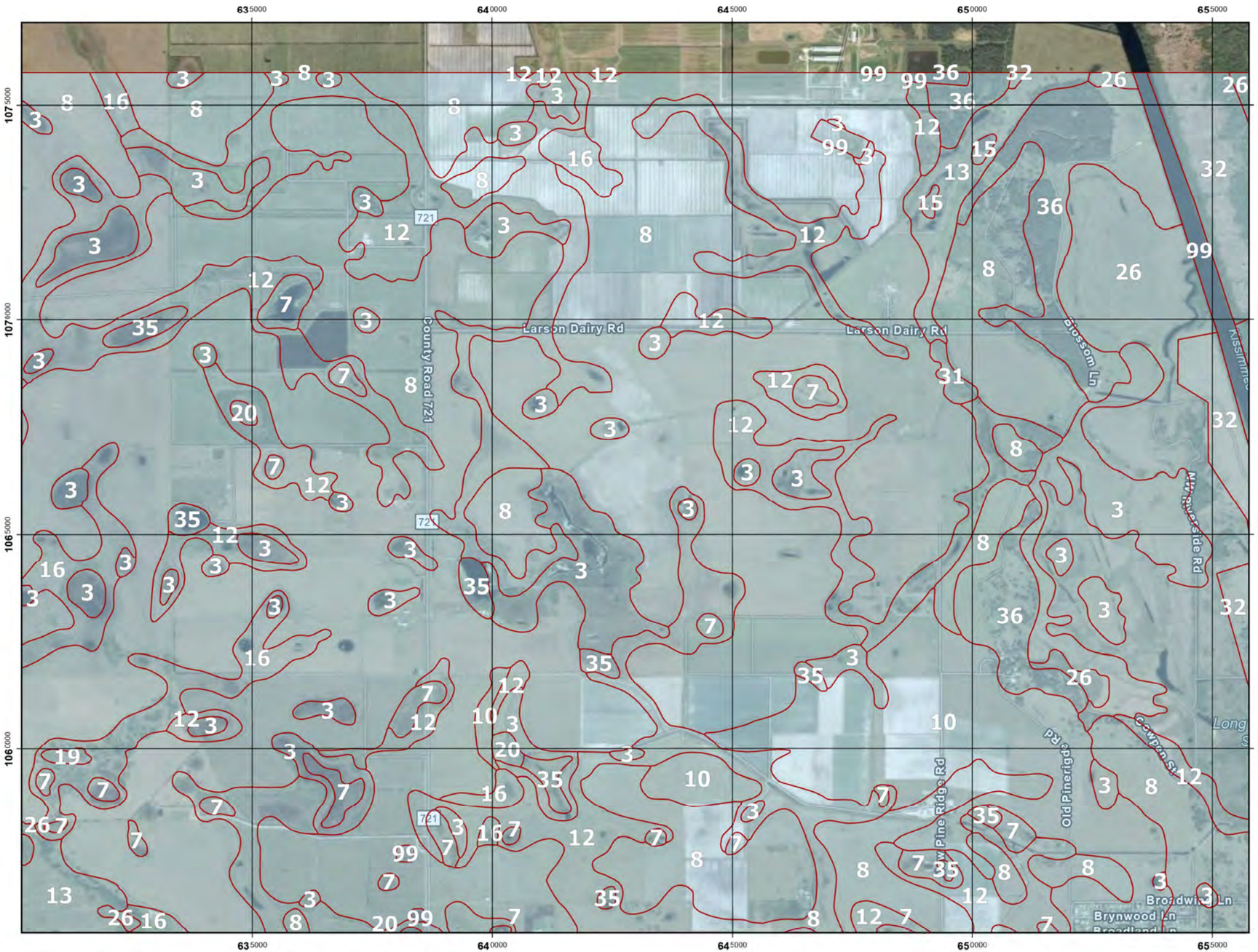
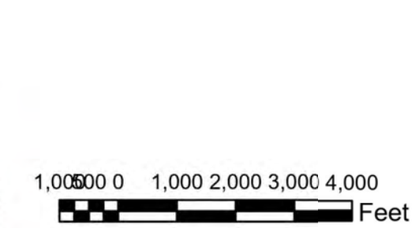
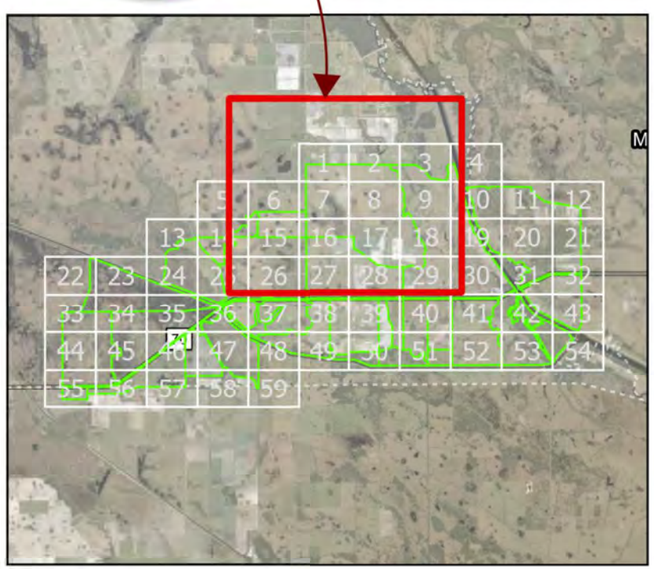
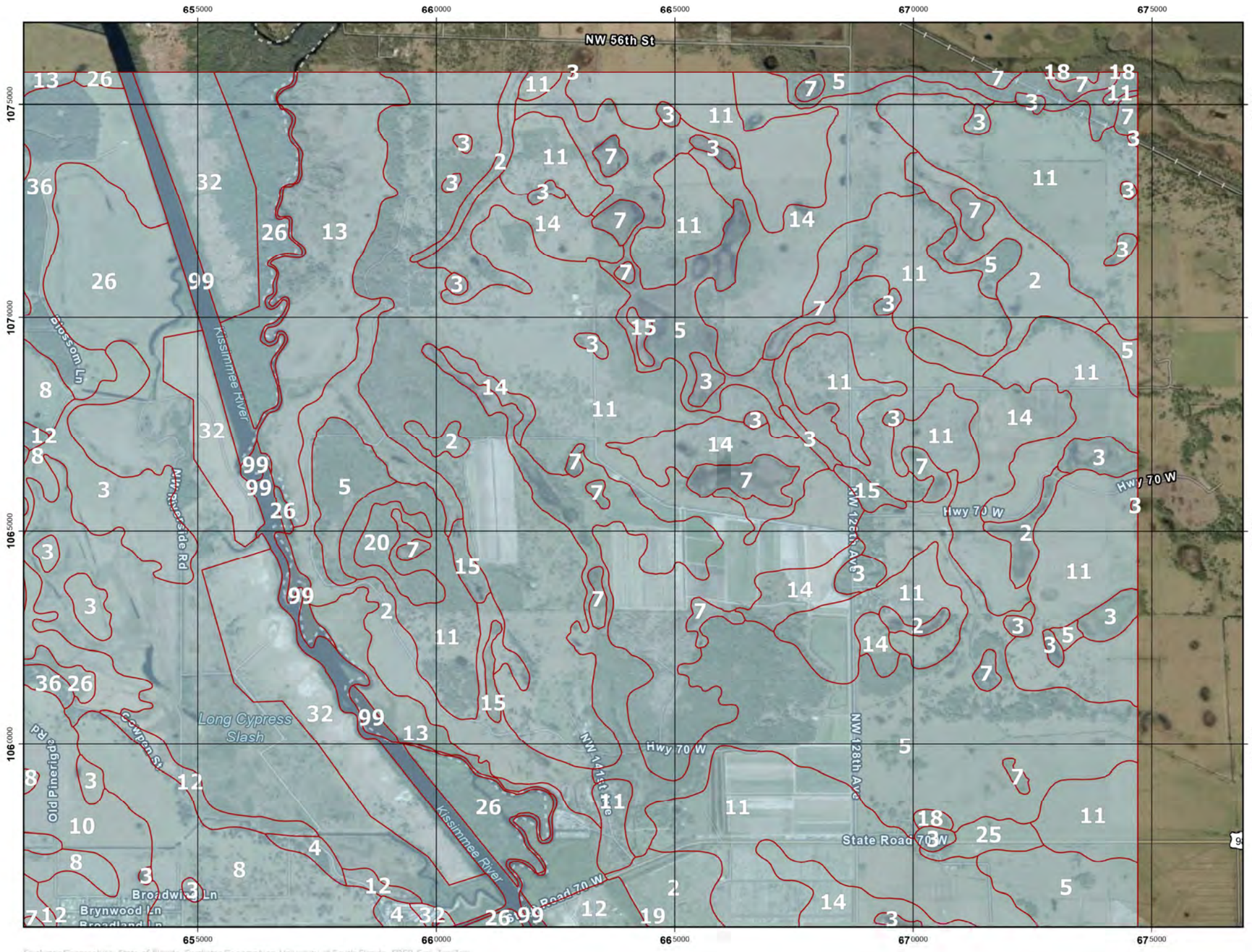






Soils Map Unit Symbols



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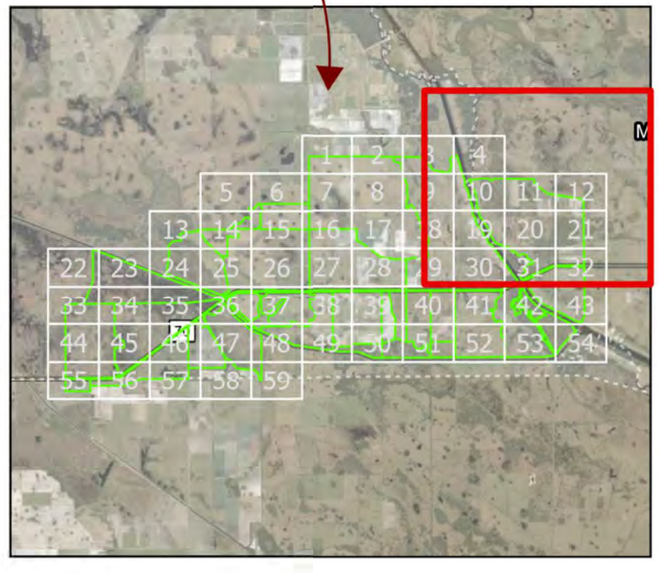
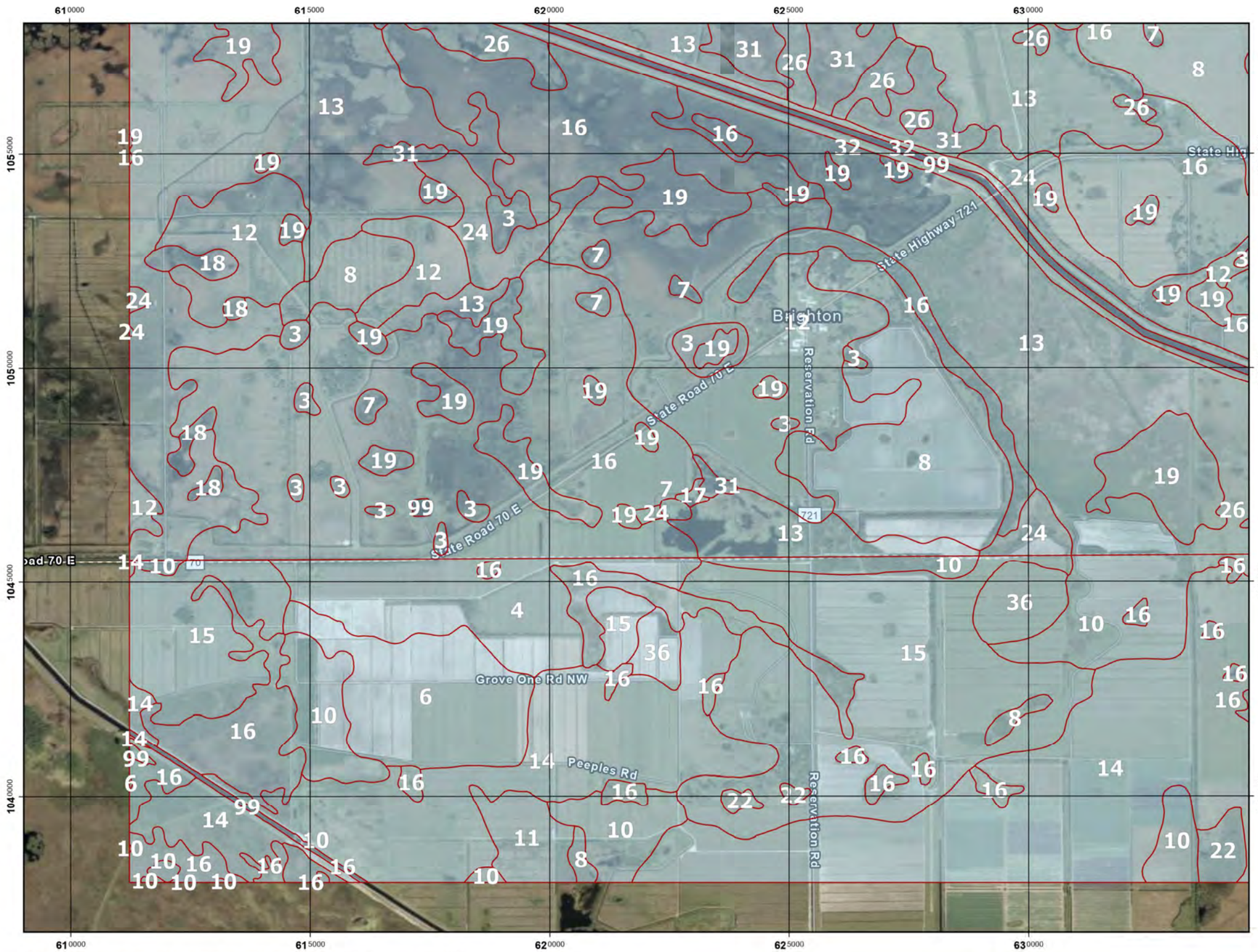
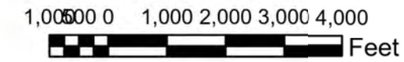
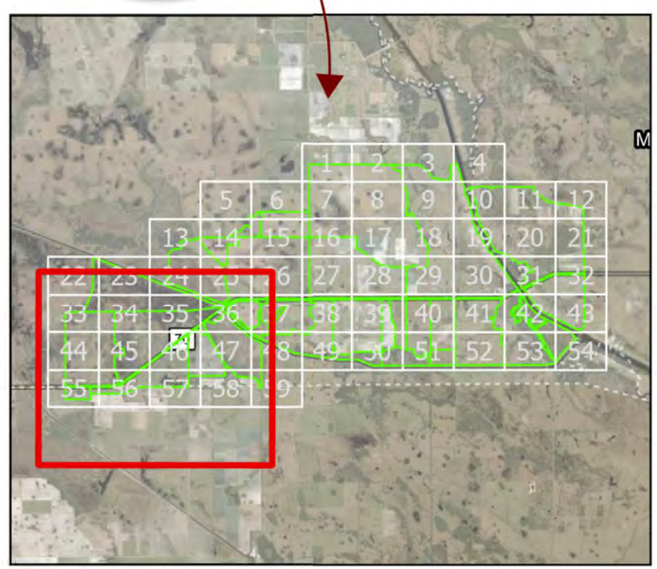


Soils Map Unit Symbols







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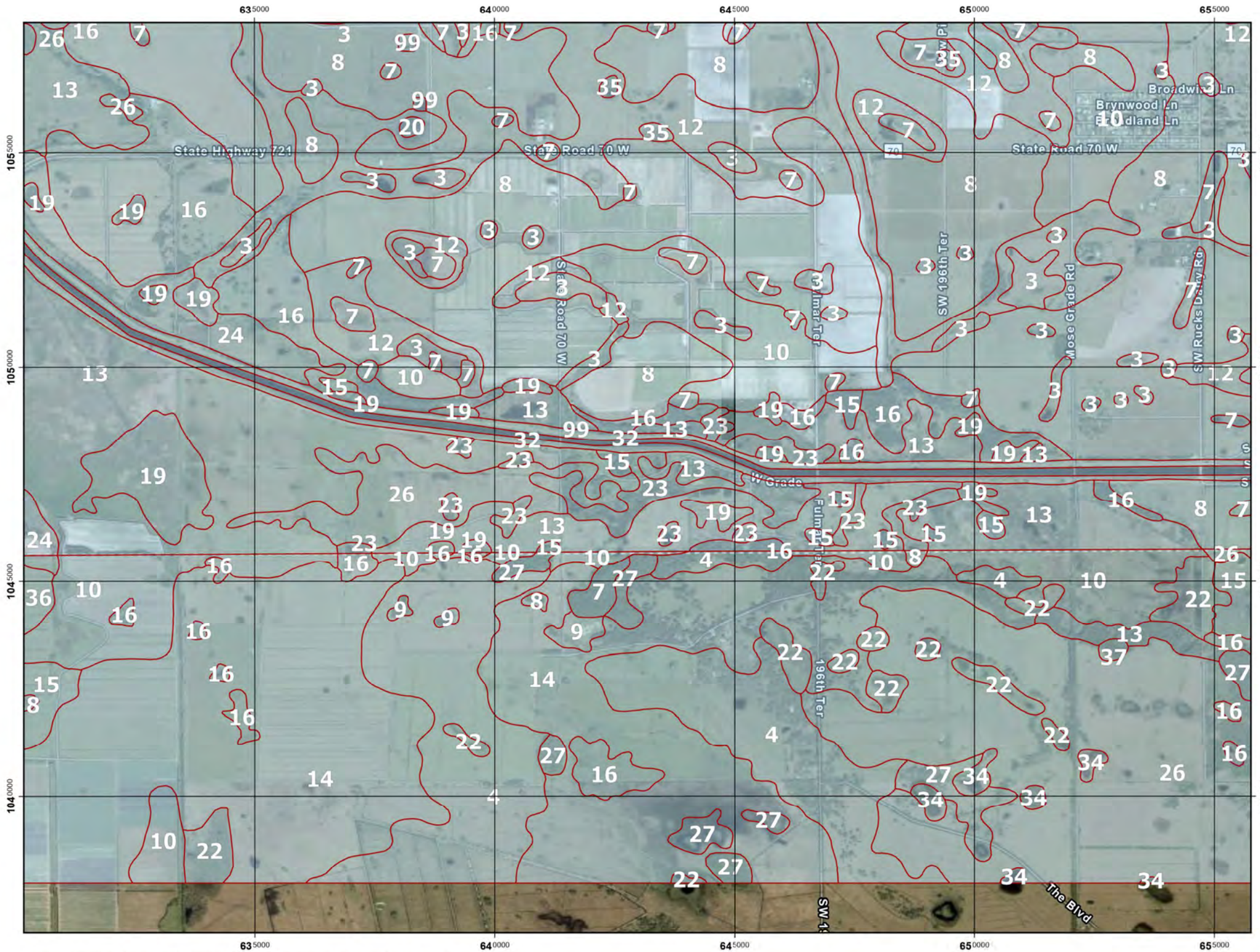
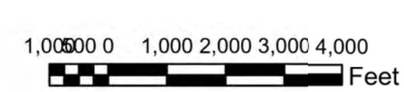
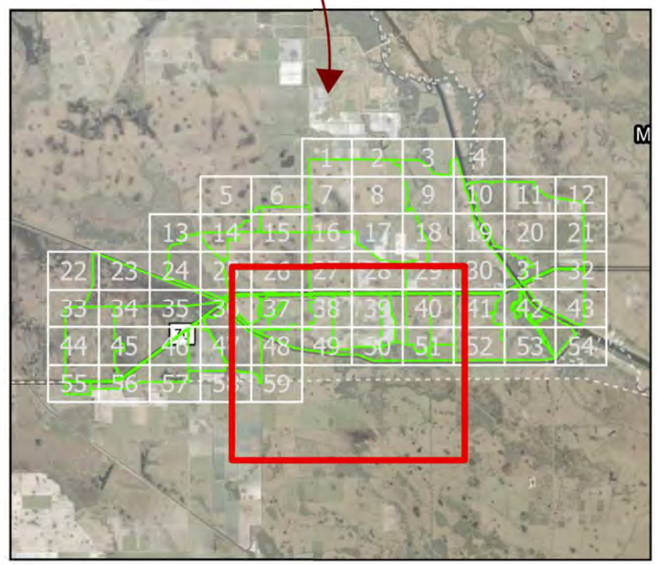
Soils Map Unit Symbols







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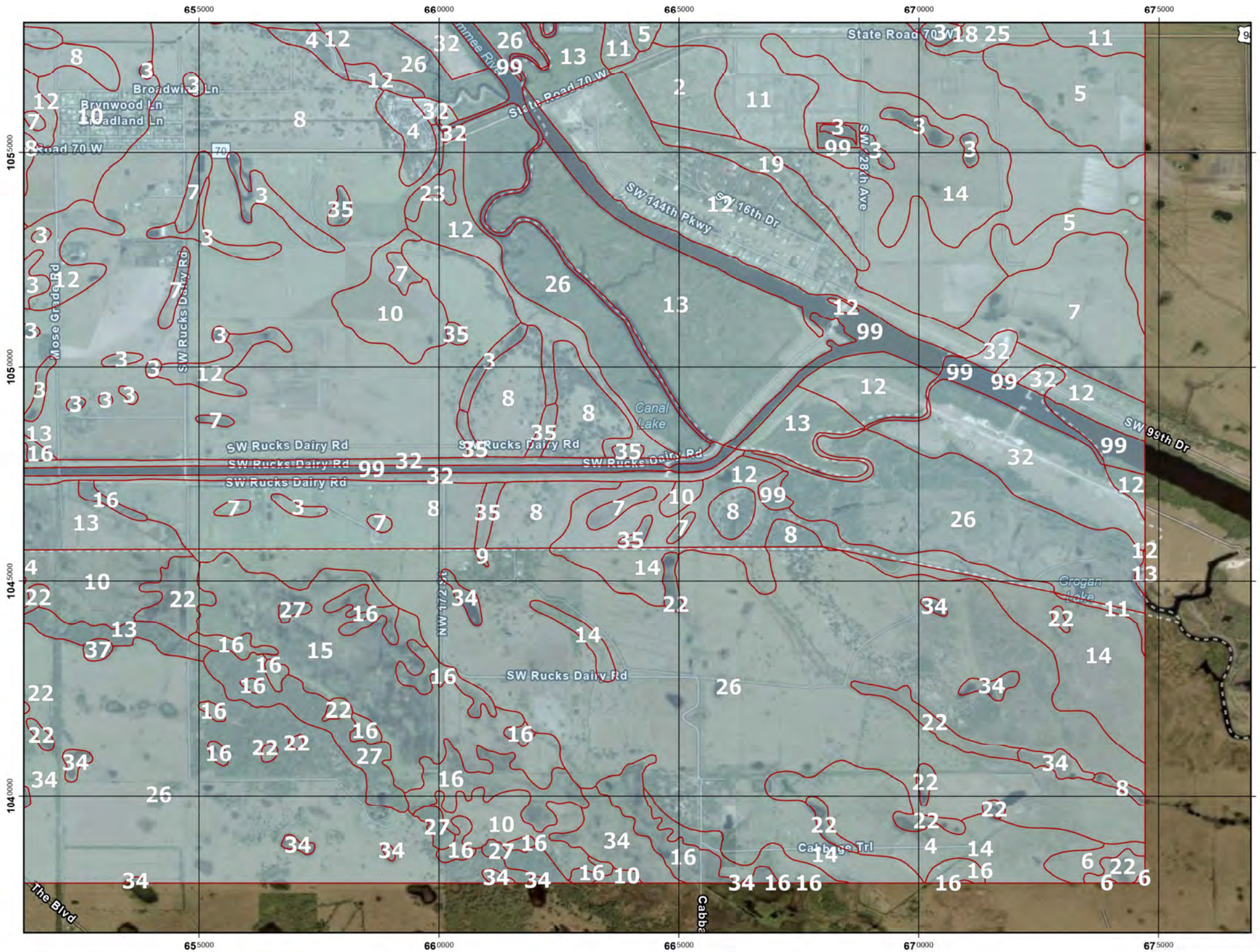

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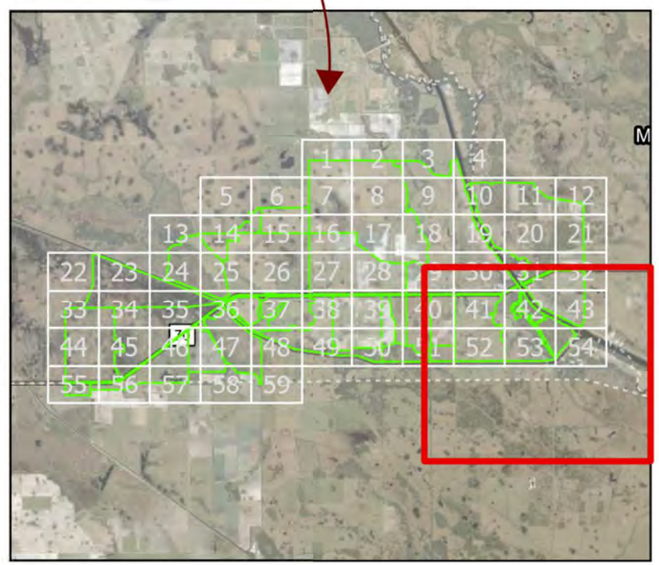

Preface

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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Contents

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

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

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 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: Glades County, Florida
Survey Area Data: Version 23, Aug 21, 2024

Soil Survey Area: Highlands County, Florida
Survey Area Data: Version 24, Aug 21, 2024

Soil Survey Area: Okeechobee County, Florida
Survey Area Data: Version 22, Aug 22, 2024

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Jan 25, 2019—Mar 2, 2022

MAP LEGEND

MAP INFORMATION

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
4	Valkaria fine sand, 0 to 2 percent slopes	1,231.0	2.2%
6	Malabar fine sand, 0 to 2 percent slopes	292.5	0.5%
7	Pople fine sand, 0 to 2 percent slopes	20.6	0.0%
8	Gator muck, frequently ponded, 0 to 1 percent slopes	35.1	0.1%
9	Sanibel muck, frequently ponded, 0 to 1 percent slopes	25.2	0.0%
10	Felda fine sand, 0 to 2 percent slopes	725.0	1.3%
11	Tequesta muck, drained	82.6	0.1%
13	Cypress Lake fine sand, 0 to 2 percent slopes	40.5	0.1%
14	Basinger fine sand, 0 to 2 percent slopes	3,035.4	5.5%
15	Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes	1,333.9	2.4%
16	Floridana fine sand, frequently ponded, 0 to 1 percent slopes	664.7	1.2%
22	Astor fine sand, depressional	273.0	0.5%
26	Immokalee sand, 0 to 2 percent slopes	2,857.8	5.2%
27	Ft. Drum fine sand	232.8	0.4%
34	Basinger fine sand, frequently ponded, 0 to 1 percent slopes	140.8	0.3%
36	Malabar fine sand, high, 0 to 2 percent slopes	99.5	0.2%
37	Lauderhill muck, drained, frequently ponded, 0 to 1 percent slopes	5.7	0.0%
99	Water	17.2	0.0%
Subtotals for Soil Survey Area		**11,113.2**	**20.2%**
Totals for Area of Interest		**55,075.7**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Basinger fine sand, frequently ponded, 0 to 1 percent slopes	1,761.1	3.2%
4	Duette sand, 0 to 5 percent slopes	49.9	0.1%
7	Placid fine sand, frequently ponded, 0 to 1 percent slopes	404.3	0.7%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Immokalee sand, 0 to 2 percent slopes	12,988.1	23.6%
10	Myakka fine sand, 0 to 2 percent slopes	1,123.2	2.0%
12	Basinger fine sand, 0 to 2 percent slopes	4,219.2	7.7%
13	Felda fine sand, 0 to 2 percent slopes	4,389.7	8.0%
15	Bradenton fine sand, 0 to 2 percent slopes	207.1	0.4%
16	Valkaria fine sand, 0 to 2 percent slopes	2,618.6	4.8%
17	Malabar fine sand, 0 to 2 percent slopes	222.8	0.4%
18	Kaliga muck, frequently ponded, 0 to 1 percent slopes	84.7	0.2%
19	Hicoria mucky sand, depressional	943.5	1.7%
20	Samsula muck, frequently ponded, 0 to 1 percent slopes	18.5	0.0%
21	Hontoon muck, frequently ponded, 0 to 1 percent slopes	34.6	0.1%
23	Gator muck, frequently ponded, 0 to 1 percent slopes	168.4	0.3%
24	Pineda sand, 0 to 2 percent slopes	313.2	0.6%
26	Tequesta muck, frequently ponded, 0 to 1 percent slopes	2,250.6	4.1%
31	Felda fine sand, frequently ponded, 0 to 1 percent slopes	289.9	0.5%
32	Arents, very steep	1,222.1	2.2%
35	Sanibel muck, frequently ponded, 0 to 1 percent slopes	159.7	0.3%
36	Pomello sand, 0 to 5 percent slopes	407.7	0.7%
99	Water	519.7	0.9%
Subtotals for Soil Survey Area		**34,396.5**	**62.5%**
Totals for Area of Interest		**55,075.7**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2	Basinger fine sand, 0 to 2 percent slopes	576.2	1.0%
3	Basinger and Placid soils, depressional	199.0	0.4%
5	Valkaria fine sand, 0 to 2 percent slopes	1,555.1	2.8%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7	Floridana, Riviera, and Placid soils, depressional	397.5	0.7%
11	Immokalee fine sand, 0 to 2 percent slopes	3,903.4	7.1%
12	Udorthents, 2 to 35 percent slopes	466.0	0.8%
13	Manatee, Floridana, and Tequesta soils, frequently flooded	948.5	1.7%
14	Myakka fine sand, 0 to 2 percent slopes	1,111.4	2.0%
15	Okeelanta muck, frequently ponded, 0 to 1 percent slopes	52.4	0.1%
18	Parkwood fine sand	11.2	0.0%
19	Floridana, Placid, and Okeelanta soils, frequently flooded	56.5	0.1%
20	Pomello fine sand, 0 to 5 percent slopes	43.8	0.1%
25	Wabasso fine sand, 0 to 2 percent slopes	32.6	0.1%
99	Water	200.6	0.4%
Subtotals for Soil Survey Area		**9,554.0**	**17.3%**
Totals for Area of Interest		**55,075.7**	**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.

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.

Glades County, Florida

4—Valkaria fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tzw5
Elevation: 0 to 110 feet
Mean annual precipitation: 44 to 61 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

Valkaria and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valkaria

Setting

Landform: Drainageways on flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 16 inches: fine sand
Bw - 16 to 51 inches: fine sand
C - 51 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): High to very high (6.00 to 20.00 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 supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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), Slough (R155XY011FL)

Hydric soil rating: Yes

Minor Components

Myakka

Percent of map unit: 5 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Pineda

Percent of map unit: 4 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Malabar

Percent of map unit: 4 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Satellite

Percent of map unit: 2 percent
Landform: Rises on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, rise, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

6—Malabar fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svz3
Elevation: 10 to 140 feet
Mean annual precipitation: 42 to 63 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Malabar and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Malabar

Setting

Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 17 inches: fine sand
Bw - 17 to 42 inches: fine sand
Btg - 42 to 59 inches: fine sandy loam
Cg - 59 to 80 inches: loamy 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): High (2.00 to 6.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D

Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
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), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Valkaria
Percent of map unit: 5 percent
Landform: Flatwoods on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Oldsmar
Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Pineda
Percent of map unit: 4 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Basinger
Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

7—Pople fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2y9gr
Elevation: 10 to 70 feet
Mean annual precipitation: 42 to 55 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Pople and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pople

Setting

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

Typical profile

Ap - 0 to 8 inches: fine sand
E - 8 to 15 inches: fine sand
Bk - 15 to 30 inches: fine sand
Btkg - 30 to 38 inches: sandy clay loam
Cg - 38 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 (0.20 to 0.60 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D

Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Forage suitability group: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Wetland Hardwood Hammock (R155XY012FL)
Hydric soil rating: No

Minor Components

Ft. drum
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: Convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Malabar
Percent of map unit: 4 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Pineda
Percent of map unit: 4 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Valkaria
Percent of map unit: 3 percent
Landform: Drainageways on flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

8—Gator muck, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzwz
Elevation: 0 to 100 feet
Mean annual precipitation: 42 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Gator and similar soils: 83 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gator

Setting

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

Typical profile

Oa - 0 to 18 inches: muck
Cg1 - 18 to 36 inches: sandy clay loam
Cg2 - 36 to 55 inches: fine sandy loam
Cg3 - 55 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 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 low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 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 supply, 0 to 60 inches: Very high (about 13.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D

Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Terra ceia
Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Chobee
Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY090FL - Loamy and Clayey Freshwater Isolated Marshes and Swamps
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

Tequesta
Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL), Freshwater Marshes and Ponds (R156BY010FL)
Hydric soil rating: Yes

Felda
Percent of map unit: 3 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)

Hydric soil rating: Yes

Pompano

Percent of map unit: 1 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

9—Sanibel muck, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 30c6c
Elevation: 20 to 130 feet
Mean annual precipitation: 47 to 55 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 277 to 307 days
Farmland classification: Not prime farmland

Map Unit Composition

Sanibel and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sanibel

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Thin organic material over sandy marine deposits

Typical profile

Oa - 0 to 7 inches: muck
A - 7 to 15 inches: mucky fine sand
Cg - 15 to 80 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 39.96 in/hr)
Depth to water table: About 0 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: 1.4
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Samsula

Percent of map unit: 6 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Basinger, ponded

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Kaliga

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Lauderhill, drained

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip

Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Okeelanta, ponded

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

10—Felda fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tzvy
Elevation: 0 to 180 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Felda and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Felda

Setting

Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
Eg - 4 to 35 inches: fine sand
Btg - 35 to 43 inches: fine sandy loam
Cg - 43 to 80 inches: extremely paragravelly 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 (0.60 to 6.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Forage suitability group: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Minor Components

Wabasso

Percent of map unit: 6 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Oldsmar

Percent of map unit: 5 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Valkaria

Percent of map unit: 4 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave

Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

11—Tequesta muck, drained

Map Unit Setting

National map unit symbol: 1kskc
Elevation: 10 to 60 feet
Mean annual precipitation: 42 to 50 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Tequesta, drained, and similar soils: 86 percent
Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tequesta, Drained

Setting

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

Typical profile

Oa - 0 to 9 inches: muck
A - 9 to 24 inches: fine sand
Eg - 24 to 36 inches: fine sand
Btg - 36 to 42 inches: fine sandy loam
Cg - 42 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 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 (0.20 to 0.57 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
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 supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Floridana, depressional

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Hydric soil rating: Yes

Basinger, depressional

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Gator

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Sanibel

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave

Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

13—Cypress Lake fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2zlds
Elevation: 0 to 60 feet
Mean annual precipitation: 42 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Cypress lake and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cypress Lake

Setting

Landform: Flatwoods on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Convex, linear
Across-slope shape: Linear, concave
Parent material: Sandy and loamy marine deposits over limestone

Typical profile

A - 0 to 3 inches: fine sand
E - 3 to 14 inches: fine sand
E/B - 14 to 25 inches: fine sand
Btg - 25 to 30 inches: fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 8 to 40 inches to lithic bedrock
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0

Available water supply, 0 to 60 inches: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Forage suitability group: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Minor Components

Brynwood

Percent of map unit: 8 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Wabasso

Percent of map unit: 6 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Pineda

Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Ft. drum

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)

Hydric soil rating: No

14—Basinger fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svym
Elevation: 0 to 100 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

Basinger and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Basinger

Setting

Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, convex
Across-slope shape: Linear, concave
Parent material: Sandy marine deposits

Typical profile

Ag - 0 to 2 inches: fine sand
Eg - 2 to 18 inches: fine sand
Bh/E - 18 to 36 inches: fine sand
Cg - 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: 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 12 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 supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks

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), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Myakka

Percent of map unit: 6 percent
Landform: Flatwoods on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Placid

Percent of map unit: 4 percent
Landform: Depressions on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Pompano

Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 1 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf

Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Anclote

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

15—Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svyp
Elevation: 0 to 100 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

Pineda and similar soils: 45 percent
Pineda, wet, and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pineda

Setting

Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 1 inches: fine sand
E - 1 to 5 inches: fine sand
Bw - 5 to 36 inches: fine sand
Btg/E - 36 to 54 inches: fine sandy loam
Cg - 54 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): High (1.98 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
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 supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Forage suitability group: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Description of Pineda, Wet

Setting

Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 1 inches: fine sand
E - 1 to 5 inches: fine sand
Bw - 5 to 36 inches: fine sand
Btg/E - 36 to 54 inches: fine sandy loam
Cg - 54 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 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 supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Forage suitability group: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Felda

Percent of map unit: 6 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Wabasso

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Valkaria

Percent of map unit: 2 percent
Landform: Drainageways on flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Cypress lake

Percent of map unit: 2 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Convex, linear
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps

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

Brynwood

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

16—Floridana fine sand, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2sm53
Elevation: 0 to 90 feet
Mean annual precipitation: 42 to 64 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Floridana and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Floridana

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 19 inches: fine sand
Eg - 19 to 25 inches: fine sand
Btg - 25 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 1 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 low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Tequesta

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL), Freshwater Marshes and Ponds (R156BY010FL)
Hydric soil rating: Yes

Anclote

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Riviera

Percent of map unit: 3 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks

Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Gator

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 2 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

22—Astor fine sand, depressional

Map Unit Setting

National map unit symbol: 1kskn
Elevation: 0 to 80 feet
Mean annual precipitation: 42 to 50 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Astor, depressional, and similar soils: 87 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Astor, Depressional

Setting

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

Typical profile

A - 0 to 34 inches: fine sand
Cg - 34 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 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 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 supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Felda

Percent of map unit: 2 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Gator

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)

Hydric soil rating: Yes

Floridana, depressional

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Hydric soil rating: Yes

Basinger, depressional

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Sanibel

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Okeelanta

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Tequesta, drained

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps

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

26—Immokalee sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2s3ll
Elevation: 0 to 150 feet
Mean annual precipitation: 42 to 57 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Immokalee and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Immokalee

Setting

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

Typical profile

A - 0 to 9 inches: sand
E - 9 to 36 inches: sand
Bh - 36 to 55 inches: sand
C - 55 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: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 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 supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: B/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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

Minor Components

Valkaria
Percent of map unit: 5 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Oldsmar
Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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: 3 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
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: 2 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Felda

Percent of map unit: 1 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

27—Ft. Drum fine sand

Map Unit Setting

National map unit symbol: 1ksks
Elevation: 20 to 100 feet
Mean annual precipitation: 42 to 50 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Ft. drum and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ft. Drum

Setting

Landform: Flats 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
E - 5 to 15 inches: fine sand
Bw - 15 to 22 inches: fine sand
Bkg - 22 to 32 inches: fine sandy loam
Ckg - 32 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: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 18 inches

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 40.0
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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), Cabbage Palm Flatwoods (R155XY005FL)
Hydric soil rating: No

Minor Components

Pople

Percent of map unit: 4 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: No

Pineda

Percent of map unit: 4 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Malabar

Percent of map unit: 4 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Valkaria

Percent of map unit: 3 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip

Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

34—Basinger fine sand, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2v16v
Elevation: 0 to 70 feet
Mean annual precipitation: 43 to 55 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Basinger and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Basinger

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 14 inches: fine sand
Bh/E - 14 to 36 inches: fine sand
Cg - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0

Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Forage suitability group: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Minor Components

Smyrna

Percent of map unit: 5 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Samsula

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Floridana

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
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

36—Malabar fine sand, high, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svz4
Elevation: 0 to 80 feet
Mean annual precipitation: 42 to 64 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 355 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Malabar, high, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Malabar, High

Setting

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

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 17 inches: fine sand
Bw - 17 to 42 inches: fine sand
Bt - 42 to 59 inches: fine sandy loam
Cg - 59 to 80 inches: loamy 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): High (2.00 to 6.00 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D

Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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

Minor Components

Oldsmar
Percent of map unit: 5 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Pineda
Percent of map unit: 4 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Felda
Percent of map unit: 4 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Basinger
Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

37—Lauderhill muck, drained, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2sw05
Elevation: 0 to 30 feet
Mean annual precipitation: 60 to 70 inches
Mean annual air temperature: 70 to 79 degrees F
Frost-free period: 360 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Lauderhill and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lauderhill

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Herbaceous organic material over residuum weathered from limestone

Typical profile

Oa - 0 to 31 inches: muck
2R - 31 to 41 inches: bedrock

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 16 to 36 inches to lithic bedrock
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: About 0 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 supply, 0 to 60 inches: Very high (about 12.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps

Forage suitability group: Organic soils in depressions and on flood plains (G156AC645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Minor Components

Terra ceia
Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Okeelanta
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Jenada
Percent of map unit: 2 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Clewiston, drained
Percent of map unit: 2 percent
Landform: Depressions on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Biscayne, ponded
Percent of map unit: 2 percent

Landform: Marshes on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R156AY230FL - Subtropical Marl Prairies of Everglades
Other vegetative classification: Forage suitability group not assigned (G156AC999FL)
Hydric soil rating: Yes

Tamiami

Percent of map unit: 2 percent
Landform: Marshes on marine terraces, depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R156AY040FL - Subtropical Freshwater Non-Forested Wetlands of Big Cypress
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

99—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Unranked

Highlands County, Florida

3—Basinger fine sand, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2v16v
Elevation: 0 to 70 feet
Mean annual precipitation: 43 to 55 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Basinger and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Basinger

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 14 inches: fine sand
Bh/E - 14 to 36 inches: fine sand
Cg - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Smyrna
Percent of map unit: 5 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Samsula
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Floridana
Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
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

4—Duette sand, 0 to 5 percent slopes

Map Unit Setting
National map unit symbol: 1jfvx
Elevation: 10 to 150 feet
Mean annual precipitation: 47 to 55 inches
Mean annual air temperature: 68 to 75 degrees F

Frost-free period: 277 to 307 days
Farmland classification: Not prime farmland

Map Unit Composition

Duette and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Duette

Setting

Landform: Flats on marine terraces, rises on marine terraces
Landform position (three-dimensional): Talf, rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 6 inches: sand
E - 6 to 51 inches: sand
Bh - 51 to 59 inches: sand
BC - 59 to 80 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: About 48 to 72 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 supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: F154XA008FL - Moist Sandy Scrubby Flatwoods
Forage suitability group: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL), Sand Pine Scrub (R154XY001FL)
Hydric soil rating: No

Minor Components

Paola

Percent of map unit: 4 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XX002FL - Xeric Bicolor Sandy Uplands

Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Hydric soil rating: No

Satellite

Percent of map unit: 4 percent
Landform: Rises on marine terraces, flats on marine terraces
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XA008FL - Moist Sandy Scrubby Flatwoods
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Archbold

Percent of map unit: 4 percent
Landform: Flats on marine terraces, ridges on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XA008FL - Moist Sandy Scrubby Flatwoods
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Hydric soil rating: No

Orsino

Percent of map unit: 4 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XX002FL - Xeric Bicolor Sandy Uplands
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Hydric soil rating: No

Pomello

Percent of map unit: 4 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XA008FL - Moist Sandy Scrubby Flatwoods
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

7—Placid fine sand, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzx9
Elevation: 0 to 160 feet
Mean annual precipitation: 44 to 61 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Placid and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Placid

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 24 inches: fine sand
Cg - 24 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 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 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 supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Basinger
Percent of map unit: 7 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Myakka
Percent of map unit: 5 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Gentry
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
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

Samsula
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Felda
Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces, drainageways on marine terraces

Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

8—Immokalee sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2s3ll
Elevation: 0 to 150 feet
Mean annual precipitation: 42 to 57 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Immokalee and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Immokalee

Setting

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

Typical profile

A - 0 to 9 inches: sand
E - 9 to 36 inches: sand
Bh - 36 to 55 inches: sand
C - 55 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: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 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 supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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

Minor Components

Valkaria

Percent of map unit: 5 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Oldsmar

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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: 3 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
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: 2 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave

Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Felda

Percent of map unit: 1 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

10—Myakka fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2s3lg
Elevation: 0 to 130 feet
Mean annual precipitation: 42 to 56 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

Myakka and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myakka

Setting

Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
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 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 supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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

Minor Components

Basinger

Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Wabasso

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Cassia

Percent of map unit: 3 percent
Landform: Rises on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Satellite

Percent of map unit: 1 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
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

12—Basinger fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svym
Elevation: 0 to 100 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

Basinger and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Basinger

Setting

Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, convex
Across-slope shape: Linear, concave
Parent material: Sandy marine deposits

Typical profile

Ag - 0 to 2 inches: fine sand
Eg - 2 to 18 inches: fine sand

Bh/E - 18 to 36 inches: fine sand
Cg - 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: 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 12 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 supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Myakka

Percent of map unit: 6 percent
Landform: Flatwoods on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Placid

Percent of map unit: 4 percent
Landform: Depressions on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave

Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Pompano

Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 1 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Anclote

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

13—Felda fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tzvy
Elevation: 0 to 180 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Felda and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Felda

Setting

Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
Eg - 4 to 35 inches: fine sand
Btg - 35 to 43 inches: fine sandy loam
Cg - 43 to 80 inches: extremely paragravelly 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 (0.60 to 6.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Forage suitability group: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Minor Components

Wabasso

Percent of map unit: 6 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks

Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Oldsmar

Percent of map unit: 5 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Valkaria

Percent of map unit: 4 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

15—Bradenton fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svzf
Elevation: 0 to 130 feet
Mean annual precipitation: 45 to 63 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Bradenton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bradenton

Setting

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

Typical profile

A - 0 to 4 inches: fine sand
E - 4 to 10 inches: fine sand
Btg - 10 to 19 inches: fine sandy loam
Btkg - 19 to 26 inches: fine sandy loam
Ckg - 26 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 high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F155XY140FL - Loamy and Clayey Flats and Hammocks
Forage suitability group: Loamy and clayey soils on flats of hydric or mesic lowlands (G155XB341FL)
Other vegetative classification: Wetland Hardwood Hammock (R155XY012FL), South Florida Flatwoods (R155XY003FL), Loamy and clayey soils on flats of hydric or mesic lowlands (G155XB341FL)
Hydric soil rating: Yes

Minor Components

Felda

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: Linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Malabar

Percent of map unit: 4 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps

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

Floridana

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
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

Wabasso

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Pineda

Percent of map unit: 1 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

16—Valkaria fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tzw5
Elevation: 0 to 110 feet
Mean annual precipitation: 44 to 61 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Valkaria and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valkaria

Setting

Landform: Drainageways on flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 16 inches: fine sand
Bw - 16 to 51 inches: fine sand
C - 51 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): High to very high (6.00 to 20.00 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 supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Myakka

Percent of map unit: 5 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)

Hydric soil rating: No

Pineda

Percent of map unit: 4 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Malabar

Percent of map unit: 4 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Satellite

Percent of map unit: 2 percent
Landform: Rises on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, rise, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

17—Malabar fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svz3
Elevation: 10 to 140 feet
Mean annual precipitation: 42 to 63 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Malabar and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Malabar

Setting

Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 17 inches: fine sand
Bw - 17 to 42 inches: fine sand
Btg - 42 to 59 inches: fine sandy loam
Cg - 59 to 80 inches: loamy 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): High (2.00 to 6.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
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), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Valkaria

Percent of map unit: 5 percent
Landform: Flatwoods on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Oldsmar

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Pineda

Percent of map unit: 4 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Basinger

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

18—Kaliga muck, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzw6
Elevation: 0 to 130 feet
Mean annual precipitation: 44 to 55 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Kaliga and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kaliga

Setting

Landform: Depressions on flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Parent material: Herbaceous organic material over loamy marine deposits

Typical profile

Oa - 0 to 25 inches: muck
C1 - 25 to 35 inches: fine sandy loam
C2 - 35 to 60 inches: sandy clay loam
C3 - 60 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 1 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 low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 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 supply, 0 to 60 inches: Very high (about 15.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Samsula

Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Chobee

Percent of map unit: 4 percent
Landform: Depressions on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY090FL - Loamy and Clayey Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Tequesta

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Freshwater Marshes and Ponds (R156BY010FL), Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 4 percent
Landform: Depressions on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Placid

Percent of map unit: 3 percent
Landform: Depressions on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

19—Hicoria mucky sand, depressional

Map Unit Setting

National map unit symbol: 1jfwd
Elevation: 10 to 100 feet
Mean annual precipitation: 47 to 55 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 277 to 307 days
Farmland classification: Not prime farmland

Map Unit Composition

Hicoria and similar soils: 87 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hicoria

Setting

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

Typical profile

A - 0 to 4 inches: mucky sand
E - 4 to 21 inches: fine sand
Btg - 21 to 52 inches: fine sandy loam
BCg - 52 to 80 inches: fine sandy 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 low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: About 0 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 supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps

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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Felda, depressional
Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Hydric soil rating: Yes

Placid, 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
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Sanibel
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Tequesta
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

20—Samsula muck, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzw9
Elevation: 0 to 250 feet
Mean annual precipitation: 44 to 63 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Samsula and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Samsula

Setting

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

Typical profile

Oa1 - 0 to 24 inches: muck
Oa2 - 24 to 32 inches: muck
Cg1 - 32 to 35 inches: sand
Cg2 - 35 to 44 inches: sand
Cg3 - 44 to 80 inches: sand

Properties and qualities

Slope: 0 to 1 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 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 supply, 0 to 60 inches: Very high (about 13.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D

Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Myakka
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Kaliga
Percent of map unit: 3 percent
Landform: Depressions on flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Basinger
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Anclote
Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Floridana

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
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

Sanibel

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

21—Hontoon muck, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2vbpg
Elevation: 0 to 250 feet
Mean annual precipitation: 43 to 63 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 300 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Hontoon and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hontoon

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Herbaceous organic material

Typical profile

Oa - 0 to 75 inches: muck
AC - 75 to 80 inches: sandy loam

Properties and qualities

Slope: 0 to 1 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 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 supply, 0 to 60 inches: Very high (about 23.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: F154XA014FL - Histic Wetland Depressions
Forage suitability group: Organic soils in depressions and on flood plains (G154XB645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G154XB645FL), Freshwater Marshes and Ponds (R154XY010FL)
Hydric soil rating: Yes

Minor Components

Hontoon, drained

Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F154XA014FL - Histic Wetland Depressions
Other vegetative classification: Organic soils in depressions and on flood plains (G154XB645FL), Freshwater Marshes and Ponds (R154XY010FL)
Hydric soil rating: Yes

Samsula

Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F154XA014FL - Histic Wetland Depressions
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Placid

Percent of map unit: 3 percent
Landform: Depressions on marine terraces, drainageways on marine terraces

Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F154XA015FL - Mineral Depressional Wetlands
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Basinger

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: F154XA015FL - Mineral Depressional Wetlands
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

23—Gator muck, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzwz
Elevation: 0 to 100 feet
Mean annual precipitation: 42 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Gator and similar soils: 83 percent
Minor components: 17 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gator

Setting

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

Typical profile

Oa - 0 to 18 inches: muck
Cg1 - 18 to 36 inches: sandy clay loam
Cg2 - 36 to 55 inches: fine sandy loam
Cg3 - 55 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 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 low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 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 supply, 0 to 60 inches: Very high (about 13.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Terra ceia

Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Chobee

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY090FL - Loamy and Clayey Freshwater Isolated Marshes and Swamps
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

Tequesta

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

Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Freshwater Marshes and Ponds (R156BY010FL), Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 3 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Pompano

Percent of map unit: 1 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

24—Pineda sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2x1nb
Elevation: 0 to 100 feet
Mean annual precipitation: 47 to 58 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 355 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Pineda and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pineda

Setting

Landform: Drainageways on marine terraces, flats on marine terraces

Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 5 inches: sand
E - 5 to 19 inches: sand
Bw - 19 to 35 inches: sand
Btg/E - 35 to 38 inches: sandy loam
Btg - 38 to 60 inches: sandy loam
Cg - 60 to 80 inches: loamy 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 low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Forage suitability group: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Malabar

Percent of map unit: 6 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Wabasso

Percent of map unit: 5 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear

Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Valkaria

Percent of map unit: 2 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Brynwood

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

26—Tequesta muck, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzwx
Elevation: 0 to 40 feet
Mean annual precipitation: 47 to 61 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 360 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Tequesta and similar soils: 87 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tequesta

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave

Parent material: Herbaceous organic material over sandy and loamy marine deposits

Typical profile

Oa - 0 to 12 inches: muck
A - 12 to 25 inches: fine sand
Eg - 25 to 44 inches: fine sand
Btg/E - 44 to 56 inches: fine sandy loam
Btg - 56 to 72 inches: fine sandy loam
2Ck - 72 to 80 inches: sand

Properties and qualities

Slope: 0 to 1 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 (0.60 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G156AC645FL)
Other vegetative classification: Freshwater Marshes and Ponds (R156BY010FL), Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Minor Components

Basinger

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Holopaw

Percent of map unit: 3 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear, convex
Across-slope shape: Concave, linear

Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Sanibel

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Kaliga

Percent of map unit: 3 percent
Landform: Depressions on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

31—Felda fine sand, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzxb
Elevation: 0 to 150 feet
Mean annual precipitation: 46 to 63 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Felda and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Felda

Setting

Landform: Depressions on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear

Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 7 inches: fine sand
Eg - 7 to 24 inches: fine sand
Btg - 24 to 36 inches: fine sandy loam
Cg - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 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 (0.60 to 6.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Floridana

Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
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

Basinger

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear

Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Winder

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY090FL - Loamy and Clayey Freshwater Isolated Marshes and Swamps
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

Eaton

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: F154XA012FL - Wet Rich Forests And Woodlands
Other vegetative classification: Loamy and clayey soils on stream terraces, flood plains, or in depressions (G154XB345FL), Freshwater Marshes and Ponds (R154XY010FL)
Hydric soil rating: Yes

Kaliga

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Myakka

Percent of map unit: 1 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Sanibel

Percent of map unit: 1 percent
Landform: Depressions on marine terraces

Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

32—Arents, very steep

Map Unit Setting

National map unit symbol: 1jfws
Elevation: 0 to 150 feet
Mean annual precipitation: 47 to 55 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 277 to 307 days
Farmland classification: Not prime farmland

Map Unit Composition

Arents and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arents

Setting

Landform: Rises on marine terraces
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Altered marine deposits

Typical profile

C - 0 to 80 inches: variable

Properties and qualities

Slope: 45 to 65 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
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: More than 80 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 supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: No

35—Sanibel muck, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 30c6c
Elevation: 20 to 130 feet
Mean annual precipitation: 47 to 55 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 277 to 307 days
Farmland classification: Not prime farmland

Map Unit Composition

Sanibel and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sanibel

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Thin organic material over sandy marine deposits

Typical profile

Oa - 0 to 7 inches: muck
A - 7 to 15 inches: mucky fine sand
Cg - 15 to 80 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 39.96 in/hr)
Depth to water table: About 0 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: 1.4
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: A/D
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Samsula
Percent of map unit: 6 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Basinger, ponded
Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Kaliga
Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Lauderhill, drained
Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL)

Hydric soil rating: Yes

Okeelanta, ponded

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G155XB645FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

36—Pomello sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2sm5n
Elevation: 0 to 160 feet
Mean annual precipitation: 46 to 64 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Pomello and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pomello

Setting

Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 4 inches: sand
E - 4 to 56 inches: sand
Bh - 56 to 62 inches: sand
Bw - 62 to 80 inches: sand

Properties and qualities

Slope: 0 to 5 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): High (1.98 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 supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Forage suitability group: Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Minor Components

Immokalee

Percent of map unit: 5 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Tavares

Percent of map unit: 4 percent
Landform: Ridges on marine terraces, flatwoods on marine terraces, hills on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve, side slope, tread, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Ecological site: R155XY180FL - Sandy Scrub on Rises, Ridges, and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL), Longleaf Pine-Turkey Oak Hills (R155XY002FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

St. lucie

Percent of map unit: 3 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex
Across-slope shape: Linear

Ecological site: R155XY230FL - Sandy Scrub on Ridges, Knolls, and Dunes of Xeric Uplands
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Hydric soil rating: No

Satellite

Percent of map unit: 3 percent
Landform: Knolls on marine terraces, rises on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf, rise
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: R155XY180FL - Sandy Scrub on Rises, Ridges, and Knolls of Mesic Uplands
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

99—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Unranked

Okeechobee County, Florida

2—Basinger fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svym
Elevation: 0 to 100 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

Basinger and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Basinger

Setting

Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, convex
Across-slope shape: Linear, concave
Parent material: Sandy marine deposits

Typical profile

Ag - 0 to 2 inches: fine sand
Eg - 2 to 18 inches: fine sand
Bh/E - 18 to 36 inches: fine sand
Cg - 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: 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 12 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 supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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), Slough (R155XY011FL)

Hydric soil rating: Yes

Minor Components

Myakka

Percent of map unit: 6 percent
Landform: Drainageways on marine terraces, flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Placid

Percent of map unit: 4 percent
Landform: Drainageways on marine terraces, depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Pompano

Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 1 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps

Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Anclote

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

3—Basinger and Placid soils, depressional

Map Unit Setting

National map unit symbol: 1jjmd
Elevation: 20 to 150 feet
Mean annual precipitation: 46 to 54 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Basinger, depressional, and similar soils: 50 percent
Placid, depressional, and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Basinger, Depressional

Setting

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

Typical profile

A - 0 to 2 inches: fine sand
Eg - 2 to 18 inches: fine sand
B/Eg - 18 to 36 inches: fine sand
C - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 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 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 supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Description of Placid, Depressional

Setting

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

Typical profile

A - 0 to 20 inches: fine sand
Cg - 20 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 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 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 supply, 0 to 60 inches: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Myakka
Percent of map unit: 5 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

St. johns
Percent of map unit: 5 percent
Landform: Flats on marine terraces, depressions on marine terraces
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

5—Valkaria fine sand, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2tzw5
Elevation: 0 to 110 feet
Mean annual precipitation: 44 to 61 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition
Valkaria and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valkaria

Setting
Landform: Drainageways on flats on marine terraces
Landform position (three-dimensional): Tread, talf, dip

Down-slope shape: Linear
Across-slope shape: Linear, concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 16 inches: fine sand
Bw - 16 to 51 inches: fine sand
C - 51 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): High to very high (6.00 to 20.00 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 supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Myakka

Percent of map unit: 5 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Pineda

Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)

Hydric soil rating: Yes

Malabar

Percent of map unit: 4 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Satellite

Percent of map unit: 2 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
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

7—Floridana, Riviera, and Placid soils, depressional

Map Unit Setting

National map unit symbol: 1jjmj
Elevation: 0 to 70 feet
Mean annual precipitation: 46 to 54 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Floridana, depressional, and similar soils: 40 percent
Riviera, depressional, and similar soils: 30 percent
Placid, depressional, and similar soils: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Floridana, Depressional

Setting

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

Typical profile

A - 0 to 18 inches: fine sand
Eg - 18 to 38 inches: fine sand
Btg - 38 to 60 inches: fine sandy loam
Cg - 60 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 1 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 low to moderately high (0.06 to 0.20 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 supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Description of Riviera, Depressional

Setting

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

Typical profile

A - 0 to 3 inches: fine sand
E - 3 to 22 inches: fine sand
Btg - 22 to 40 inches: fine sandy loam
2C - 40 to 80 inches: sandy loam

Properties and qualities

Slope: 0 to 1 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 low to moderately high (0.06 to 0.20 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 supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Description of Placid, Depressional

Setting

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

Typical profile

A - 0 to 20 inches: fine sand
Cg - 20 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 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 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 supply, 0 to 60 inches: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Minor Components

Okeelanta, depressional
Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Manatee, depressional
Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY090FL - Loamy and Clayey Freshwater Isolated Marshes and Swamps
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Loamy and clayey soils on stream terraces, flood plains, or in depressions (G155XB345FL)
Hydric soil rating: Yes

11—Immokalee fine sand, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2s3lk
Elevation: 0 to 130 feet
Mean annual precipitation: 42 to 68 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition
Immokalee and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Immokalee

Setting

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

Typical profile

A - 0 to 6 inches: fine sand
E - 6 to 35 inches: fine sand
Bh - 35 to 54 inches: fine sand
BC - 54 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 1.98 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 supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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

Minor Components

Basinger

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Pomello

Percent of map unit: 2 percent
Landform: Ridges on marine terraces, knolls on marine terraces

Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Wabasso

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Placid

Percent of map unit: 1 percent
Landform: Drainageways on marine terraces, depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Jenada

Percent of map unit: 1 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Slough (R155XY011FL)
Hydric soil rating: Yes

12—Udorthents, 2 to 35 percent slopes

Map Unit Setting

National map unit symbol: 1jjmp
Elevation: 0 to 50 feet
Mean annual precipitation: 46 to 54 inches

Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Altered marine deposits

Typical profile

C - 0 to 57 inches: sand

Properties and qualities

Slope: 2 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
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: More than 80 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 supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: No

13—Manatee, Floridana, and Tequesta soils, frequently flooded

Map Unit Setting

National map unit symbol: 1jjmq
Elevation: 0 to 70 feet
Mean annual precipitation: 46 to 54 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Manatee, frequently flooded, and similar soils: 45 percent
Floridana, frequently flooded, and similar soils: 25 percent
Tequesta and similar soils: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manatee, Frequently Flooded

Setting

Landform: Marshes on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 18 inches: loamy fine sand
Btg - 18 to 36 inches: fine sandy loam
BCkg - 36 to 48 inches: fine sandy loam
Cg - 48 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
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 supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: B/D
Ecological site: R155XY050FL - Loamy and Clayey Freshwater Floodplain Marshes and Swamps
Forage suitability group: Loamy and clayey soils on stream terraces, flood plains, or in depressions (G155XB345FL)
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Loamy and clayey soils on stream terraces, flood plains, or in depressions (G155XB345FL)
Hydric soil rating: Yes

Description of Floridana, Frequently Flooded

Setting

Landform: Marshes on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave

Across-slope shape: Concave
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 18 inches: fine sand
Eg - 18 to 38 inches: fine sand
Btg - 38 to 60 inches: fine sandy loam
Cg - 60 to 80 inches: loamy 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: High
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 6 inches
Frequency of flooding: Frequent
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 supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R155XY040FL - Sandy over Loamy Freshwater Floodplain Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Description of Tequesta

Setting

Landform: Marshes on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Organic material over sandy and loamy marine deposits

Typical profile

Oa - 0 to 10 inches: muck
A - 10 to 33 inches: fine sand
Btg - 33 to 62 inches: fine sandy loam
2C - 62 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: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
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 supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Minor Components

Placid, frequently flooded

Percent of map unit: 4 percent
Landform: Swamps on flood plains on marine terraces
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R155XY030FL - Sandy Freshwater Floodplain Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Okeelanta, frequently flooded

Percent of map unit: 4 percent
Landform: Swamps on flood plains on marine terraces
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R155XY060FL - Organic Freshwater Floodplain Marshes and Swamps
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Basinger

Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps

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

Riviera

Percent of map unit: 3 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

14—Myakka fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2s3lg
Elevation: 0 to 130 feet
Mean annual precipitation: 42 to 56 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Myakka and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myakka

Setting

Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, 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 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 supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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

Minor Components

Basinger

Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Wabasso

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Cassia

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands

Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Satellite

Percent of map unit: 1 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
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

15—Okeelanta muck, frequently ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tzw8
Elevation: 0 to 160 feet
Mean annual precipitation: 41 to 63 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Okeelanta and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Okeelanta

Setting

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

Typical profile

Oa - 0 to 31 inches: muck
Cg - 31 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 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 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 supply, 0 to 60 inches: Very high (about 14.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Minor Components

Lauderhill

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Terra ceia

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Placid

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Floridana

Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
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

Pompano

Percent of map unit: 1 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Tequesta

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R155XY100FL - Organic Freshwater Isolated Marshes and Swamps
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL), Freshwater Marshes and Ponds (R156BY010FL)
Hydric soil rating: Yes

18—Parkwood fine sand

Map Unit Setting

National map unit symbol: 1jjmv
Elevation: 20 to 100 feet
Mean annual precipitation: 46 to 54 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Parkwood and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Parkwood

Setting

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

Typical profile

A - 0 to 9 inches: fine sand
Btca - 9 to 22 inches: fine sandy loam
BCca - 22 to 52 inches: loamy fine sand
Cg - 52 to 80 inches: loamy 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 low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F155XY140FL - Loamy and Clayey Flats and Hammocks

Forage suitability group: Loamy and clayey soils on flats of hydric or mesic lowlands (G155XB341FL)
Other vegetative classification: Wetland Hardwood Hammock (R155XY012FL), Loamy and clayey soils on flats of hydric or mesic lowlands (G155XB341FL)
Hydric soil rating: Yes

Minor Components

Ft. drum
Percent of map unit: 5 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Cabbage Palm Flatwoods (R155XY005FL)
Hydric soil rating: Yes

Bradenton
Percent of map unit: 5 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY140FL - Loamy and Clayey Flats and Hammocks
Other vegetative classification: Wetland Hardwood Hammock (R155XY012FL), Loamy and clayey soils on flats of hydric or mesic lowlands (G155XB341FL)
Hydric soil rating: Yes

19—Floridana, Placid, and Okeelanta soils, frequently flooded

Map Unit Setting
National map unit symbol: 1jjmw
Elevation: 0 to 150 feet
Mean annual precipitation: 46 to 54 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition
Floridana and similar soils: 40 percent
Placid, frequently flooded, and similar soils: 25 percent
Okeelanta, frequently flooded, and similar soils: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Floridana

Setting

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

Typical profile

A - 0 to 18 inches: fine sand
Eg - 18 to 38 inches: fine sand
Btg - 38 to 60 inches: fine sandy loam
Cg - 60 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Very high
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 6 inches
Frequency of flooding: Frequent
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 supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R155XY040FL - Sandy over Loamy Freshwater Floodplain Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Description of Placid, Frequently Flooded

Setting

Landform: Swamps on flood plains on marine terraces
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 20 inches: fine sand
Cg - 20 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Very high
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: Frequent
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 supply, 0 to 60 inches: Moderate (about 6.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY030FL - Sandy Freshwater Floodplain Marshes and Swamps
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), Freshwater Marshes and Ponds (R155XY010FL)
Hydric soil rating: Yes

Description of Okeelanta, Frequently Flooded

Setting

Landform: Swamps on flood plains on marine terraces
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Parent material: Herbaceous organic material over sandy marine deposits

Typical profile

Oa - 0 to 28 inches: muck
Cg - 28 to 80 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Very high
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: Frequent
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 supply, 0 to 60 inches: Very high (about 13.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Ecological site: R155XY060FL - Organic Freshwater Floodplain Marshes and Swamps
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Organic soils in depressions and on flood plains (G155XB645FL)
Hydric soil rating: Yes

Minor Components

Myakka
Percent of map unit: 3 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Valkaria
Percent of map unit: 3 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Riviera
Percent of map unit: 3 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R155XY080FL - Sandy over Loamy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

St. johns
Percent of map unit: 3 percent
Landform: Flats on marine terraces, depressions on marine terraces
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Basinger

Percent of map unit: 3 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

20—Pomello fine sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2tzvz
Elevation: 0 to 130 feet
Mean annual precipitation: 44 to 57 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Pomello and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pomello

Setting

Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
E - 4 to 42 inches: fine sand
Bh - 42 to 54 inches: fine sand
B/C - 54 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 5 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): High (2.00 to 6.00 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 supply, 0 to 60 inches: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
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: 8 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Archbold

Percent of map unit: 2 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, tread
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R155XY180FL - Sandy Scrub on Rises, Ridges, and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Cassia

Percent of map unit: 2 percent
Landform: Knolls on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands

Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)
Hydric soil rating: No

Pompano

Percent of map unit: 2 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: R155XY070FL - Sandy Freshwater Isolated Marshes and Swamps
Other vegetative classification: Slough (R155XY011FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

St. lucie

Percent of map unit: 1 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: R155XY230FL - Sandy Scrub on Ridges, Knolls, and Dunes of Xeric Uplands
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Hydric soil rating: No

25—Wabasso fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2svzg
Elevation: 0 to 130 feet
Mean annual precipitation: 38 to 64 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

Wabasso and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wabasso

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear

Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
E - 4 to 16 inches: fine sand
Bh - 16 to 28 inches: fine sand
E' - 28 to 32 inches: fine sand
Btg - 32 to 48 inches: fine sandy loam
Ckg - 48 to 80 inches: loamy 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): High (2.00 to 6.00 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
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 supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
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

Minor Components

Myakka

Percent of map unit: 4 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Riviera

Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks

Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Basinger

Percent of map unit: 3 percent
Landform: Drainageways on flats, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave, convex
Across-slope shape: Concave, linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Malabar

Percent of map unit: 2 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 1 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear
Across-slope shape: Linear, concave
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Pinellas

Percent of map unit: 1 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY130FL - Sandy over Loamy Flatwoods and Hammocks
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Cabbage Palm Flatwoods (R155XY005FL)
Hydric soil rating: No

99—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Unranked

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

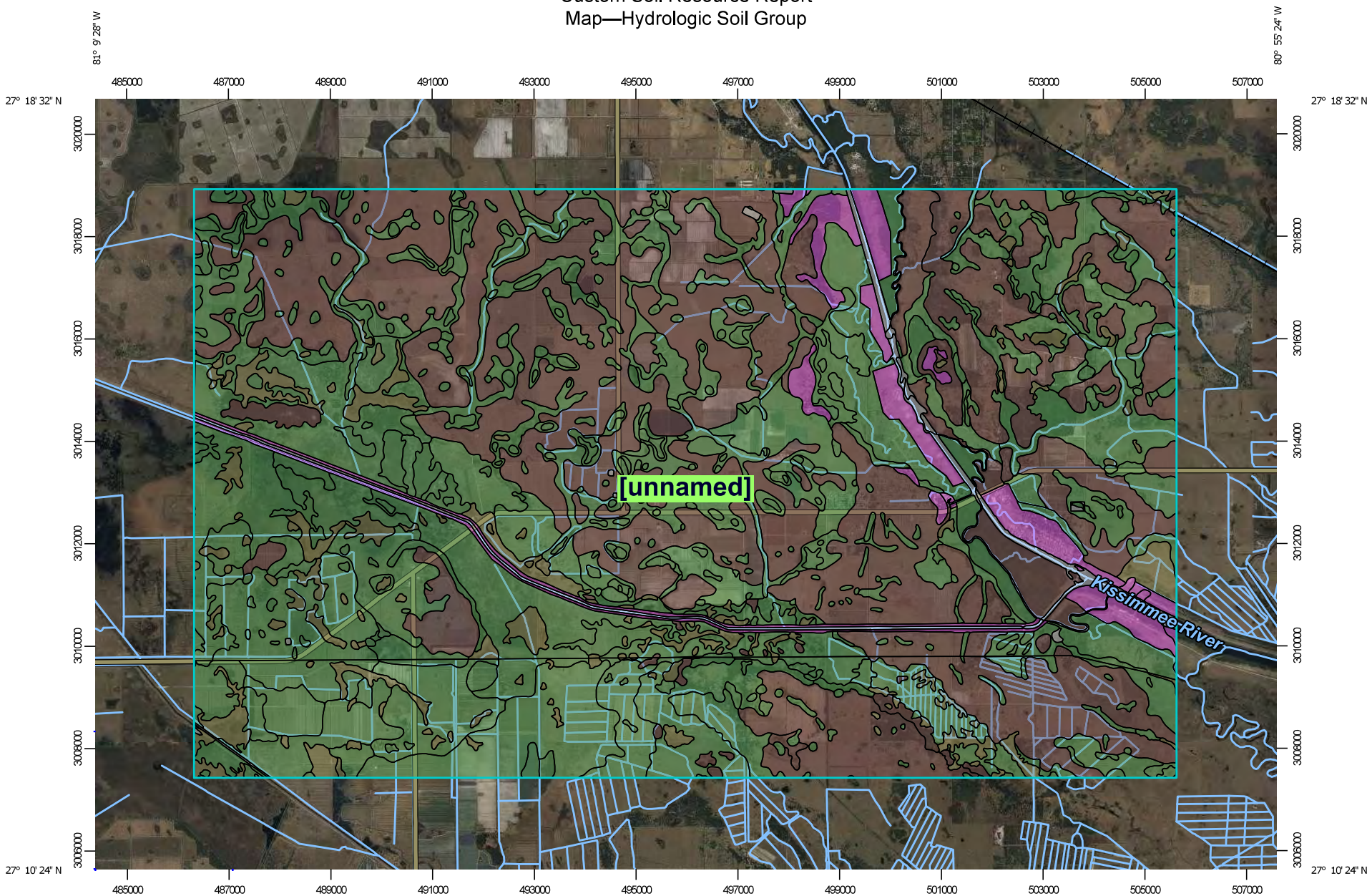
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report
Map—Hydrologic Soil Group



Map Scale: 1:106,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 1500 3000 6000 9000

Feet
0 5000 10000 20000 30000

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 Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

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: Glades County, Florida
Survey Area Data: Version 23, Aug 21, 2024

Soil Survey Area: Highlands County, Florida
Survey Area Data: Version 24, Aug 21, 2024

Soil Survey Area: Okeechobee County, Florida
Survey Area Data: Version 22, Aug 22, 2024

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Jan 25, 2019—Mar 2, 2022

MAP LEGEND

MAP INFORMATION

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.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
4	Valkaria fine sand, 0 to 2 percent slopes	A/D	1,231.0	2.2%
6	Malabar fine sand, 0 to 2 percent slopes	A/D	292.5	0.5%
7	Pople fine sand, 0 to 2 percent slopes	C/D	20.6	0.0%
8	Gator muck, frequently ponded, 0 to 1 percent slopes	C/D	35.1	0.1%
9	Sanibel muck, frequently ponded, 0 to 1 percent slopes	A/D	25.2	0.0%
10	Felda fine sand, 0 to 2 percent slopes	A/D	725.0	1.3%
11	Tequesta muck, drained	C/D	82.6	0.1%
13	Cypress Lake fine sand, 0 to 2 percent slopes	A/D	40.5	0.1%
14	Basinger fine sand, 0 to 2 percent slopes	A/D	3,035.4	5.5%
15	Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes	A/D	1,333.9	2.4%
16	Floridana fine sand, frequently ponded, 0 to 1 percent slopes	C/D	664.7	1.2%
22	Astor fine sand, depressional	A/D	273.0	0.5%
26	Immokalee sand, 0 to 2 percent slopes	B/D	2,857.8	5.2%
27	Ft. Drum fine sand	B/D	232.8	0.4%
34	Basinger fine sand, frequently ponded, 0 to 1 percent slopes	A/D	140.8	0.3%
36	Malabar fine sand, high, 0 to 2 percent slopes	A/D	99.5	0.2%
37	Lauderhill muck, drained, frequently ponded, 0 to 1 percent slopes	A/D	5.7	0.0%
99	Water		17.2	0.0%
Subtotals for Soil Survey Area			**11,113.2**	**20.2%**
Totals for Area of Interest			**55,075.7**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3	Basinger fine sand, frequently ponded, 0 to 1 percent slopes	A/D	1,761.1	3.2%
4	Duette sand, 0 to 5 percent slopes	A	49.9	0.1%
7	Placid fine sand, frequently ponded, 0 to 1 percent slopes	A/D	404.3	0.7%
8	Immokalee sand, 0 to 2 percent slopes	B/D	12,988.1	23.6%
10	Myakka fine sand, 0 to 2 percent slopes	A/D	1,123.2	2.0%
12	Basinger fine sand, 0 to 2 percent slopes	A/D	4,219.2	7.7%
13	Felda fine sand, 0 to 2 percent slopes	A/D	4,389.7	8.0%
15	Bradenton fine sand, 0 to 2 percent slopes	B/D	207.1	0.4%
16	Valkaria fine sand, 0 to 2 percent slopes	A/D	2,618.6	4.8%
17	Malabar fine sand, 0 to 2 percent slopes	A/D	222.8	0.4%
18	Kaliga muck, frequently ponded, 0 to 1 percent slopes	C/D	84.7	0.2%
19	Hicoria mucky sand, depressional	C/D	943.5	1.7%
20	Samsula muck, frequently ponded, 0 to 1 percent slopes	A/D	18.5	0.0%
21	Hontoon muck, frequently ponded, 0 to 1 percent slopes	A/D	34.6	0.1%
23	Gator muck, frequently ponded, 0 to 1 percent slopes	C/D	168.4	0.3%
24	Pineda sand, 0 to 2 percent slopes	C/D	313.2	0.6%
26	Tequesta muck, frequently ponded, 0 to 1 percent slopes	A/D	2,250.6	4.1%
31	Felda fine sand, frequently ponded, 0 to 1 percent slopes	A/D	289.9	0.5%
32	Arents, very steep	A	1,222.1	2.2%
35	Sanibel muck, frequently ponded, 0 to 1 percent slopes	A/D	159.7	0.3%
36	Pomello sand, 0 to 5 percent slopes	A	407.7	0.7%
99	Water		519.7	0.9%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Subtotals for Soil Survey Area			**34,396.5**	**62.5%**
Totals for Area of Interest			**55,075.7**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
2	Basinger fine sand, 0 to 2 percent slopes	A/D	576.2	1.0%
3	Basinger and Placid soils, depressional	A/D	199.0	0.4%
5	Valkaria fine sand, 0 to 2 percent slopes	A/D	1,555.1	2.8%
7	Floridana, Riviera, and Placid soils, depressional	C/D	397.5	0.7%
11	Immokalee fine sand, 0 to 2 percent slopes	B/D	3,903.4	7.1%
12	Udorthents, 2 to 35 percent slopes	A	466.0	0.8%
13	Manatee, Floridana, and Tequesta soils, frequently flooded	B/D	948.5	1.7%
14	Myakka fine sand, 0 to 2 percent slopes	A/D	1,111.4	2.0%
15	Okeelanta muck, frequently ponded, 0 to 1 percent slopes	A/D	52.4	0.1%
18	Parkwood fine sand	C/D	11.2	0.0%
19	Floridana, Placid, and Okeelanta soils, frequently flooded	A/D	56.5	0.1%
20	Pomello fine sand, 0 to 5 percent slopes	A	43.8	0.1%
25	Wabasso fine sand, 0 to 2 percent slopes	A/D	32.6	0.1%
99	Water		200.6	0.4%
Subtotals for Soil Survey Area			**9,554.0**	**17.3%**
Totals for Area of Interest			**55,075.7**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

AASHTO Group Index

The AASHTO Group Index is a refinement to the seven major groups of the AASHTO soil classification system. According to

this system, soil is classified into seven major groups: A -I through A-7. Soils classified into groups A-1, A-2. and A-3 are granular materials of which 35% or less of the particles pass through the No. 200 sieve. Soils of which more than 35% pass through the No. 200 sieve are classified into groups A-4, A-5, A-6, and A-7. These soils are mostly silt and clay-type materials.

The classifications system is based on the following criteria:

1. Grain size

a. Gravel ; fraction passing the 75-mm(3-in.) sieve and retained on the No. 10 (2-mm) U.S. sieve

b. sand: fraction passing the No. 10 (2-mm) U.S. sieve and retained on the No.200 (0.075-mm) U.S. sieve

c. Silt and clay: fraction passing the No. 200 U.S. sieve

2. Plasticity The term silty is applied when the fine fractions of the soil have a plasticity index of 10 or less. The term clayey is applied when the fine fractions have a plasticity index of 11 or more.

3. If cobbles and boulders (size larger than 75 mm) are encountered, they are excluded from the portion of the soil sample from which classification is made.

To evaluate the quality of a soil as a highway subgrade material, one must also incorporate a number called the group index (GI) with the groups and subgroups of the soil. This index is written in parentheses after the group or subgroup designation.

The group index is given by the equation:

GI = (F200-35)[0.2+ 0.005(LL- 40)] + 0.01(.F200-15)(PI- 10)

where:

F200 = percentage passing through the No. 200 sieve

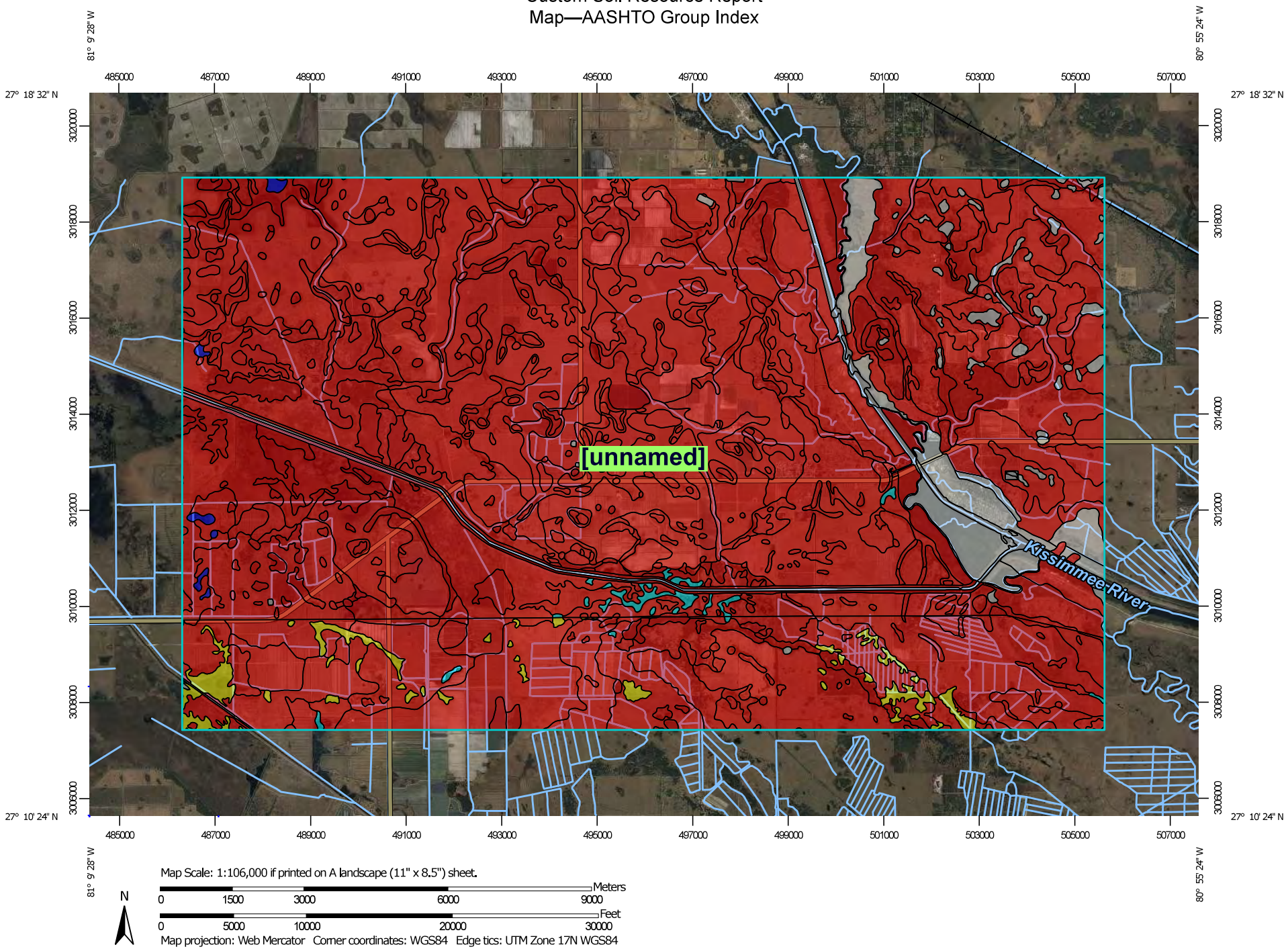
LL — liquid limit

PI : plasticity index

The group index is used typically to refine an AASHTO class but in the soil survey database is often used as a standalone soil attribute.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Custom Soil Resource Report
Map—AASHTO Group Index



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- <= 0
- > 0 and <= 1
- > 1 and <= 2
- > 2 and <= 3
- Not rated or not available

Soil Rating Lines
- <= 0
- > 0 and <= 1
- > 1 and <= 2
- > 2 and <= 3
- Not rated or not available

Soil Rating Points
- <= 0
- > 0 and <= 1
- > 1 and <= 2
- > 2 and <= 3
- Not rated or not available

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: Glades County, Florida
Survey Area Data: Version 23, Aug 21, 2024

Soil Survey Area: Highlands County, Florida
Survey Area Data: Version 24, Aug 21, 2024

Soil Survey Area: Okeechobee County, Florida
Survey Area Data: Version 22, Aug 22, 2024

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Jan 25, 2019—Mar 2, 2022

MAP LEGEND

MAP INFORMATION

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.

Table—AASHTO Group Index

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
4	Valkaria fine sand, 0 to 2 percent slopes	0	1,231.0	2.2%
6	Malabar fine sand, 0 to 2 percent slopes	0	292.5	0.5%
7	Pople fine sand, 0 to 2 percent slopes	0	20.6	0.0%
8	Gator muck, frequently ponded, 0 to 1 percent slopes	2	35.1	0.1%
9	Sanibel muck, frequently ponded, 0 to 1 percent slopes	0	25.2	0.0%
10	Felda fine sand, 0 to 2 percent slopes	0	725.0	1.3%
11	Tequesta muck, drained	0	82.6	0.1%
13	Cypress Lake fine sand, 0 to 2 percent slopes	0	40.5	0.1%
14	Basinger fine sand, 0 to 2 percent slopes	0	3,035.4	5.5%
15	Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes	0	1,333.9	2.4%
16	Floridana fine sand, frequently ponded, 0 to 1 percent slopes	1	664.7	1.2%
22	Astor fine sand, depressional	0	273.0	0.5%
26	Immokalee sand, 0 to 2 percent slopes	0	2,857.8	5.2%
27	Ft. Drum fine sand	0	232.8	0.4%
34	Basinger fine sand, frequently ponded, 0 to 1 percent slopes	0	140.8	0.3%
36	Malabar fine sand, high, 0 to 2 percent slopes	0	99.5	0.2%
37	Lauderhill muck, drained, frequently ponded, 0 to 1 percent slopes		5.7	0.0%
99	Water		17.2	0.0%
Subtotals for Soil Survey Area			**11,113.2**	**20.2%**
Totals for Area of Interest			**55,075.7**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3	Basinger fine sand, frequently ponded, 0 to 1 percent slopes	0	1,761.1	3.2%
4	Duette sand, 0 to 5 percent slopes	0	49.9	0.1%
7	Placid fine sand, frequently ponded, 0 to 1 percent slopes	0	404.3	0.7%
8	Immokalee sand, 0 to 2 percent slopes	0	12,988.1	23.6%
10	Myakka fine sand, 0 to 2 percent slopes	0	1,123.2	2.0%
12	Basinger fine sand, 0 to 2 percent slopes	0	4,219.2	7.7%
13	Felda fine sand, 0 to 2 percent slopes	0	4,389.7	8.0%
15	Bradenton fine sand, 0 to 2 percent slopes	0	207.1	0.4%
16	Valkaria fine sand, 0 to 2 percent slopes	0	2,618.6	4.8%
17	Malabar fine sand, 0 to 2 percent slopes	0	222.8	0.4%
18	Kaliga muck, frequently ponded, 0 to 1 percent slopes	3	84.7	0.2%
19	Hicoria mucky sand, depressional	0	943.5	1.7%
20	Samsula muck, frequently ponded, 0 to 1 percent slopes	0	18.5	0.0%
21	Hontoon muck, frequently ponded, 0 to 1 percent slopes	0	34.6	0.1%
23	Gator muck, frequently ponded, 0 to 1 percent slopes	2	168.4	0.3%
24	Pineda sand, 0 to 2 percent slopes	0	313.2	0.6%
26	Tequesta muck, frequently ponded, 0 to 1 percent slopes	0	2,250.6	4.1%
31	Felda fine sand, frequently ponded, 0 to 1 percent slopes	0	289.9	0.5%
32	Arents, very steep	0	1,222.1	2.2%
35	Sanibel muck, frequently ponded, 0 to 1 percent slopes	0	159.7	0.3%
36	Pomello sand, 0 to 5 percent slopes	0	407.7	0.7%
99	Water		519.7	0.9%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Subtotals for Soil Survey Area			**34,396.5**	**62.5%**
Totals for Area of Interest			**55,075.7**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
2	Basinger fine sand, 0 to 2 percent slopes	0	576.2	1.0%
3	Basinger and Placid soils, depressional		199.0	0.4%
5	Valkaria fine sand, 0 to 2 percent slopes	0	1,555.1	2.8%
7	Floridana, Riviera, and Placid soils, depressional		397.5	0.7%
11	Immokalee fine sand, 0 to 2 percent slopes	0	3,903.4	7.1%
12	Udorthents, 2 to 35 percent slopes		466.0	0.8%
13	Manatee, Floridana, and Tequesta soils, frequently flooded		948.5	1.7%
14	Myakka fine sand, 0 to 2 percent slopes	0	1,111.4	2.0%
15	Okeelanta muck, frequently ponded, 0 to 1 percent slopes	0	52.4	0.1%
18	Parkwood fine sand		11.2	0.0%
19	Floridana, Placid, and Okeelanta soils, frequently flooded		56.5	0.1%
20	Pomello fine sand, 0 to 5 percent slopes	0	43.8	0.1%
25	Wabasso fine sand, 0 to 2 percent slopes	0	32.6	0.1%
99	Water		200.6	0.4%
Subtotals for Soil Survey Area			**9,554.0**	**17.3%**
Totals for Area of Interest			**55,075.7**	**100.0%**

Rating Options—AASHTO Group Index

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Interpret Nulls as Zero: No

Layer Options (Horizon Aggregation Method): All Layers (Weighted Average)

Water Features

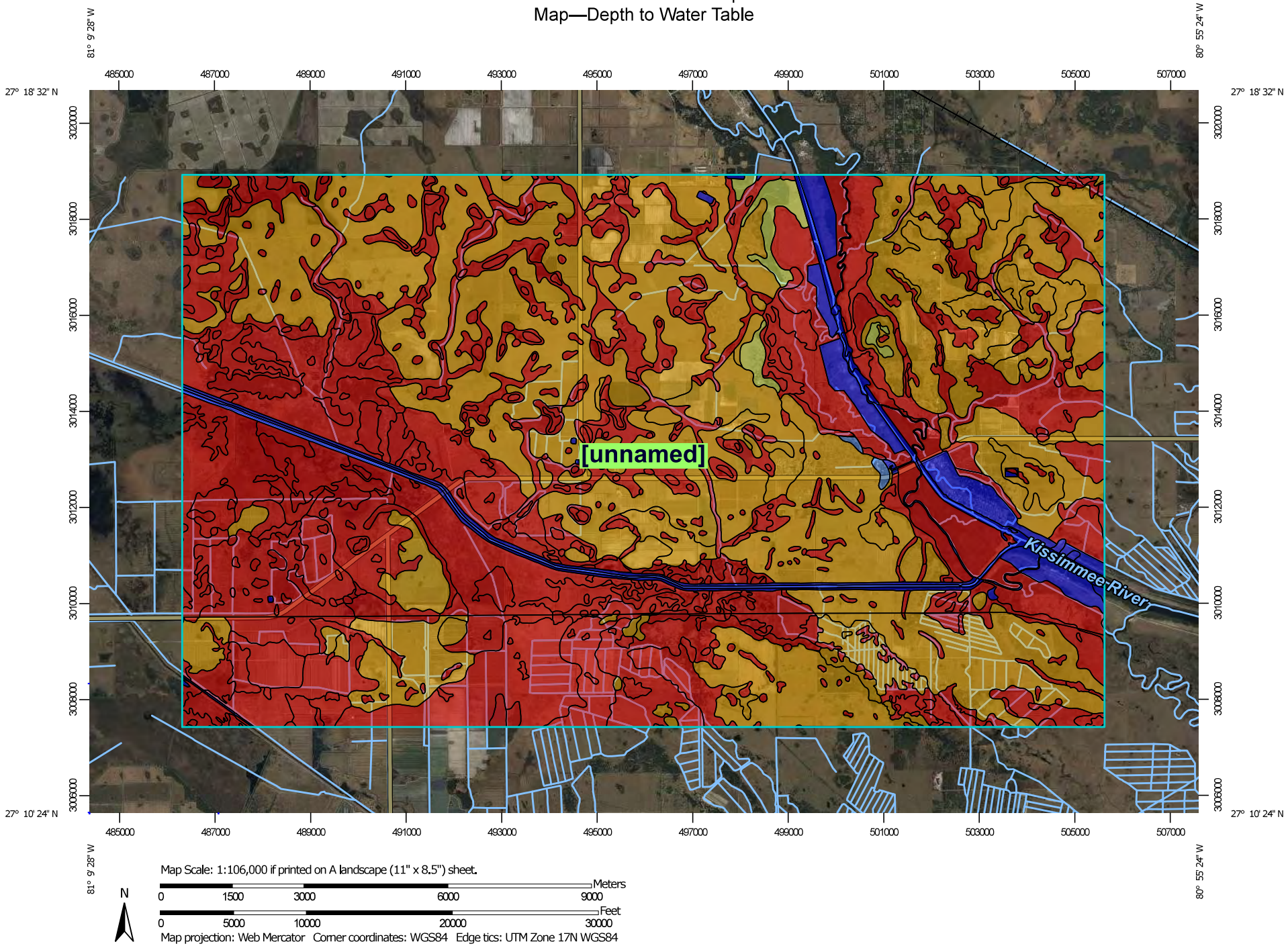
Water Features include ponding frequency, flooding frequency, and depth to water table.

Depth to Water Table

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Custom Soil Resource Report
Map—Depth to Water Table



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

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: Glades County, Florida
Survey Area Data: Version 23, Aug 21, 2024

Soil Survey Area: Highlands County, Florida
Survey Area Data: Version 24, Aug 21, 2024

Soil Survey Area: Okeechobee County, Florida
Survey Area Data: Version 22, Aug 22, 2024

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Jan 25, 2019—Mar 2, 2022

MAP LEGEND

MAP INFORMATION

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.

Table—Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
4	Valkaria fine sand, 0 to 2 percent slopes	15	1,231.0	2.2%
6	Malabar fine sand, 0 to 2 percent slopes	15	292.5	0.5%
7	Pople fine sand, 0 to 2 percent slopes	31	20.6	0.0%
8	Gator muck, frequently ponded, 0 to 1 percent slopes	0	35.1	0.1%
9	Sanibel muck, frequently ponded, 0 to 1 percent slopes	0	25.2	0.0%
10	Felda fine sand, 0 to 2 percent slopes	15	725.0	1.3%
11	Tequesta muck, drained	15	82.6	0.1%
13	Cypress Lake fine sand, 0 to 2 percent slopes	15	40.5	0.1%
14	Basinger fine sand, 0 to 2 percent slopes	15	3,035.4	5.5%
15	Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes	30	1,333.9	2.4%
16	Floridana fine sand, frequently ponded, 0 to 1 percent slopes	0	664.7	1.2%
22	Astor fine sand, depressional	0	273.0	0.5%
26	Immokalee sand, 0 to 2 percent slopes	31	2,857.8	5.2%
27	Ft. Drum fine sand	31	232.8	0.4%
34	Basinger fine sand, frequently ponded, 0 to 1 percent slopes	0	140.8	0.3%
36	Malabar fine sand, high, 0 to 2 percent slopes	30	99.5	0.2%
37	Lauderhill muck, drained, frequently ponded, 0 to 1 percent slopes	0	5.7	0.0%
99	Water	>200	17.2	0.0%
Subtotals for Soil Survey Area			**11,113.2**	**20.2%**
Totals for Area of Interest			**55,075.7**	**100.0%**

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
3	Basinger fine sand, frequently ponded, 0 to 1 percent slopes	0	1,761.1	3.2%
4	Duette sand, 0 to 5 percent slopes	153	49.9	0.1%
7	Placid fine sand, frequently ponded, 0 to 1 percent slopes	0	404.3	0.7%
8	Immokalee sand, 0 to 2 percent slopes	31	12,988.1	23.6%
10	Myakka fine sand, 0 to 2 percent slopes	31	1,123.2	2.0%
12	Basinger fine sand, 0 to 2 percent slopes	15	4,219.2	7.7%
13	Felda fine sand, 0 to 2 percent slopes	15	4,389.7	8.0%
15	Bradenton fine sand, 0 to 2 percent slopes	15	207.1	0.4%
16	Valkaria fine sand, 0 to 2 percent slopes	15	2,618.6	4.8%
17	Malabar fine sand, 0 to 2 percent slopes	15	222.8	0.4%
18	Kaliga muck, frequently ponded, 0 to 1 percent slopes	0	84.7	0.2%
19	Hicoria mucky sand, depressional	0	943.5	1.7%
20	Samsula muck, frequently ponded, 0 to 1 percent slopes	0	18.5	0.0%
21	Hontoon muck, frequently ponded, 0 to 1 percent slopes	0	34.6	0.1%
23	Gator muck, frequently ponded, 0 to 1 percent slopes	0	168.4	0.3%
24	Pineda sand, 0 to 2 percent slopes	15	313.2	0.6%
26	Tequesta muck, frequently ponded, 0 to 1 percent slopes	0	2,250.6	4.1%
31	Felda fine sand, frequently ponded, 0 to 1 percent slopes	0	289.9	0.5%
32	Arents, very steep	>200	1,222.1	2.2%
35	Sanibel muck, frequently ponded, 0 to 1 percent slopes	0	159.7	0.3%
36	Pomello sand, 0 to 5 percent slopes	76	407.7	0.7%
99	Water	>200	519.7	0.9%

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Subtotals for Soil Survey Area			**34,396.5**	**62.5%**
Totals for Area of Interest			**55,075.7**	**100.0%**

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
2	Basinger fine sand, 0 to 2 percent slopes	15	576.2	1.0%
3	Basinger and Placid soils, depressional	0	199.0	0.4%
5	Valkaria fine sand, 0 to 2 percent slopes	15	1,555.1	2.8%
7	Floridana, Riviera, and Placid soils, depressional	0	397.5	0.7%
11	Immokalee fine sand, 0 to 2 percent slopes	31	3,903.4	7.1%
12	Udorthents, 2 to 35 percent slopes	>200	466.0	0.8%
13	Manatee, Floridana, and Tequesta soils, frequently flooded	8	948.5	1.7%
14	Myakka fine sand, 0 to 2 percent slopes	31	1,111.4	2.0%
15	Okeelanta muck, frequently ponded, 0 to 1 percent slopes	0	52.4	0.1%
18	Parkwood fine sand	15	11.2	0.0%
19	Floridana, Placid, and Okeelanta soils, frequently flooded	8	56.5	0.1%
20	Pomello fine sand, 0 to 5 percent slopes	76	43.8	0.1%
25	Wabasso fine sand, 0 to 2 percent slopes	31	32.6	0.1%
99	Water	>200	200.6	0.4%
Subtotals for Soil Survey Area			**9,554.0**	**17.3%**
Totals for Area of Interest			**55,075.7**	**100.0%**

Rating Options—Depth to Water Table

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

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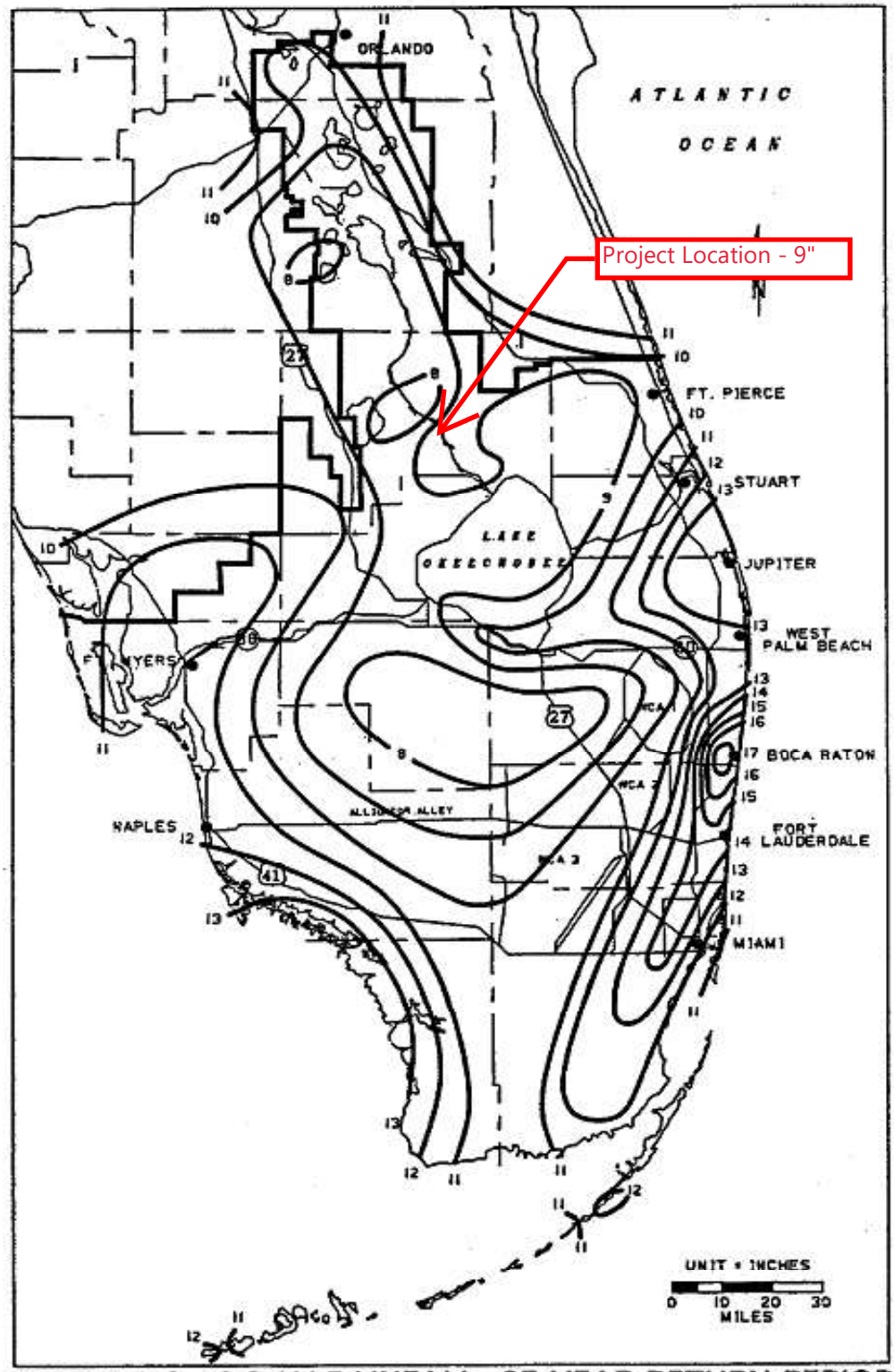

FIGURE C-8. 3-DAY RAINFALL: 25-YEAR RETURN PERIOD

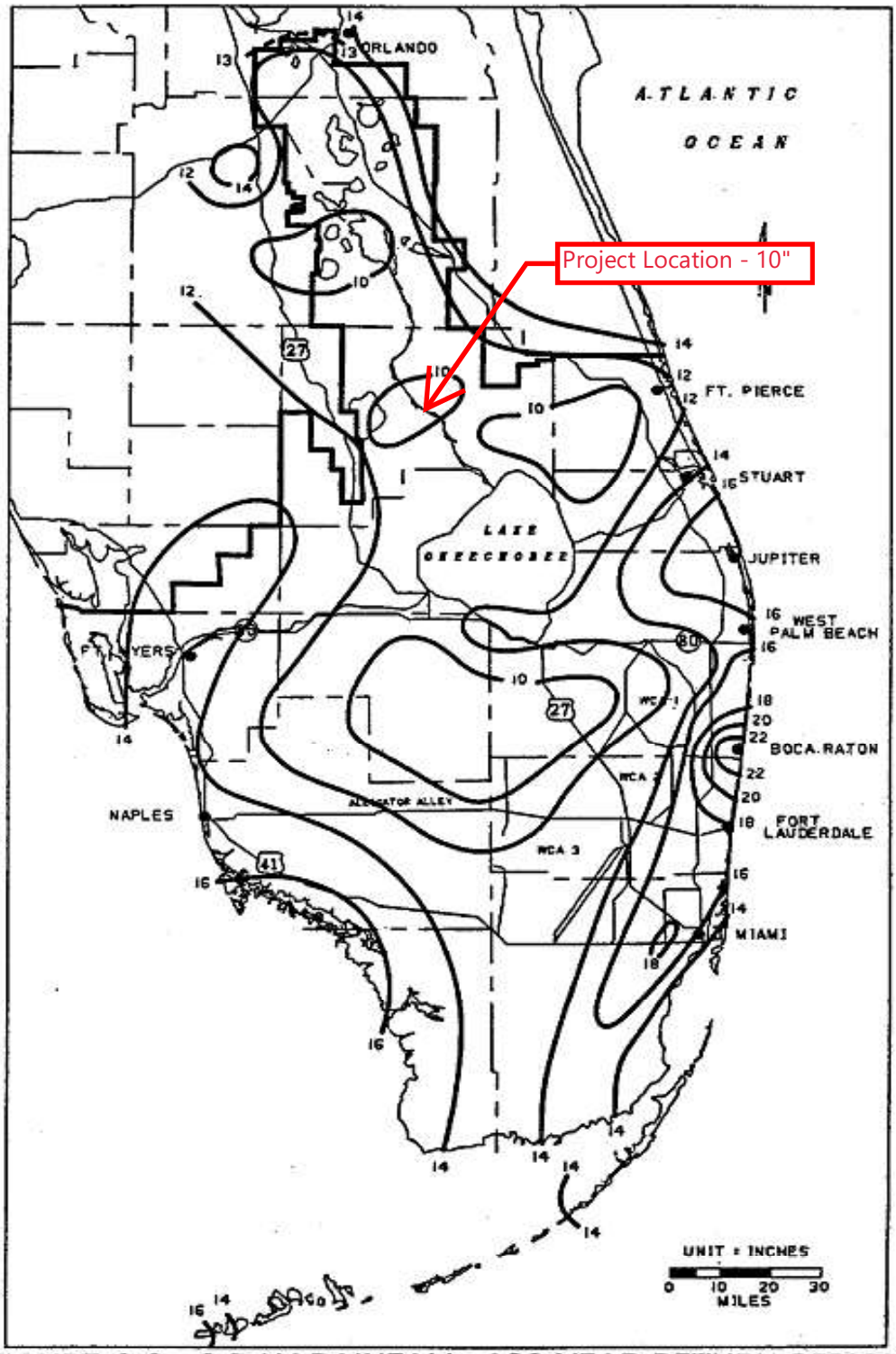

FIGURE C-9. 3-DAY RAINFALL: 100-YEAR RETURN PERIOD

NOAA Atlas 14, Volume 9, Version 2
Location name: Okeechobee, Florida, USA*
Latitude: 27.2365°, Longitude: -81.029°
Elevation: 32 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.507 (0.408-0.634)	0.572 (0.460-0.716)	0.675 (0.541-0.848)	0.759 (0.605-0.958)	0.871 (0.671-1.13)	0.954 (0.720-1.26)	1.04 (0.757-1.41)	1.12 (0.784-1.57)	1.22 (0.825-1.78)	1.30 (0.856-1.93)
10-min	0.742 (0.598-0.928)	0.837 (0.673-1.05)	0.988 (0.793-1.24)	1.11 (0.886-1.40)	1.28 (0.982-1.66)	1.40 (1.05-1.85)	1.52 (1.11-2.07)	1.64 (1.15-2.30)	1.79 (1.21-2.60)	1.90 (1.25-2.83)
15-min	0.905 (0.729-1.13)	1.02 (0.821-1.28)	1.20 (0.967-1.51)	1.36 (1.08-1.71)	1.56 (1.20-2.02)	1.70 (1.29-2.26)	1.85 (1.35-2.52)	1.99 (1.40-2.81)	2.18 (1.47-3.17)	2.31 (1.53-3.45)
30-min	1.39 (1.12-1.74)	1.57 (1.26-1.97)	1.86 (1.49-2.33)	2.09 (1.66-2.63)	2.39 (1.84-3.11)	2.62 (1.98-3.47)	2.84 (2.08-3.88)	3.06 (2.15-4.31)	3.34 (2.26-4.86)	3.54 (2.34-5.28)
60-min	1.81 (1.46-2.27)	2.05 (1.65-2.57)	2.44 (1.96-3.07)	2.77 (2.21-3.49)	3.21 (2.48-4.19)	3.55 (2.68-4.71)	3.89 (2.84-5.32)	4.23 (2.97-5.97)	4.68 (3.17-6.83)	5.02 (3.32-7.48)
2-hr	2.24 (1.81-2.78)	2.54 (2.05-3.15)	3.03 (2.45-3.78)	3.44 (2.77-4.32)	4.02 (3.13-5.23)	4.47 (3.40-5.92)	4.93 (3.63-6.71)	5.40 (3.82-7.58)	6.02 (4.10-8.74)	6.50 (4.32-9.62)
3-hr	2.42 (1.97-2.99)	2.75 (2.24-3.41)	3.32 (2.69-4.12)	3.80 (3.06-4.74)	4.48 (3.51-5.82)	5.03 (3.85-6.64)	5.59 (4.14-7.61)	6.18 (4.40-8.68)	6.98 (4.79-10.1)	7.61 (5.08-11.2)
6-hr	2.72 (2.22-3.34)	3.11 (2.54-3.82)	3.79 (3.09-4.67)	4.39 (3.56-5.44)	5.28 (4.17-6.85)	6.00 (4.63-7.91)	6.77 (5.05-9.18)	7.58 (5.44-10.6)	8.72 (6.03-12.6)	9.63 (6.47-14.1)
12-hr	3.02 (2.49-3.69)	3.48 (2.86-4.24)	4.28 (3.51-5.24)	5.01 (4.09-6.17)	6.10 (4.86-7.89)	7.01 (5.45-9.20)	7.97 (6.00-10.8)	9.02 (6.52-12.6)	10.5 (7.31-15.1)	11.7 (7.90-17.0)
24-hr	3.40 (2.82-4.11)	3.93 (3.26-4.76)	4.88 (4.03-5.93)	5.73 (4.71-7.01)	7.01 (5.62-9.01)	8.07 (6.32-10.5)	9.20 (6.97-12.4)	10.4 (7.58-14.4)	12.1 (8.51-17.4)	13.5 (9.21-19.6)
2-day	3.92 (3.27-4.71)	4.54 (3.78-5.46)	5.62 (4.67-6.78)	6.57 (5.43-7.98)	7.98 (6.44-10.2)	9.14 (7.20-11.8)	10.4 (7.90-13.8)	11.7 (8.55-16.0)	13.5 (9.52-19.2)	15.0 (10.3-21.5)
3-day	4.34 (3.64-5.20)	4.98 (4.16-5.96)	6.07 (5.07-7.30)	7.05 (5.85-8.52)	8.50 (6.88-10.8)	9.69 (7.65-12.5)	10.9 (8.37-14.5)	12.3 (9.03-16.8)	14.2 (10.0-20.0)	15.7 (10.8-22.4)
4-day	4.73 (3.97-5.64)	5.36 (4.50-6.41)	6.48 (5.42-7.76)	7.47 (6.22-9.00)	8.93 (7.25-11.3)	10.1 (8.03-13.0)	11.4 (8.74-15.0)	12.8 (9.40-17.4)	14.7 (10.4-20.6)	16.2 (11.2-23.1)
7-day	5.74 (4.85-6.80)	6.45 (5.44-7.66)	7.67 (6.45-9.13)	8.72 (7.30-10.4)	10.2 (8.34-12.8)	11.5 (9.12-14.6)	12.7 (9.81-16.7)	14.1 (10.4-19.0)	15.9 (11.4-22.2)	17.4 (12.1-24.7)
10-day	6.66 (5.64-7.87)	7.46 (6.31-8.82)	8.79 (7.42-10.4)	9.92 (8.32-11.8)	11.5 (9.38-14.3)	12.8 (10.2-16.1)	14.0 (10.8-18.3)	15.4 (11.4-20.7)	17.2 (12.3-23.8)	18.6 (12.9-26.3)
20-day	9.34 (7.97-11.0)	10.4 (8.84-12.2)	12.0 (10.2-14.2)	13.4 (11.3-15.9)	15.2 (12.5-18.6)	16.6 (13.3-20.7)	18.0 (14.0-23.1)	19.4 (14.4-25.7)	21.2 (15.2-29.1)	22.5 (15.8-31.6)
30-day	11.6 (9.94-13.6)	12.9 (11.0-15.0)	14.8 (12.7-17.4)	16.4 (13.9-19.4)	18.5 (15.1-22.4)	20.0 (16.1-24.8)	21.5 (16.7-27.4)	22.9 (17.1-30.2)	24.7 (17.8-33.7)	25.9 (18.3-36.3)
45-day	14.5 (12.5-16.9)	16.1 (13.8-18.7)	18.5 (15.8-21.6)	20.3 (17.3-23.9)	22.7 (18.7-27.4)	24.4 (19.7-30.0)	26.0 (20.3-32.9)	27.5 (20.6-36.0)	29.2 (21.1-39.6)	30.4 (21.5-42.4)
60-day	17.0 (14.7-19.7)	18.8 (16.2-21.9)	21.6 (18.6-25.2)	23.8 (20.3-27.8)	26.5 (21.7-31.7)	28.3 (22.8-34.6)	30.0 (23.4-37.8)	31.5 (23.6-41.0)	33.2 (24.0-44.8)	34.3 (24.3-47.6)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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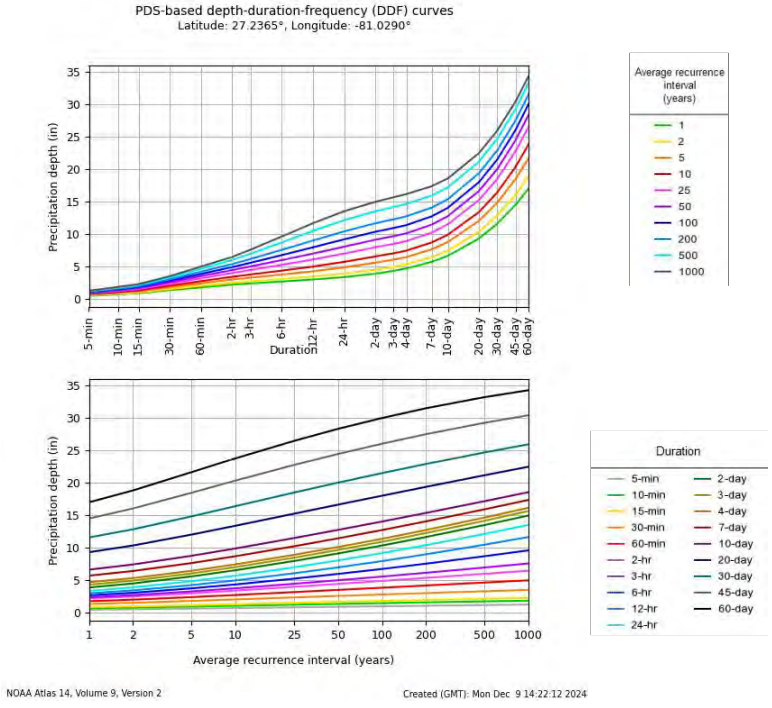
PF graphical



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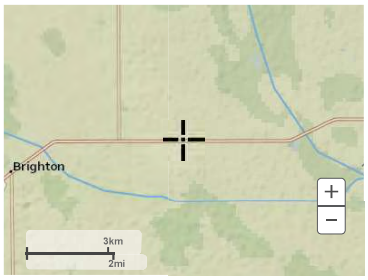
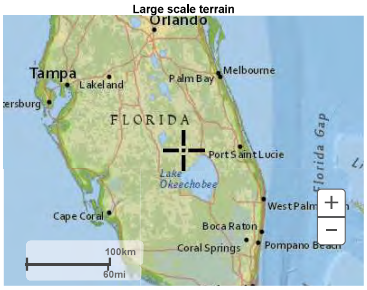
Maps & aerials

Small scale terrain



Large scale terrain



Large scale map

Large scale aerial

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

NGS Coordinate Conversion and Transformation Tool (NCAT)

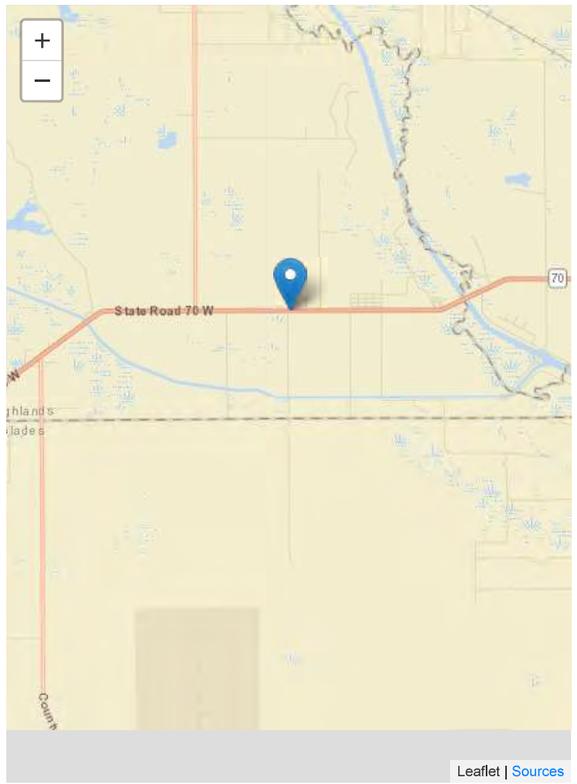
Search

Single Point Conversion | Multipoint Conversion | Web services | Downloads | Tutorial & FAQs | About NCAT

Convert/Transform from:
- [ ] Horizontal
- [x] Horizontal+height
- [ ] XYZ

Select the type of horizontal coordinate:
- [x] Geodetic lat-long
- [ ] SPC
- [ ] UTM
- [ ] USNG

Select a height
- [ ] Ellipsoidal
- [x] Orthometric



Enter lat-lon in decimal degrees

Lat 27,2360103861

Lon -81,0289764404

or degrees-minutes-seconds

Lat N 27-14-09,63739

Lon W 081-01-44,31519

or drag map marker to a location of interest

Input reference frame (historically called 'horizontal datum') NAD83(2011)

Output reference frame (historically called 'horizontal datum') NAD83(2011)

Don't see a reference frame in the list? Click here to learn more.

Orthometric Height 0,000

Units of height US Survey Feet

Input geopotential datum (historically called 'vertical datum') NGVD29

Output geopotential datum (historically called 'vertical datum') NAVD88

SPC zone Auto Pick (default zo

Submit

Click blue bar(s) to expand/collapse

Transformed Coordinate

Input Coordinate		Output Coordinate		Total Change + Uncertainty	
Latitude	N27° 14′ 09.63739″ N271409.63739 27.2360103861	Latitude	N27° 14′ 09.63739″ N271409.63739 27.2360103861	Latitude	0.00000″ ±0.000000″ (0.000 m ±0.0000 m)*
Longitude	E278° 58′ 15.68481″ W0810144.31519 -81.0289764404	Longitude	E278° 58′ 15.68481″ W0810144.31519 -81.0289764404	Longitude	0.00000″ ±0.000000″ (0.000 m ±0.0000 m)*
Ellipsoid Height (usft)	Not given	Ellipsoid Height (usft)	Not given	Ellipsoid Height	Not given
Orthometric Height (usft)	0.000	Orthometric Height (usft)	-1.198	Orthometric Height	-1.198 usft ±0.010 usft
Reference Frame	NAD83(2011)	Reference Frame	NAD83(2011)		
Geopotential Datum	NGVD29	Geopotential Datum	NAVD88		

*Approximate value to aid interpretation and not an actual distance. See TM NOS NGS 82 for more details.

Converted Coordinate

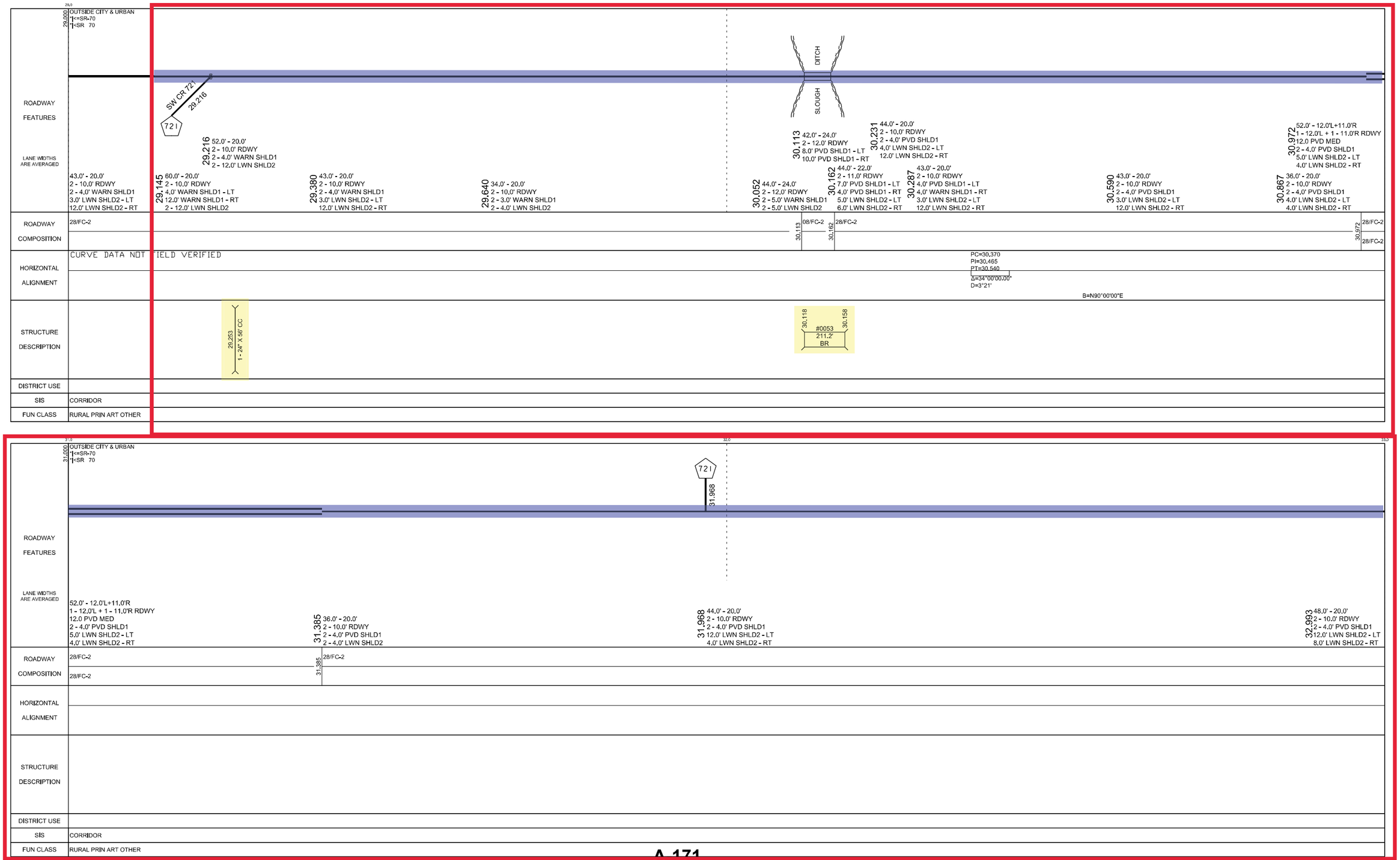
Customize Export

	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	07/11/2019	08/13/2019	0.000	36.334		1/12/22(F241)
BY	FTE	FTE				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02		SR 70	HIGHLANDS	01	09060000	6 OF 7



A-171

Version: 1.4.2.27 08/13/2019

	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	07/11/2019	08/13/2019	0.000	36.334		1/12/22(F241)
BY	FTE	FTE				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02		SR 70	HIGHLANDS	01	09060000	7 OF 7

ROADWAY FEATURES

33.000 OUTSIDE CITY & URBAN
1<=SR-70
1<SR 70

FULMAR TER 33.480

NEW PINE RIDGE RD 33.992

MOSE GRADE 34.491

KEMPER TER 34.618

SW RUCK'S DAIRY RD 34.997

JORDAN TER 34.997

LANE WIDTHS ARE AVERAGED

48.0' - 20.0'
2 - 10.0' RDWY
2 - 4.0' PVD SHLD1
12.0' LWN SHLD2 - LT
8.0' LWN SHLD2 - RT

33.175 46.0' - 20.0'
2 - 10.0' RDWY
2 - 4.0' PVD SHLD1
12.0' LWN SHLD2 - LT
6.0' LWN SHLD2 - RT

33.621 52.0' - 20.0'
2 - 10.0' RDWY
2 - 4.0' PVD SHLD1
2 - 12.0' LWN SHLD2

33.992 40.0' - 20.0'
2 - 10.0' RDWY
2 - 4.0' PVD SHLD1
2 - 6.0' LWN SHLD2

34.491 44.0' - 20.0'
2 - 10.0' RDWY
2 - 4.0' PVD SHLD1
2 - 8.0' LWN SHLD2

ROADWAY COMPOSITION

28/FC-2

HORIZONTAL ALIGNMENT

STRUCTURE DESCRIPTION

33.606 2 - 60" X 65' CMP

DISTRICT USE

SIS

CORRIDOR

FUN CLASS

RURAL PRIN ART OTHER

35.000 OUTSIDE CITY & URBAN
1<=SR-70
1<SR 70

RIVERSIDE RD 35.863

SHELLCRACKER LOOP 35.937

CRANK BAIT CT 35.968

OKEECHOBEE CO LINE 36.334

GPS COORDINATES
LAT: 27.238680
LONG: -80.983050

END MP: 36.334
NET ROADWAY ID LENGTH: 36.334

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

44.0' - 20.0'
2 - 10.0' RDWY
2 - 4.0' PVD SHLD1
2 - 8.0' LWN SHLD2

35.222 42.0' - 20.0'
2 - 10.0' RDWY
2 - 4.0' PVD SHLD1
8.0' LWN SHLD2 - LT
6.0' LWN SHLD2 - RT

35.665 41.0' - 22.0'
2 - 11.0' RDWY
4.0' PVD SHLD1 - LT
3.0' PVD SHLD1 - RT
2 - 6.0' LWN SHLD2

35.863 55.0' - 26.0'
2 - 13.0' RDWY
5.0' PVD SHLD1 - LT
6.0' PVD SHLD1 - RT
10.0' LWN SHLD2 - LT
8.0' LWN SHLD2 - RT

35.968 52.0' - 26.0'
2 - 13.0' RDWY
4.0' PVD SHLD1 - LT
10.0' PVD SHLD1 - RT
12.0' LWN SHLD2 - LT

36.032 44.0' - 26.0'
2 - 13.0' RDWY
8.0' PVD SHLD1 - LT
10.0' WARN SHLD1 - RT

36.102 34.0' - 26.0'
2 - 13.0' RDWY
4.0' PVD SHLD1 - LT
4.0' WARN SHLD1 - RT

36.281 41.0' - 24.0'
2 - 12.0' RDWY
7.0' PVD SHLD1 - LT
6.0' WARN SHLD1 - RT
2 - 2.0' C&G SHLD2

ROADWAY COMPOSITION

28/FC-2

HORIZONTAL ALIGNMENT

CURVE DATA NOT FIELD VERIFIED

Δ=24°00'00.00"
D=2°31'
PC=35.920
PI=36.020
PT=36.100

B=N66°00'00"E

STRUCTURE DESCRIPTION

36.258 1 - 15' X 72' CC

DISTRICT USE

SIS

CORRIDOR

FUN CLASS

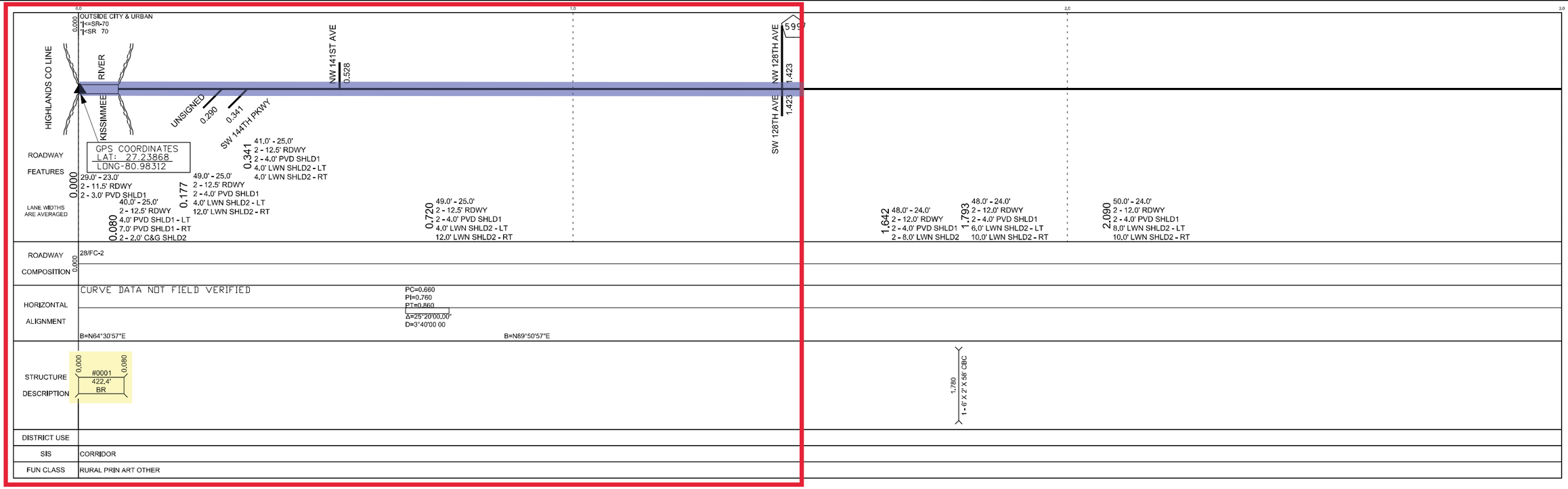
RURAL PRIN ART OTHER

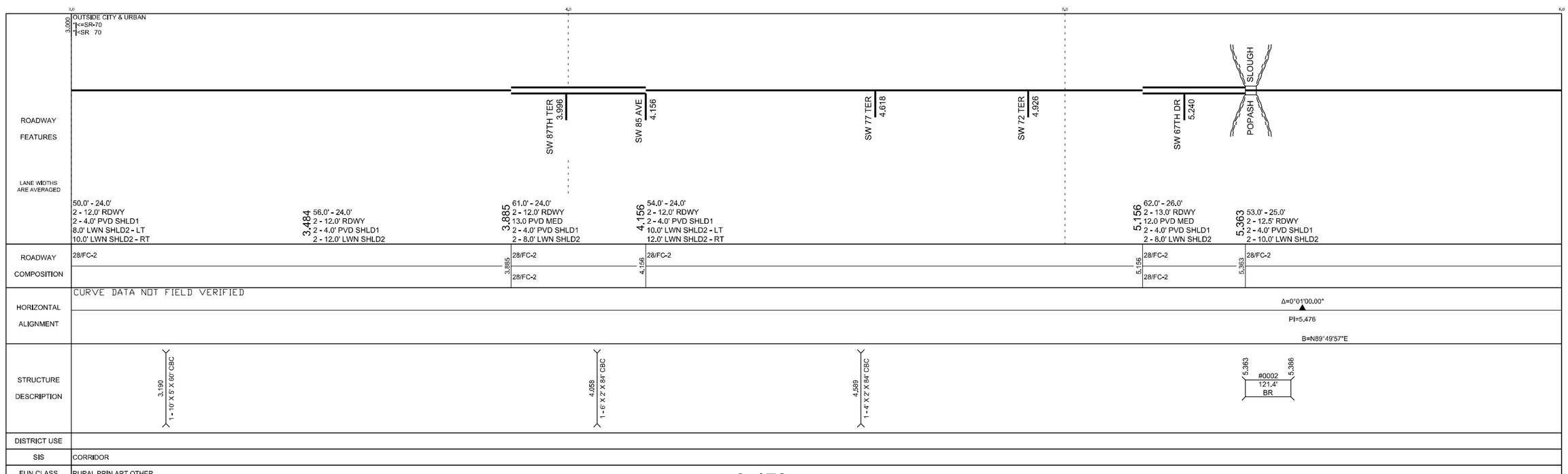
	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	03/16/2022	05/12/2022				
BY	FTE	FTE				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02	US 98	SR 70/SR 700	OKEECHOBEE	01	91070000	1 OF 5





Version: 1,4,2,27 05/12/2022

Appendix B
Proposed Typical Sections

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

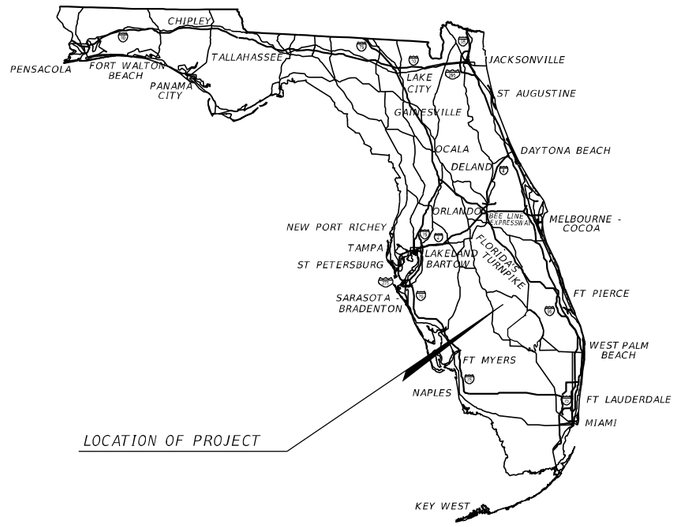
TYPICAL SECTION PACKAGE

FINANCIAL PROJECT ID 450334-1-22-01

HIGHLANDS COUNTY (09060000)
OKEECHOBEE COUNTY (91070000)

STATE ROAD NO. 70

FROM CR 721 S TO CR 599/128 AVE



FDOT DISTRICT DESIGN ENGINEER

CONCURRING WITH:
TYPICAL SECTION ELEMENTS
TARGET SPEED
DESIGN & POSTED SPEEDS

FDOT DISTRICT TRAFFIC OPERATIONS ENGINEER

CONCURRING WITH:
TARGET SPEED
DESIGN & POSTED SPEEDS

FDOT DISTRICT INTERMODAL SYSTEMS DEVELOPMENT MANAGER

CONCURRING WITH:
CONTEXT CLASSIFICATION
TARGET SPEED

FDOT DISTRICT STRUCTURES DESIGN ENGINEER

CONCURRING WITH:
TYPICAL SECTION ELEMENTS

FHWA TRANSPORTATION ENGINEER

CONCURRING WITH:
TYPICAL SECTION ELEMENTS

LOCAL TRANSPORTATION ENGINEER

CONCURRING WITH:
TYPICAL SECTION ELEMENTS

NOT USED

CONCURRING WITH:

NOT USED

CONCURRING WITH:

PROJECT LOCATION URL: https://tinyurl.com/4k3pfhpy

PROJECT LIMITS:	BEGIN MP 29.187 - END MP 1.423
STATION EQUATION:	MP 36.334 (09060000)= MP 0.000 (91070000)
EXCEPTIONS:	NONE
BRIDGE LIMITS:	BR#090053 MP 30.128 - MP 30.168 BR#910001 MP 0.000 - MP 0.080
RAILROAD CROSSING:	NONE

APPROVED BY:

NICHOLAS JOHN CLAVELO
LICENSE
No 84366
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SCALAR CONSULTING GROUP, INC.
5713 CORPORATE WAY, SUITE 200
WEST PALM BEACH, FL 33407
NICHOLAS JOHN CLAVELO, P.E. NO. 84366

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

INDEX OF SHEETS

SHEET NO.
1

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
(X)	C2 : RURAL	( )	C4 : URBAN GENERAL
( )	C2T : RURAL TOWN	( )	C5 : URBAN CENTER
( )	C3R : SUBURBAN RES.	( )	C6 : URBAN CORE
( )	N/A : L.A. FACILITY		

FUNCTIONAL CLASSIFICATION

( )	INTERSTATE	( )	MAJOR COLLECTOR
( )	FREEWAY/EXPWY.	( )	MINOR COLLECTOR
(X)	PRINCIPAL ARTERIAL	( )	LOCAL
( )	MINOR ARTERIAL		

HIGHWAY SYSTEM

(X)	NATIONAL HIGHWAY SYSTEM
(X)	STRATEGIC INTERMODAL SYSTEM
( )	STATE HIGHWAY SYSTEM
( )	OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

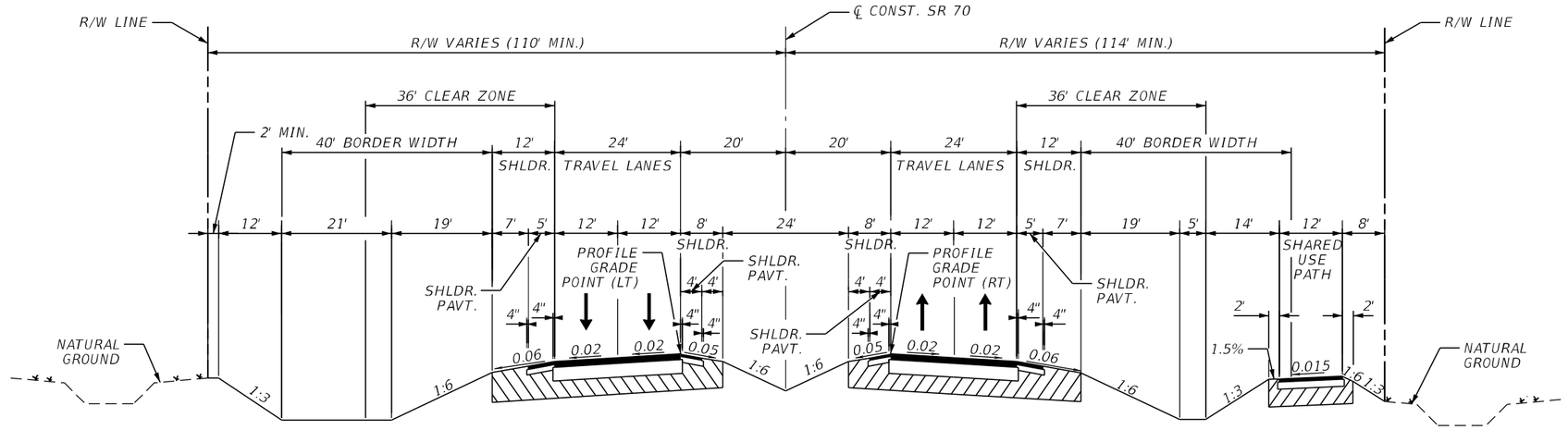
( )	1 - FREEWAY
( )	2 - RESTRICTIVE w/Service Roads
(X)	3 - RESTRICTIVE w/660 ft. Connection Spacing
( )	4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( )	5 - RESTRICTIVE w/440 ft. Connection Spacing
( )	6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( )	7 - BOTH MEDIAN TYPES

CRITERIA

(X)	NEW CONSTRUCTION / RECONSTRUCTION
( )	RESURFACING (LA FACILITIES)
( )	RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 1



SR 70

MP 29.187 - MP 1.423

STATION EQUATION: MP 36.334 (09060000) =

MP 0.000 (91070000)

TRAFFIC DATA

CURRENT YEAR = 2023 AADT = 7590
ESTIMATED OPENING YEAR = 2032 AADT = 8800
ESTIMATED DESIGN YEAR = 2052 AADT = 14500
K = 9.5 % D = 58.0 % T = 25 % (24 HOUR)
DESIGN HOUR T = 12.5 %
TARGET SPEED = 65 MPH
DESIGN SPEED (PROPOSED) = 65 MPH
POSTED SPEED (PROPOSED) = 60 MPH

NOT TO SCALE

FINANCIAL PROJECT ID	SHEET NO.
450334-1-22-01	2

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C3C : SUBURBAN COMM.
(X) C2 : RURAL
( ) C4 : URBAN GENERAL
( ) C2T : RURAL TOWN
( ) C5 : URBAN CENTER
( ) C3R : SUBURBAN RES.
( ) C6 : URBAN CORE
( ) N/A : L.A. FACILITY

FUNCTIONAL CLASSIFICATION

( ) INTERSTATE
( ) MAJOR COLLECTOR
( ) FREEWAY/EXPWY.
( ) MINOR COLLECTOR
(X) PRINCIPAL ARTERIAL
( ) LOCAL
( ) MINOR ARTERIAL

HIGHWAY SYSTEM

(X) NATIONAL HIGHWAY SYSTEM
(X) STRATEGIC INTERMODAL SYSTEM
(_) STATE HIGHWAY SYSTEM
( ) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

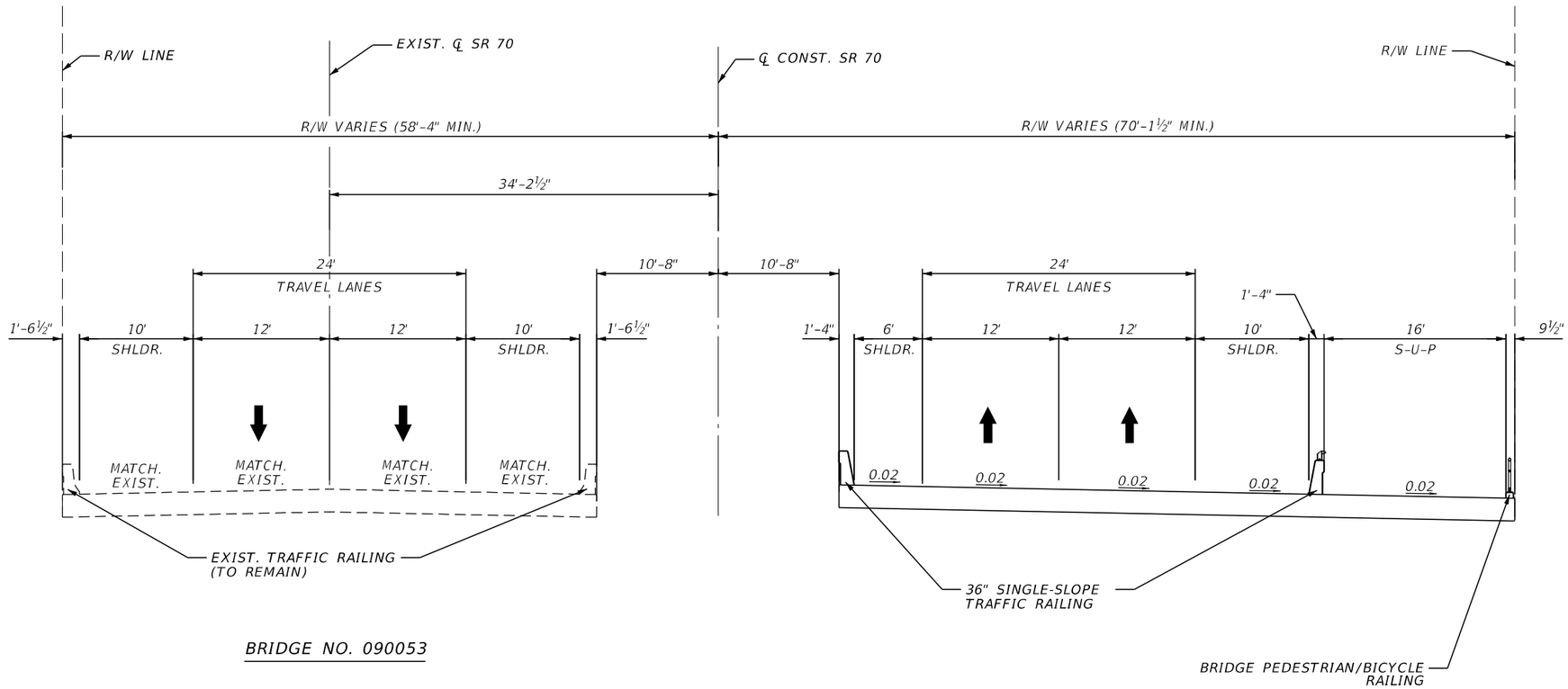
( ) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
(X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( ) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 2



BRIDGE NO. 090053

SR 70 OVER SLOUGH DITCH (C-41A CANAL)
MP 30.128 TO MP 30.168

TRAFFIC DATA

CURRENT YEAR = 2023 AADT = 7590
ESTIMATED OPENING YEAR = 2032 AADT = 8800
ESTIMATED DESIGN YEAR = 2052 AADT = 14500
K = 9.5 % D = 58.0 % T = 25 % (24 HOUR)
DESIGN HOUR T = 12.5 %
TARGET SPEED = 65 MPH
DESIGN SPEED (PROPOSED) = 65 MPH
POSTED SPEED (PROPOSED) = 60 MPH

NOT TO SCALE

FINANCIAL PROJECT ID	SHEET NO.
450334-1-22-01	3

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C3C : SUBURBAN COMM.
(X) C2 : RURAL
( ) C4 : URBAN GENERAL
( ) C2T : RURAL TOWN
( ) C5 : URBAN CENTER
( ) C3R : SUBURBAN RES.
( ) C6 : URBAN CORE
( ) N/A : L.A. FACILITY

FUNCTIONAL CLASSIFICATION

( ) INTERSTATE
( ) MAJOR COLLECTOR
( ) FREEWAY/EXPWY.
( ) MINOR COLLECTOR
(X) PRINCIPAL ARTERIAL
( ) LOCAL
( ) MINOR ARTERIAL

HIGHWAY SYSTEM

(X) NATIONAL HIGHWAY SYSTEM
(X) STRATEGIC INTERMODAL SYSTEM
(_) STATE HIGHWAY SYSTEM
( ) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

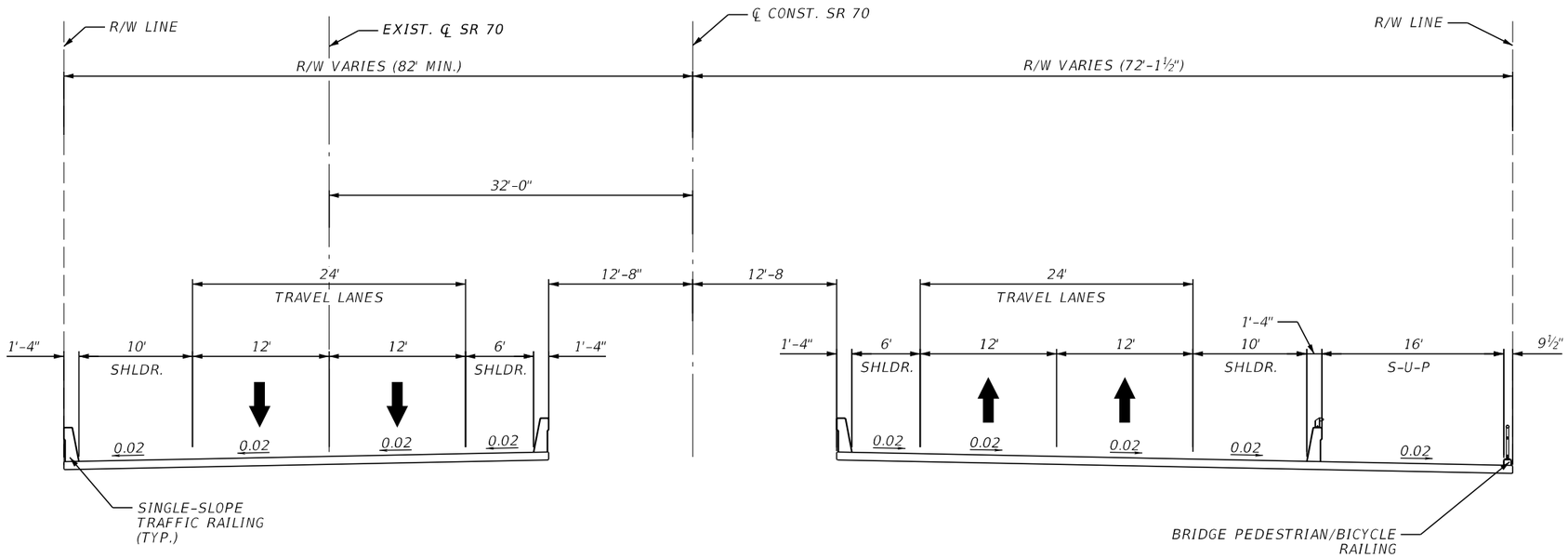
( ) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
(X) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( ) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 3



SR 70 OVER KISSIMMEE RIVER
MP 0.000 TO MP 0.080

NOT TO SCALE

TRAFFIC DATA

CURRENT YEAR = 2023 AADT = 7590
ESTIMATED OPENING YEAR = 2032 AADT = 8800
ESTIMATED DESIGN YEAR = 2052 AADT = 14500
K = 9.5 % D = 58.0 % T = 25 % (24 HOUR)
DESIGN HOUR T = 12.5 %
TARGET SPEED = 65 MPH
DESIGN SPEED (PROPOSED) = 65 MPH
POSTED SPEED (PROPOSED) = 60 MPH

FINANCIAL PROJECT ID	SHEET NO.
450334-1-22-01	4

11/6/2023 3:05:02 PM aaiston
P:\FL23010.00 SR 70 PD&E Study\450334122O1\struct\BITypicalSection01.dgn

Appendix C
FEMA FIRM Maps

MAP SCALE 1" = 1000'

500 0 1000 2000 FEE

300 0 300 600

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0455C

FIRM

FLOOD INSURANCE RATE MAP

OKEECHOBEE COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 455 OF 650
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
OKEECHOBEE COUNTY	120177	0455	C

Notice 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
12093C0455C
EFFECTIVE DATE
JULY 16, 2015

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 M

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0580C

FIRM

FLOOD INSURANCE RATE MAP

HIGHLANDS COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 580 OF 710

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HIGHLANDS COUNTY	120111	0580	C

Notice 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
12055C0580C

EFFECTIVE DATE
NOVEMBER 18, 2015

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

640000 FT

645000 FT

81° 03' 45"

27° 15' 00"

JOINS PANEL 0445

CR-721

193733

203733

213733

ZONE A

Highlands County
Unincorporated Areas
120111

S-65E
Watershed

TRENTON AVE

NW BONEY LN

AF6702

AF6701

AJ5669

AF6700

1055000 FT

303733

293733

ZONE A

283733

C-41AS
Watershed

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 M

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0585C

FIRM

FLOOD INSURANCE RATE MAP

HIGHLANDS COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 585 OF 710

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HIGHLANDS COUNTY	120111	0585	C

Notice 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
12055C0585C

EFFECTIVE DATE
NOVEMBER 18, 2015

Federal Emergency Management Agency

45000 FT 650000 FT 655000 FT

JOINS PANEL 0445

81° 00' 00"

27° 15' 00"

$^{30}14^{000m}N$

$^{30}13^{000m}N$

$^{30}12^{000m}N$

213733 223733 233733

NW NEW PINE RIDGE RD

TRENTON AVE LIBERTY ST HURST AVE PENN AVE

DIVISION ST CAPITAL AVE OAK ST

NW BONEY LN

S-65E Watershed

KERSH TER KEMPER TER KELTON TER JULIUS TER JORDAN TER

BROADWING LN BROADLAND LN BRINKERHOFF LN BRIDLEWOOD DR

70

AJ5669 AF6700 AF5525 AF6699 AF6698

ZONE A 283733 273733 263733

C-41AS Watershed

C-4

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 M

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0585C

FIRM

FLOOD INSURANCE RATE MAP

HIGHLANDS COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 585 OF 710

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HIGHLANDS COUNTY	120111	0585	C

Notice 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 12055C0585C

EFFECTIVE DATE NOVEMBER 18, 2015

Federal Emergency Management Agency

660000 FT

665000 FT

81° 00' 00"

27° 15' 00"

JOINS PANEL 046

OKEECHOBEE COUNTY

HIGHLANDS COUNTY

ZONE A

133733

233733

FLOOD HAZARD INFORMATIO
NOT SHOWN ON THIS MAP IN
AREAS OUTSIDE OF
HIGHLANDS COUNTY

S-65E
Watershed

SHELLCRACKER LOOP

NW RIVERSIDE RD

BLUE GILL CIR

CATFISH PL

SHINER CT

PORPOISE AVE

BEAM CV

AJ5668

AF6697

1055000 FT

MINNOW LN

Highlands County
Unincorporated Areas
120111

263733

ZONE A

ZONE A

253733

ZONE A

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

300 0 300 600 M

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0605C

FIRM

FLOOD INSURANCE RATE MAP

HIGHLANDS COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 605 OF 710

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HIGHLANDS COUNTY	120111	0605	C

Notice 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
12055C0605C

EFFECTIVE DATE
NOVEMBER 18, 2015

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

Appendix D
Calculations

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		10100		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	147.547		147.547

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***223.324 MIN***

USE: 223.3 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-101

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		1100		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	16.069		16.069

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***91.846 MIN***

USE: 91.8 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

DDM - FDOT Drainage Design Guide

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		3600		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	52.591		52.591

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***128.368 MIN***

USE: 128.4 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		6700		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	97.878		97.878

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***173.654 MIN***

USE: 173.7 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

DDM - FDOT Drainage Design Guide

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		5200		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	75.965		75.965

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***151.741 MIN***

USE: 151.7 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

DDM - FDOT Drainage Design Guide

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		2700		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	39.443		39.443

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***115.220 MIN***

USE: 115.2 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

DDM - FDOT Drainage Design Guide

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		5100		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	74.504		74.504

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***150.281 MIN***

USE: 150.3 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		1000		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	14.609		14.609

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***90.385 MIN***

USE: 90.4 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
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Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		450		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	6.574		6.574

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***82.351 MIN***

USE: 82.4 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		550		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	8.035		8.035

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***83.812 MIN***

USE: 83.8 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		4750		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	69.391		69.391

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***145.168 MIN***

USE: 145.2 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		2300		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	33.600		33.600

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***109.377 MIN***

USE: 109.4 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

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TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		4200		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	61.356		61.356

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***137.133 MIN***

USE: 137.1 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

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TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		2900		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	42.365		42.365

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***118.142 MIN***

USE: 118.1 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		2100		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	30.678		30.678

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***106.455 MIN***

USE: 106.5 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

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TIME OF CONCENTRATION

BASIN: B-102

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Designer: DA
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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		700		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	10.226		10.226

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***86.003 MIN***

USE: 86 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		1200		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	17.530		17.530

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***93.307 MIN***

USE: 93.3 MIN

SWALE VOLUME DATA (Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		1700		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	24.835		24.835

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***100.611 MIN***

USE: 100.6 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

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TIME OF CONCENTRATION

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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		5100		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	74.504		74.504

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***150.281 MIN***

USE: 150.3 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		5000		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	73.043		73.043

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***148.820 MIN***

USE: 148.8 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		6400		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	93.495		93.495

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***169.272 MIN***

USE: 169.3 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		5300		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	77.426		77.426

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***153.202 MIN***

USE: 153.2 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		1350		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	19.722		19.722

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***95.498 MIN***

USE: 95.5 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		6600		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	96.417		96.417

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***172.194 MIN***

USE: 172.2 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		3300		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	48.208		48.208

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***123.985 MIN***

USE: 124 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		1500		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	21.913		21.913

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***97.690 MIN***

USE: 97.7 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

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SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		650		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	9.496		9.496

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***85.272 MIN***

USE: 85.3 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		9500		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	138.782		138.782

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***214.558 MIN***

USE: 214.6 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		3000		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	43.826		43.826

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***119.603 MIN***

USE: 119.6 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

DDM - FDOT Drainage Design Guide

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		3000		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	43.826		43.826

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***119.603 MIN***

USE: 119.6 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		9200		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	134.399		134.399

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***210.176 MIN***

USE: 210.2 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		5000		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	73.043		73.043

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***148.820 MIN***

USE: 148.8 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

TIME OF CONCENTRATION

BASIN: B-102

Project: **SR 70 PD&E**
Designer: DA
Date: 10/31/2024

SHEET FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
1	SURFACE DESCRIPTION		Farmland	Unpaved		
2	MANNING'S n		Table B-1 DDG	0.41		
3	FLOW LENGTH	FT	300 foot max length	300		
4	P(2)	IN		4.7		
5	SLOPE	FT/FT		0.005		
6	TIME	MIN	T={0.007*((n*L)^0.8)/(P(2)^0.5*S^0.4)}*60	75.777		75.777

SHALLOW CONCENTRATED FLOW

				SEGMENT 1	SEGMENT 2	TOTAL
7	SURFACE DESCRIPTION		Farmland	UNPAVED		
8	FLOW LENGTH	FT		5000		
9	SLOPE	FT/FT		0.005		
10A	AVG PAVED VELOCITY	FT/S	V=20.3282*S^.5			
10B	AVG UNPAVED VELOCITY	FT/S	V=16.1345*S^.5	1.140881436		
11	TIME	MIN	T=L/(60*V)	73.043		73.043

CHANNEL FLOW

				SEGMENT 1	SEGMENT 2	SEGMENT 3	TOTAL
12	CROSS SECTIONAL AREA	FT^2					
13	WETTED PERIMETER	FT					
14	HYDRAULIC RADIUS	FT					
15	CHANNEL SLOPE	FT/FT					
16	MANNING'S n		See Table B-3 DDM				
17	FLOW VELOCITY	FT/S	V=(1.49*R^(2/3)*s^(1/2))/n				
18	FLOW LENGTH	FT					
19	TIME	MIN	T=L/(60*V)				0.000

TOTAL TIME ***148.820 MIN***

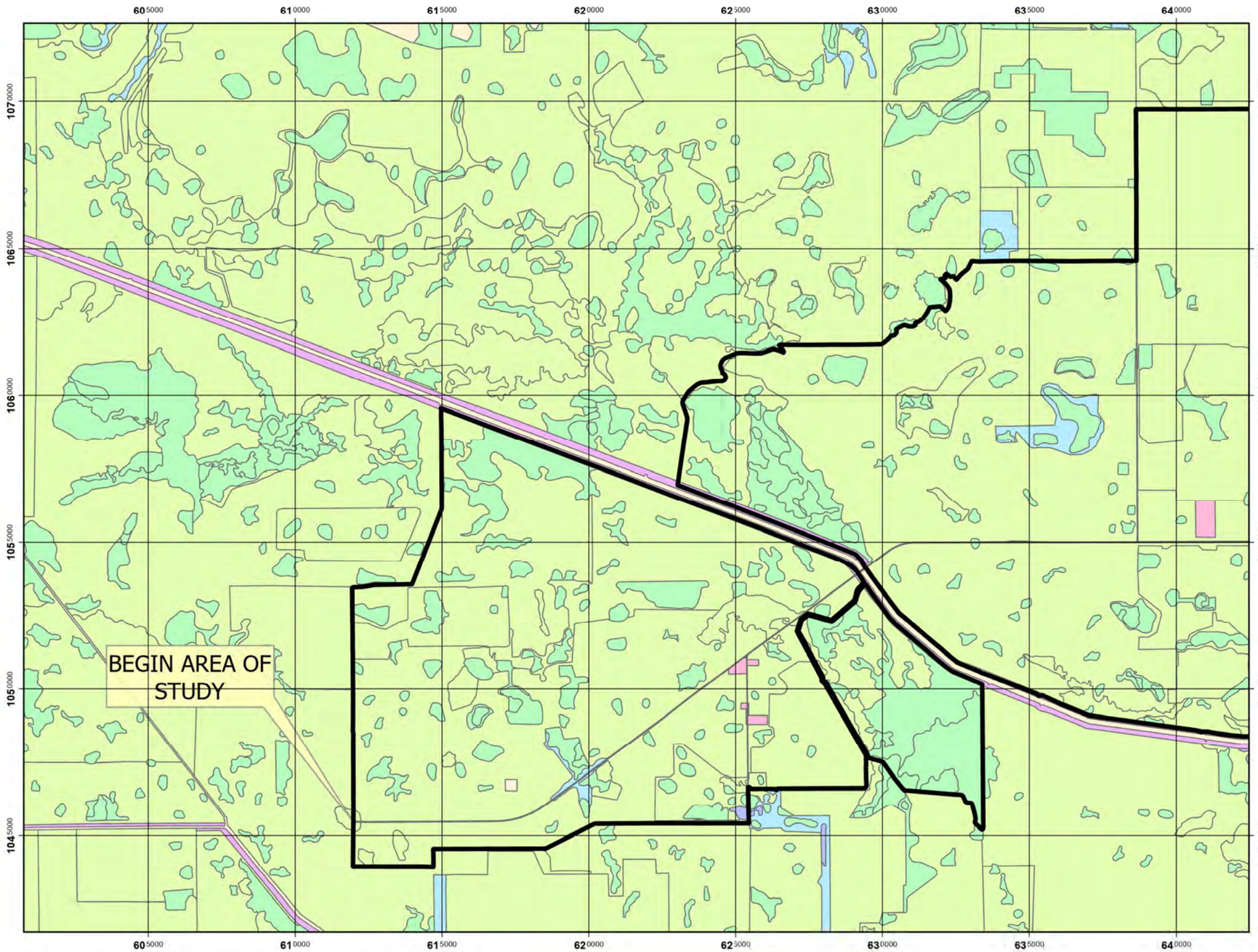
USE: 148.8 MIN

SWALE VOLUME DATA

(Assume Trapezoidal Channel)

RIGHT SIDE SLOPE	4 : 1	Input channel data here and copy results to
LEFT SIDE SLOPE	6 : 1	the appropriate column in the channel flow section
BOTTOM WIDTH	2 FT	For different channel geometry, channel hydraulic
SWALE DEPTH	0.2500 FT	data needs to be calculated separtely
SWALE CROSS SECTIONAL AREA	0.8125 FT^2	
SWALE WETTED PERIMETER	4.5515 FT	
SWALE HYDRAULIC RADIUS	0.1785 FT	
UPSTREAM STATION		
UPSTREAM INVERT		
DOWNSTREAM STATION		
DOWNSTREAM INVERT		

Existing Land Use Map



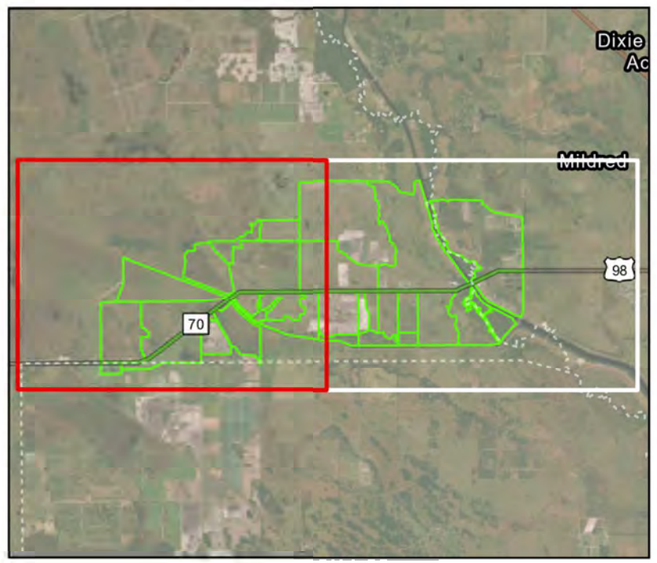
N

0.35 0 0.35 0.7 1.05 1.4
Miles

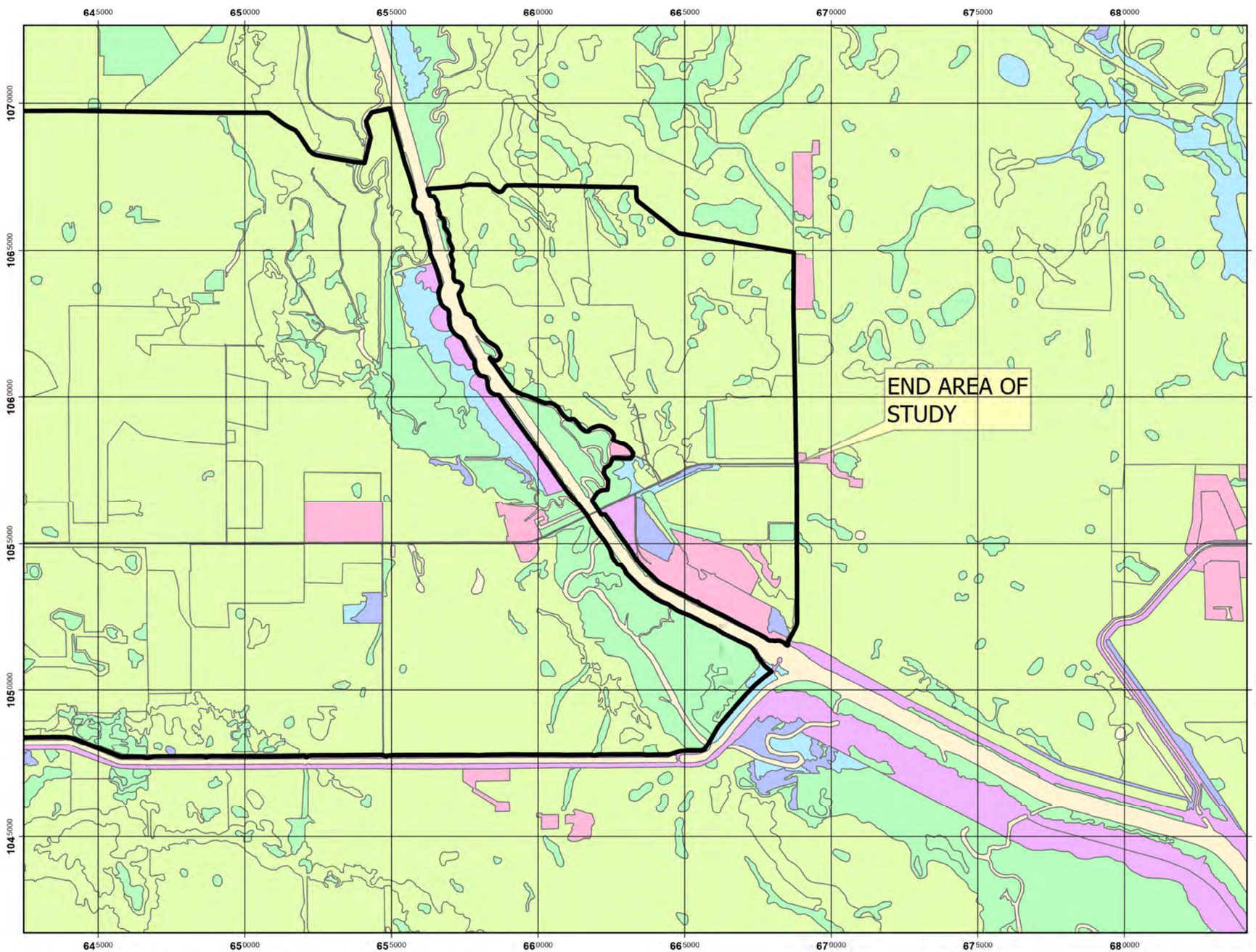
Legend

Name

- Agriculture
- Barren Land
- Rangeland
- Road
- Upland Forest
- Urban and Built-Up
- Water
- Wetlands



Existing Land Use Map



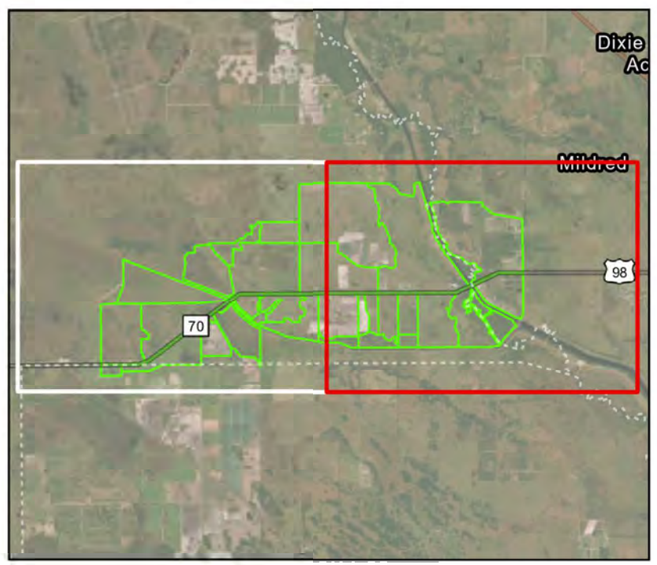
N

0.35 0 0.35 0.7 1.05 1.4
Miles

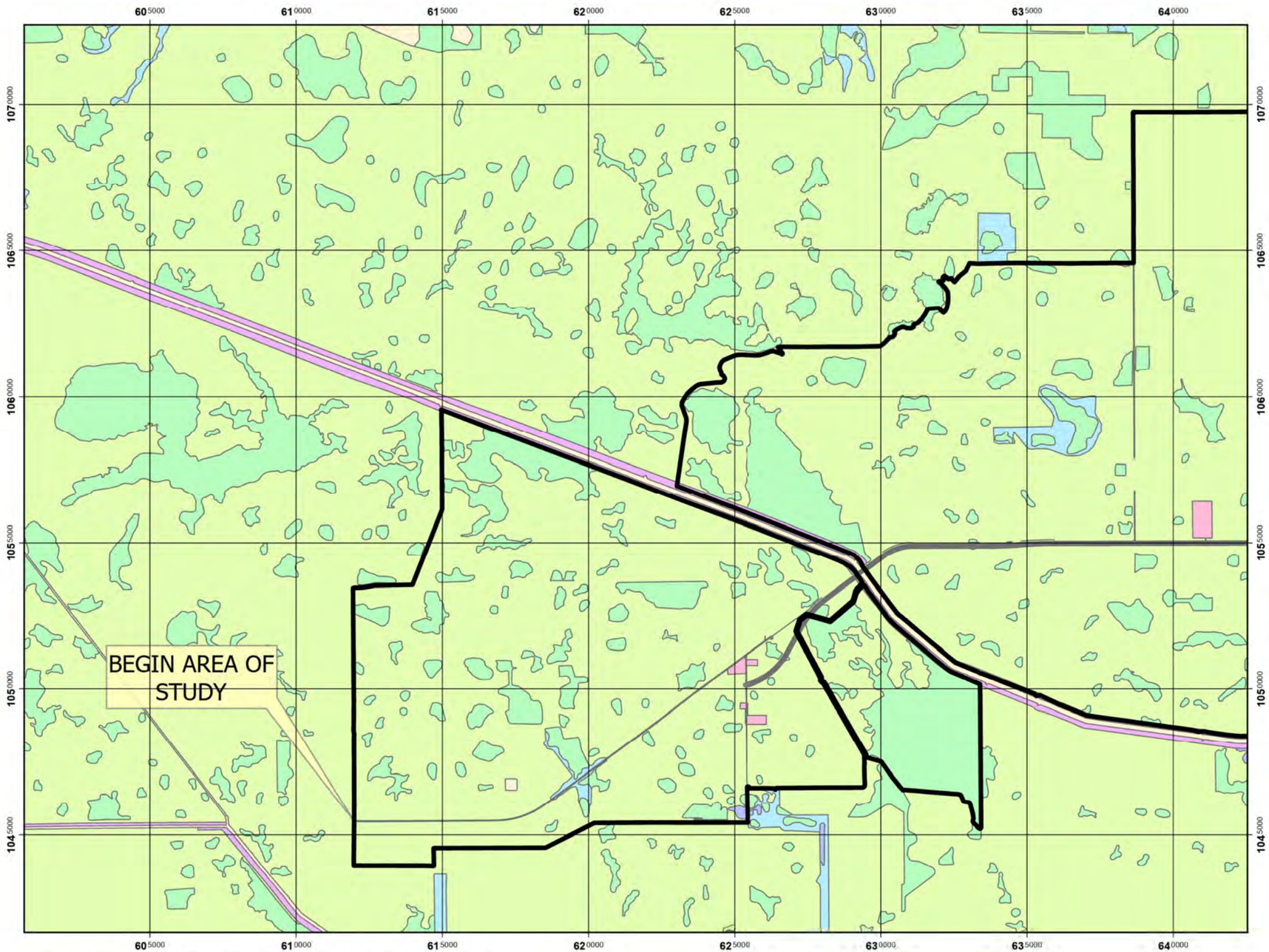
Legend

Name

- Agriculture
- Barren Land
- Rangeland
- Road
- Upland Forest
- Urban and Built-Up
- Water
- Wetlands



Proposed Land Use Map



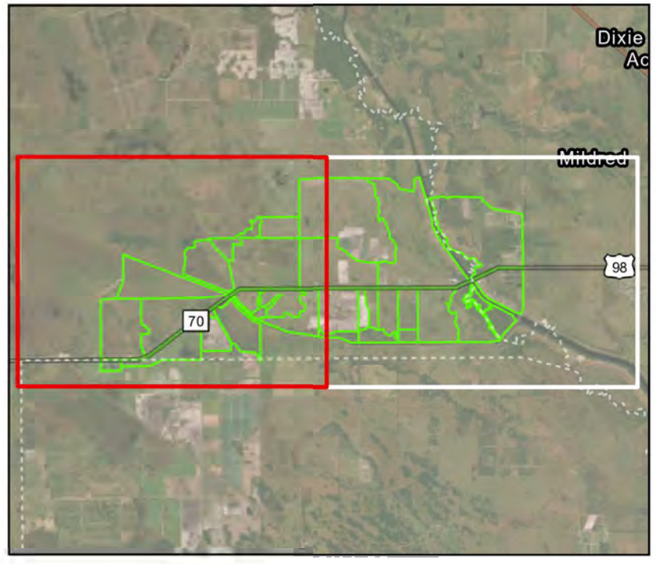
N

0.35 0 0.35 0.7 1.05 1.4
Miles

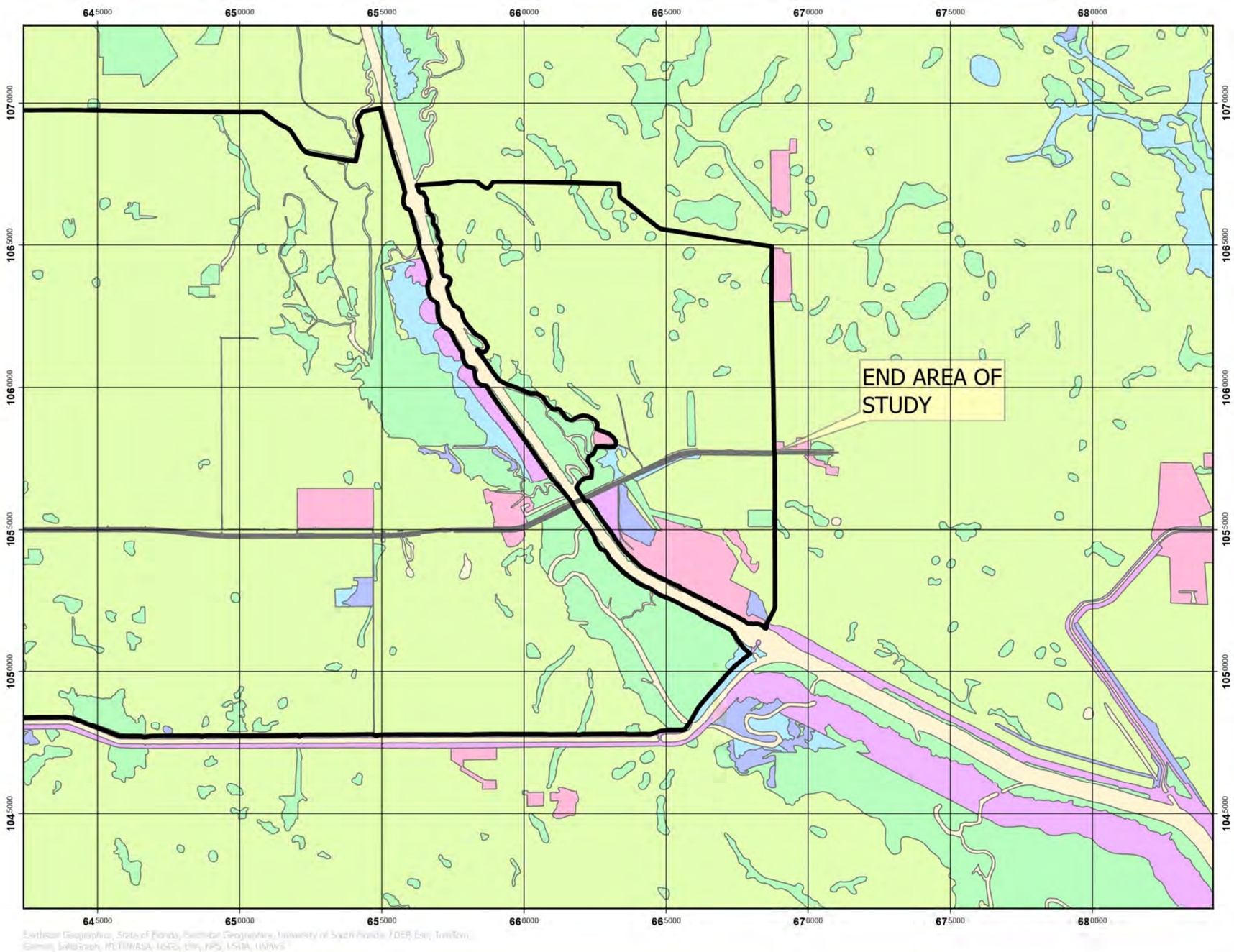
Legend

Name

- Agriculture
- Barren Land
- Rangeland
- Road
- Upland Forest
- Urban and Built-Up
- Water
- Wetlands



Proposed Land Use Map



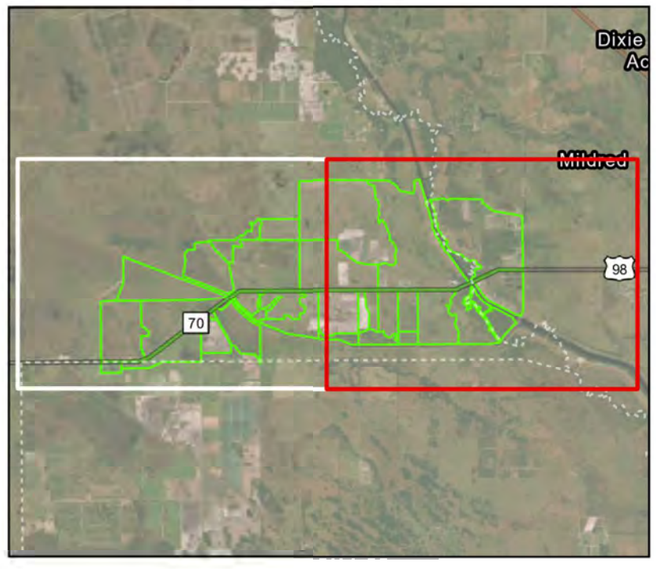
N

0.35 0 0.35 0.7 1.05 1.4
Miles

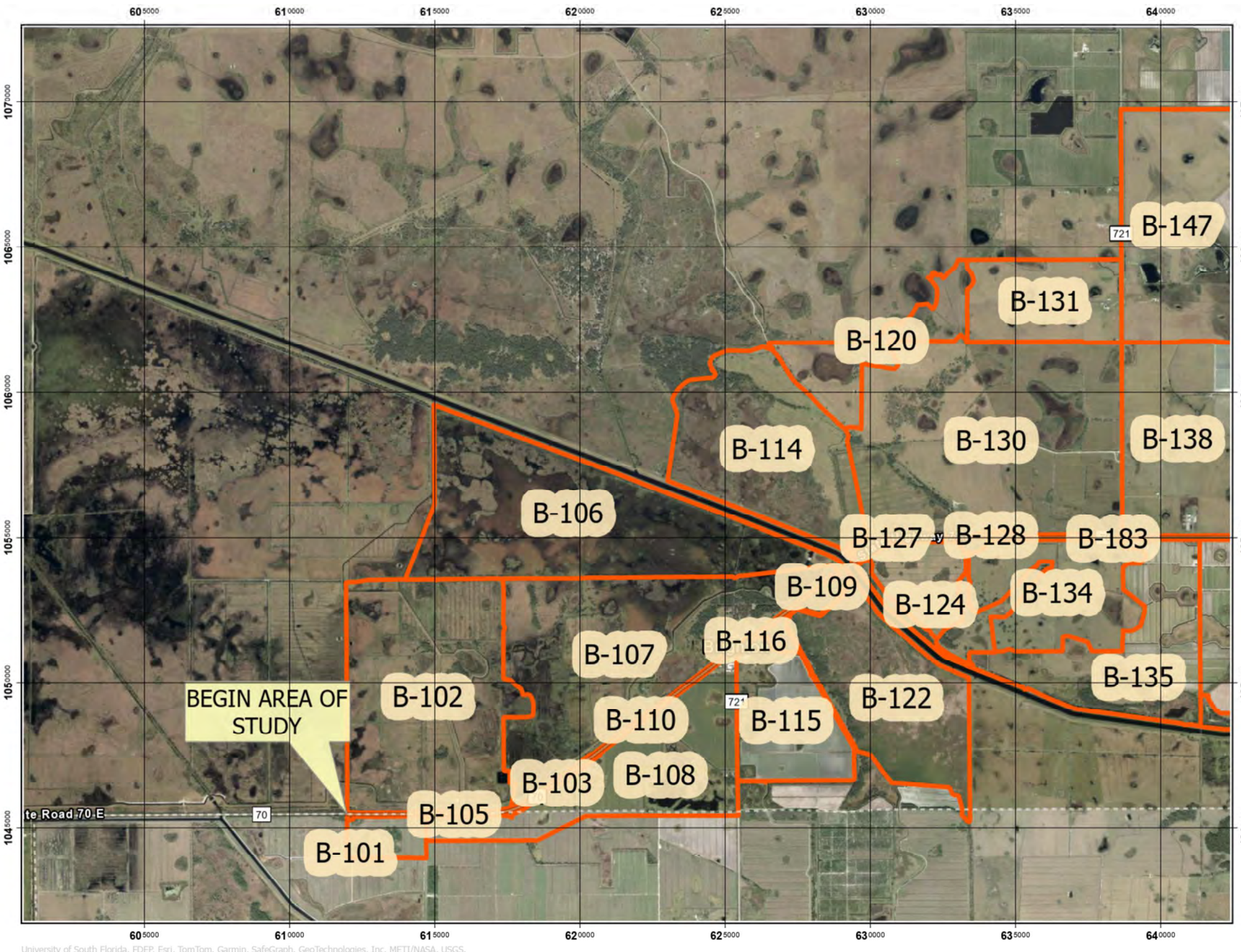
Legend

Name

- Agriculture
- Barren Land
- Rangeland
- Road
- Upland Forest
- Urban and Built-Up
- Water
- Wetlands



Basin Map

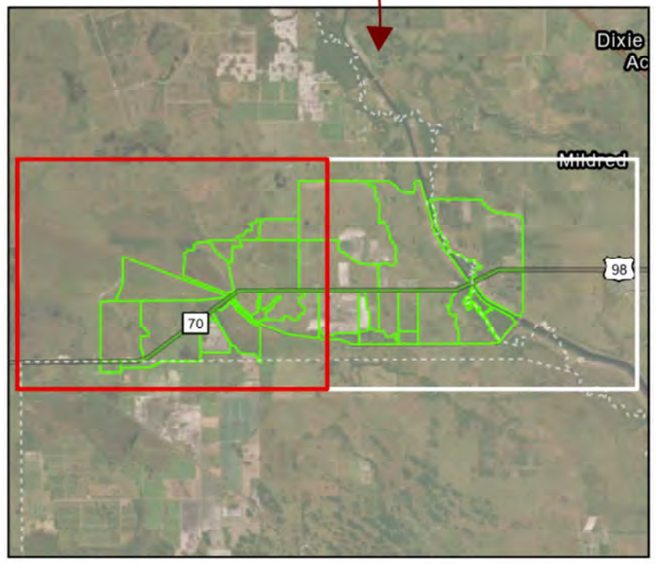


N

0.35 0 0.35 0.7 1.05 1.4
Miles

Legend

Master_Basins



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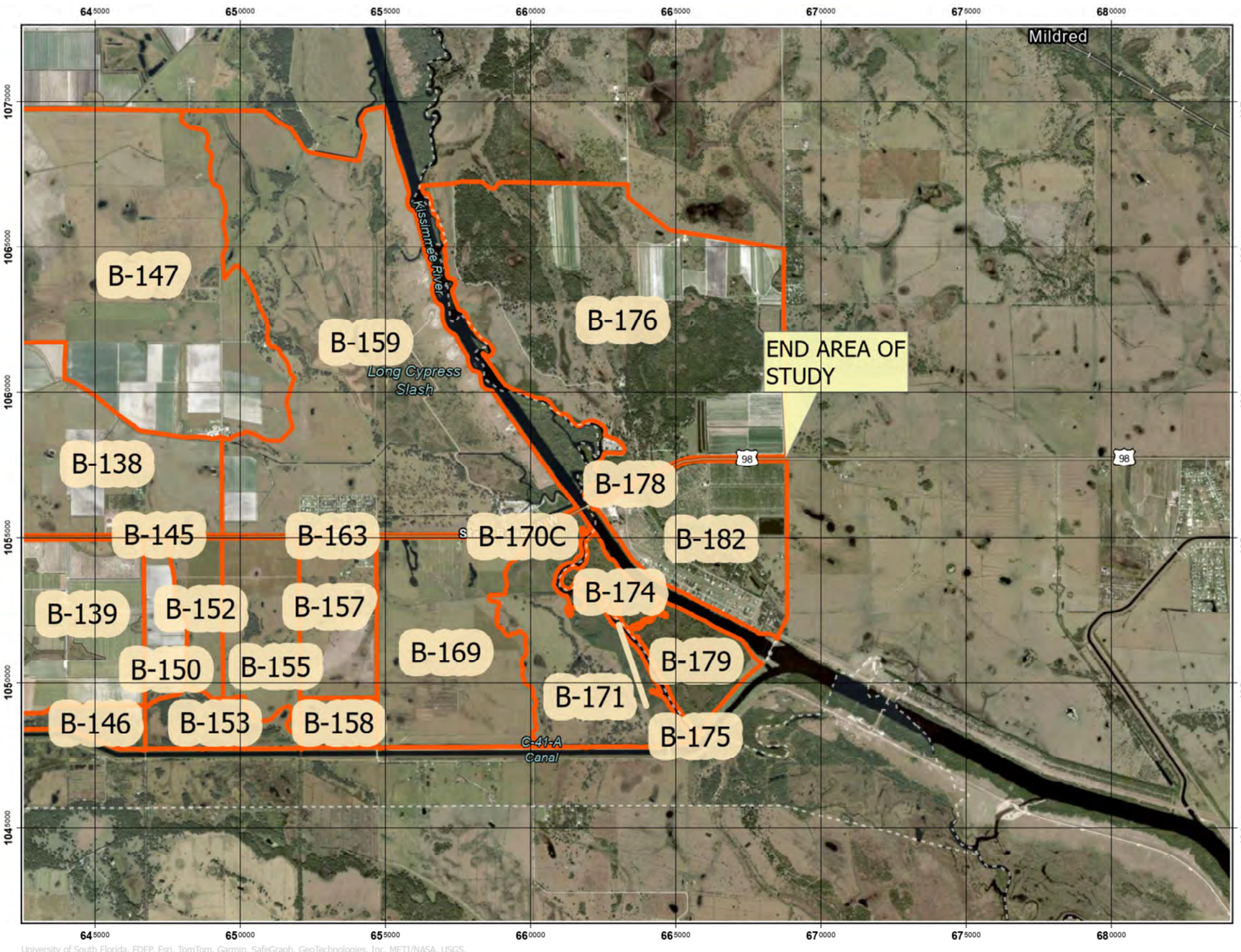

N

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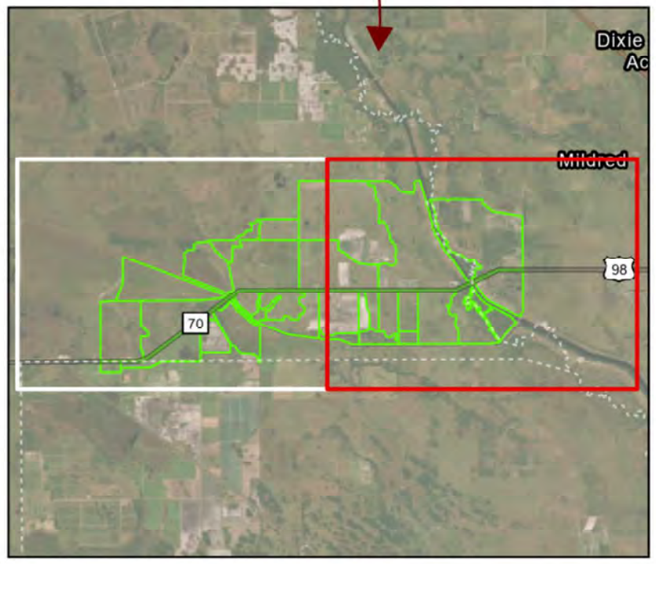
Legend

Master_Basins



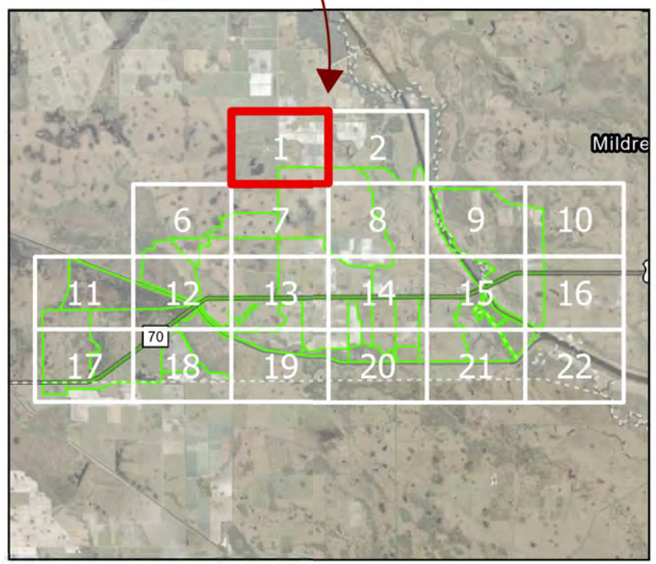
Basin Map

N

500 250 0 500 1,000 1,500 2,000
Feet

Legend

Master_Basins



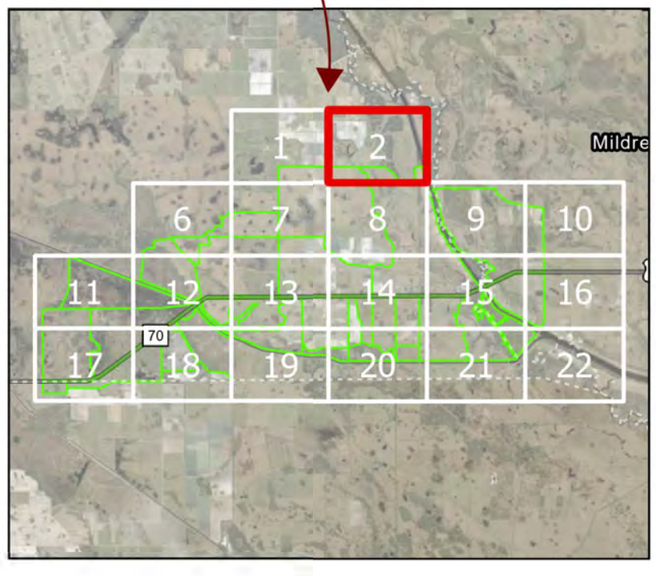
Basin Map

N

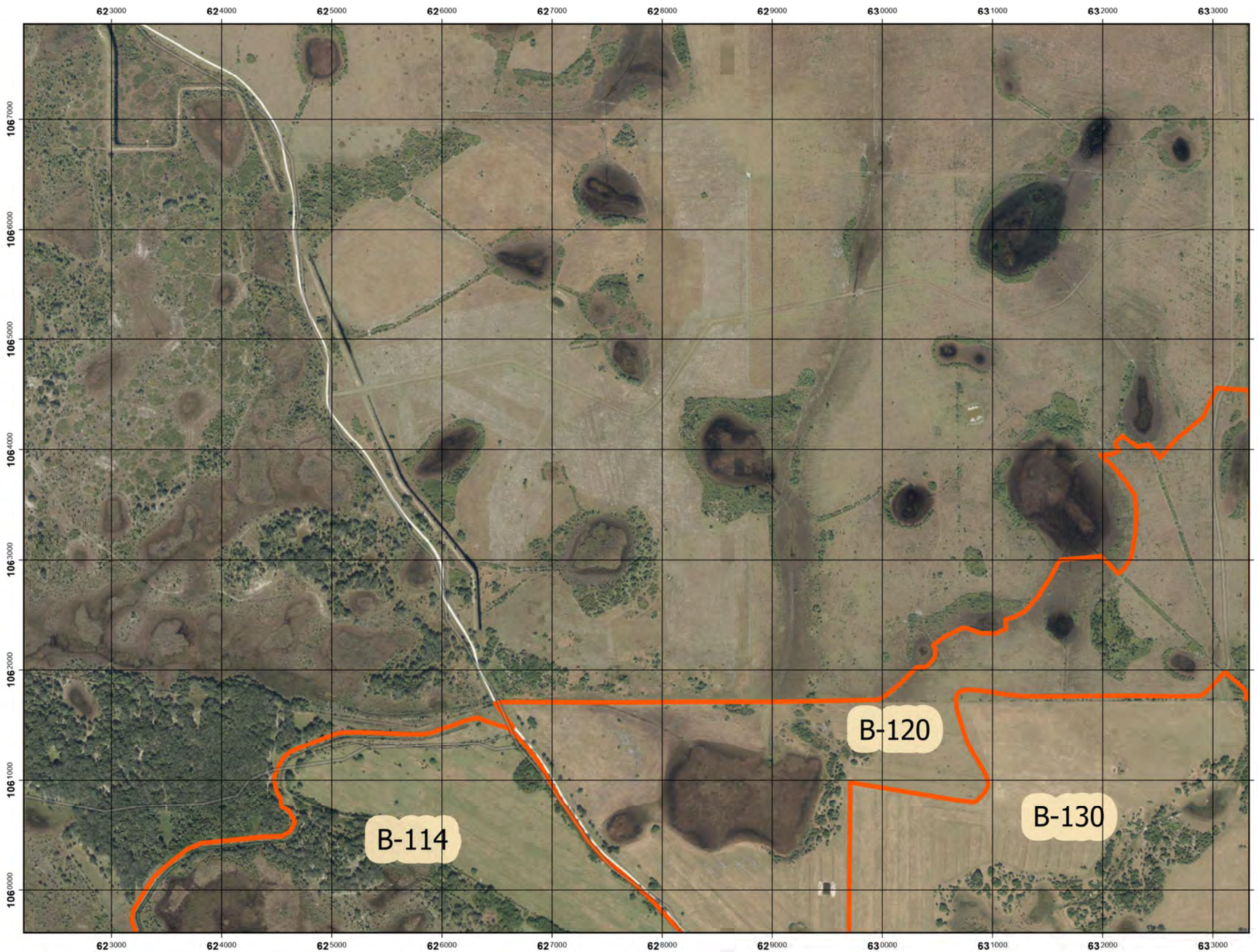
500 250 0 500 1,000 1,500 2,000 Feet

Legend

Master_Basins



Basin Map

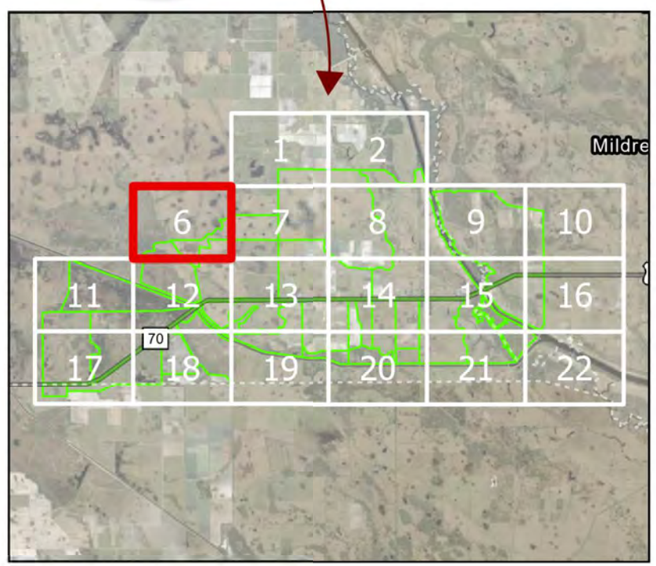


N

500 250 0 500 1,000 1,500 2,000
Feet

Legend

Master_Basins



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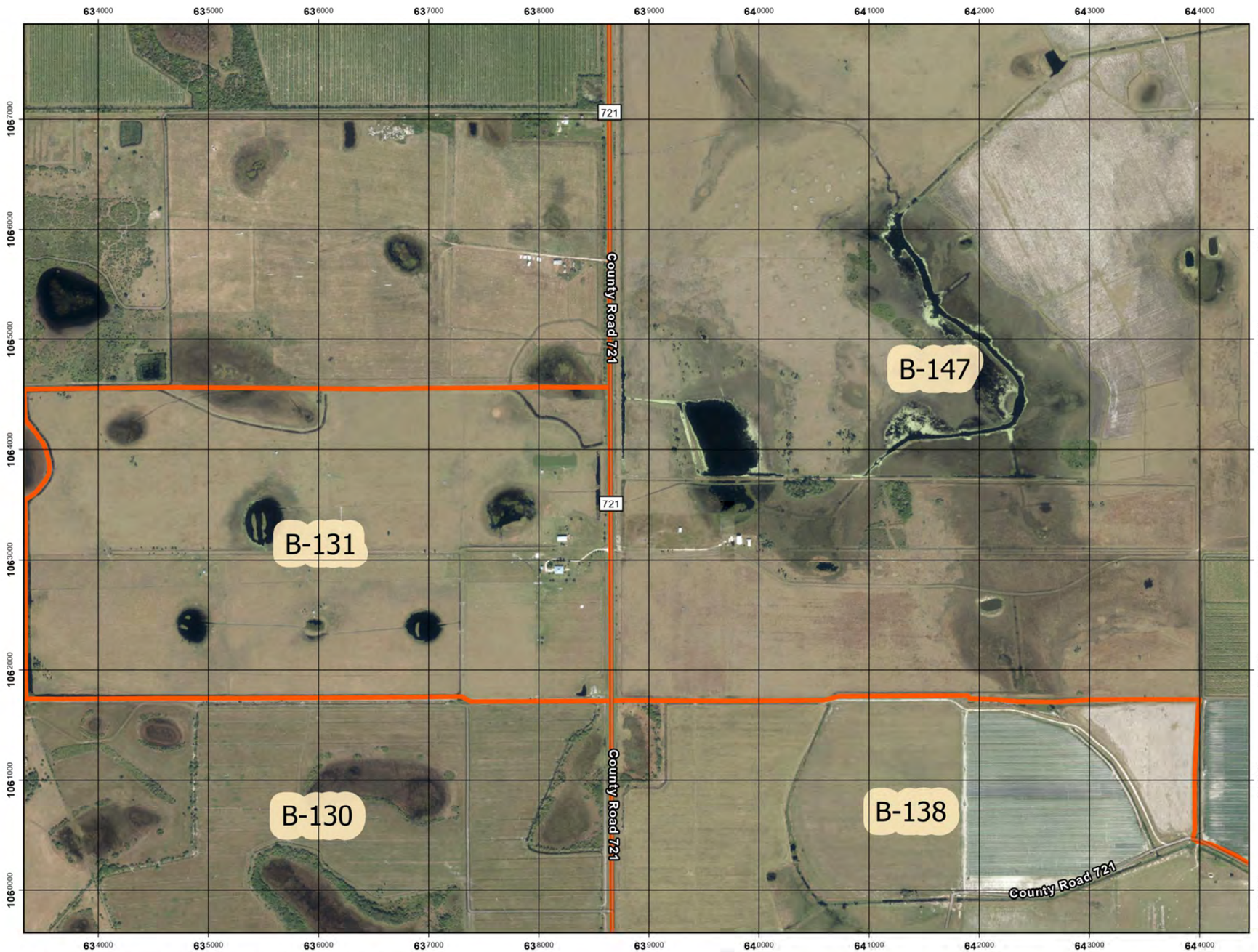
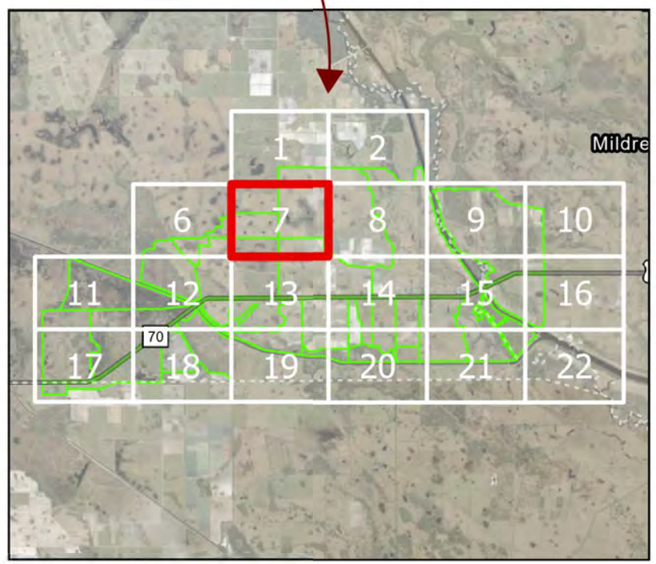


N

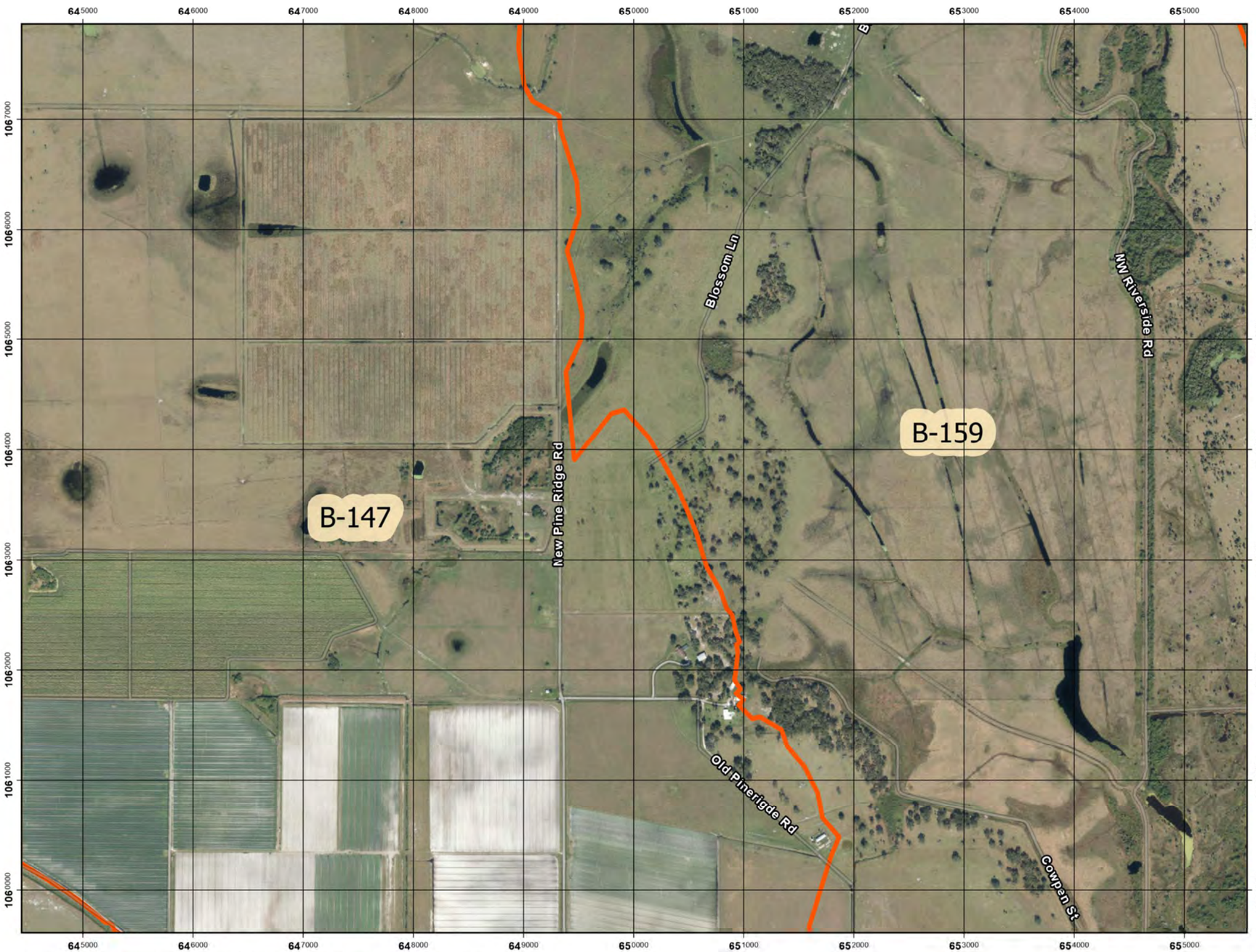
500 250 0 500 1,000 1,500 2,000 Feet

Legend

Master_Basins



Basin Map



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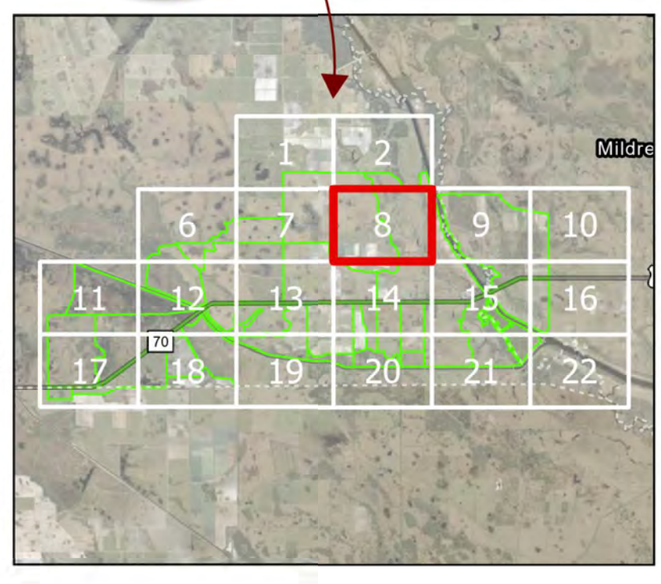
500 250 0 500 1,000 1,500 2,000
Feet

Legend

Master_Basins



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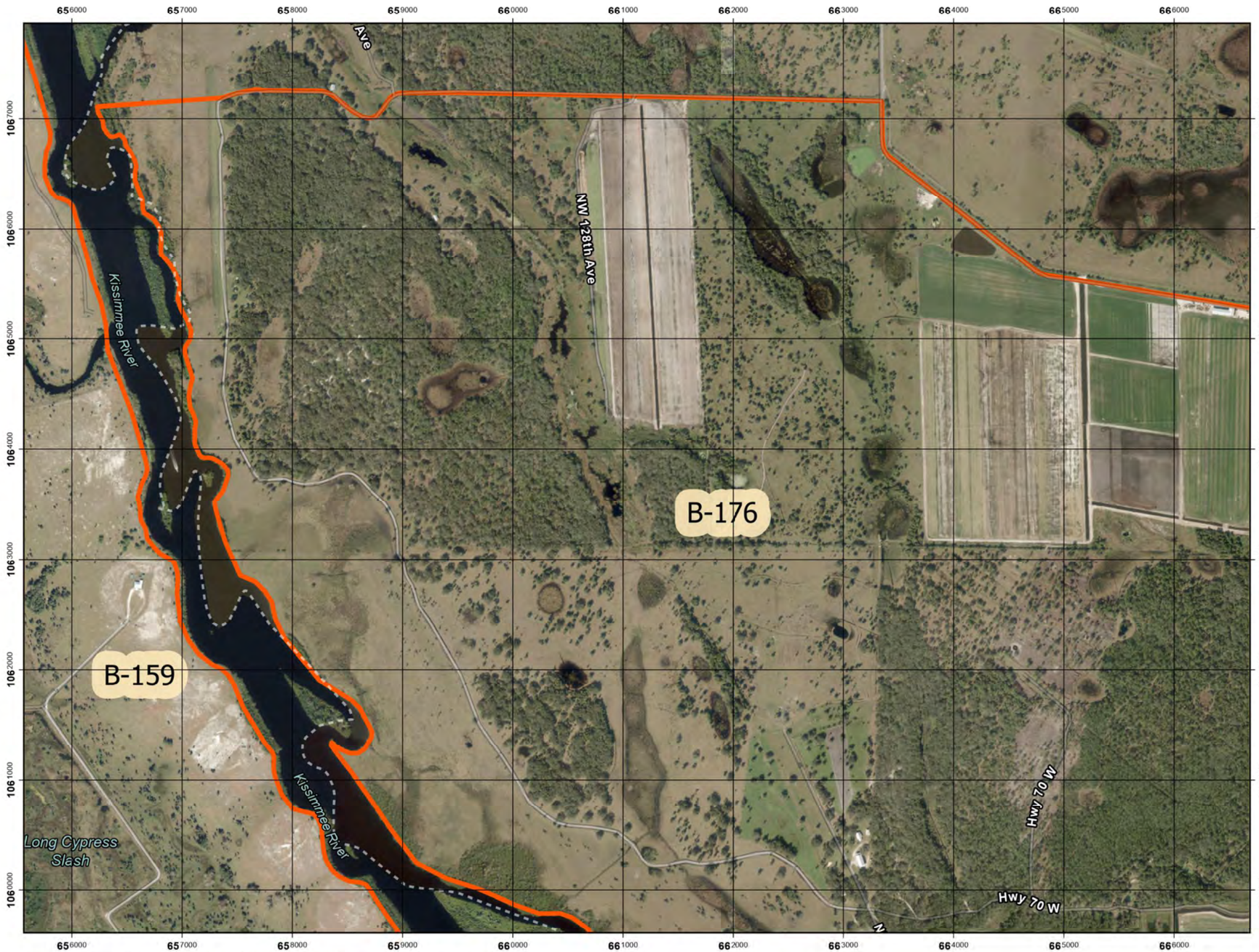

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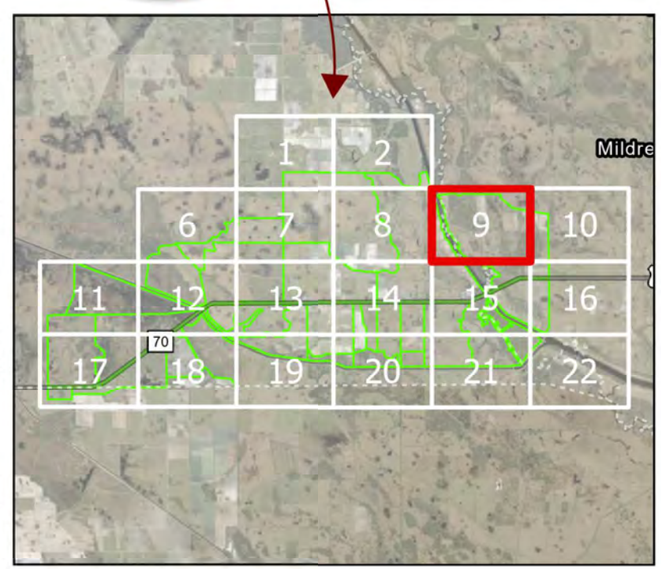

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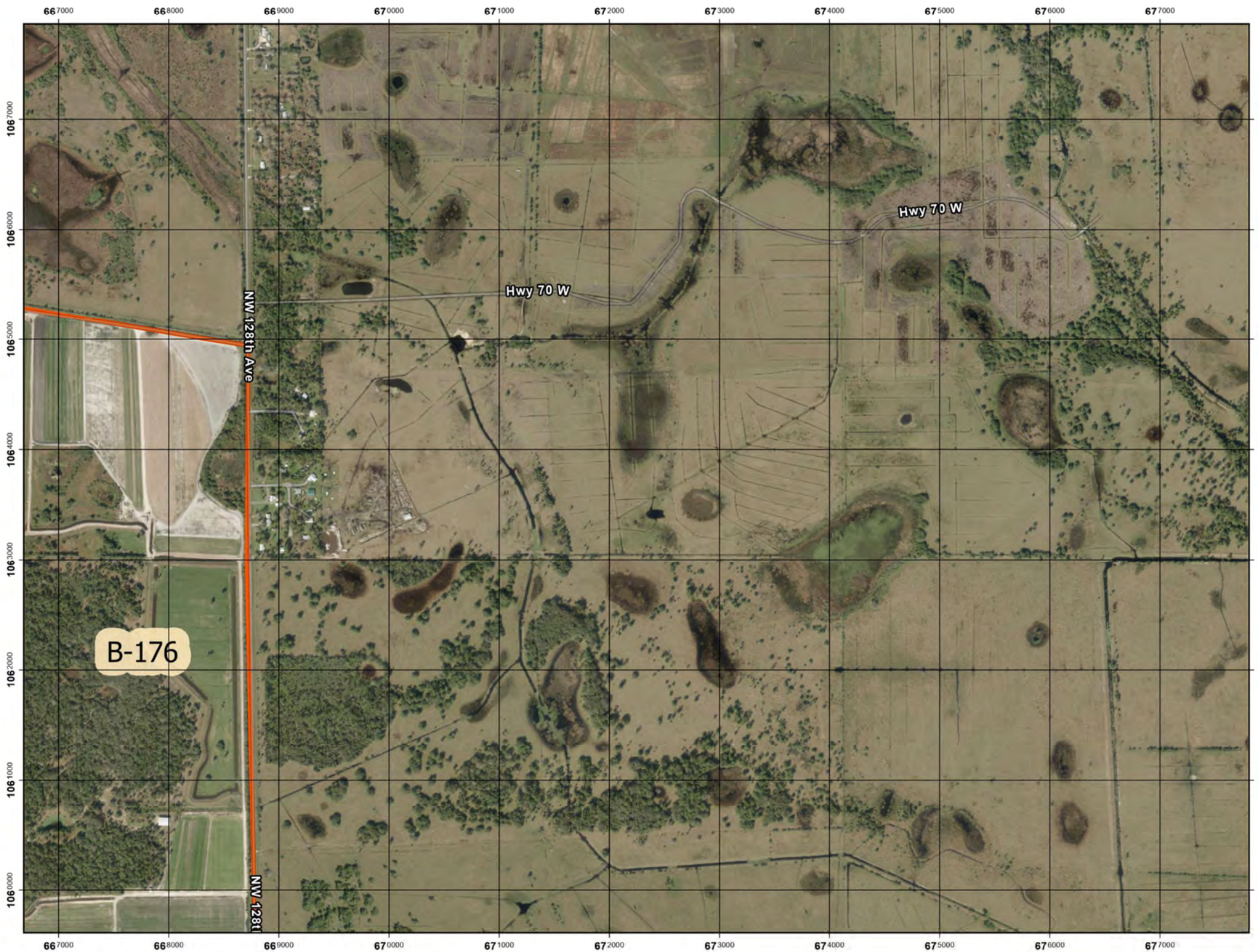

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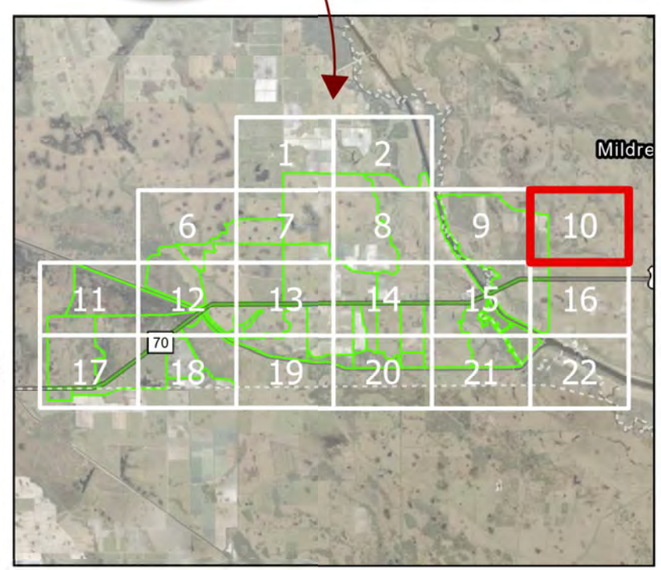

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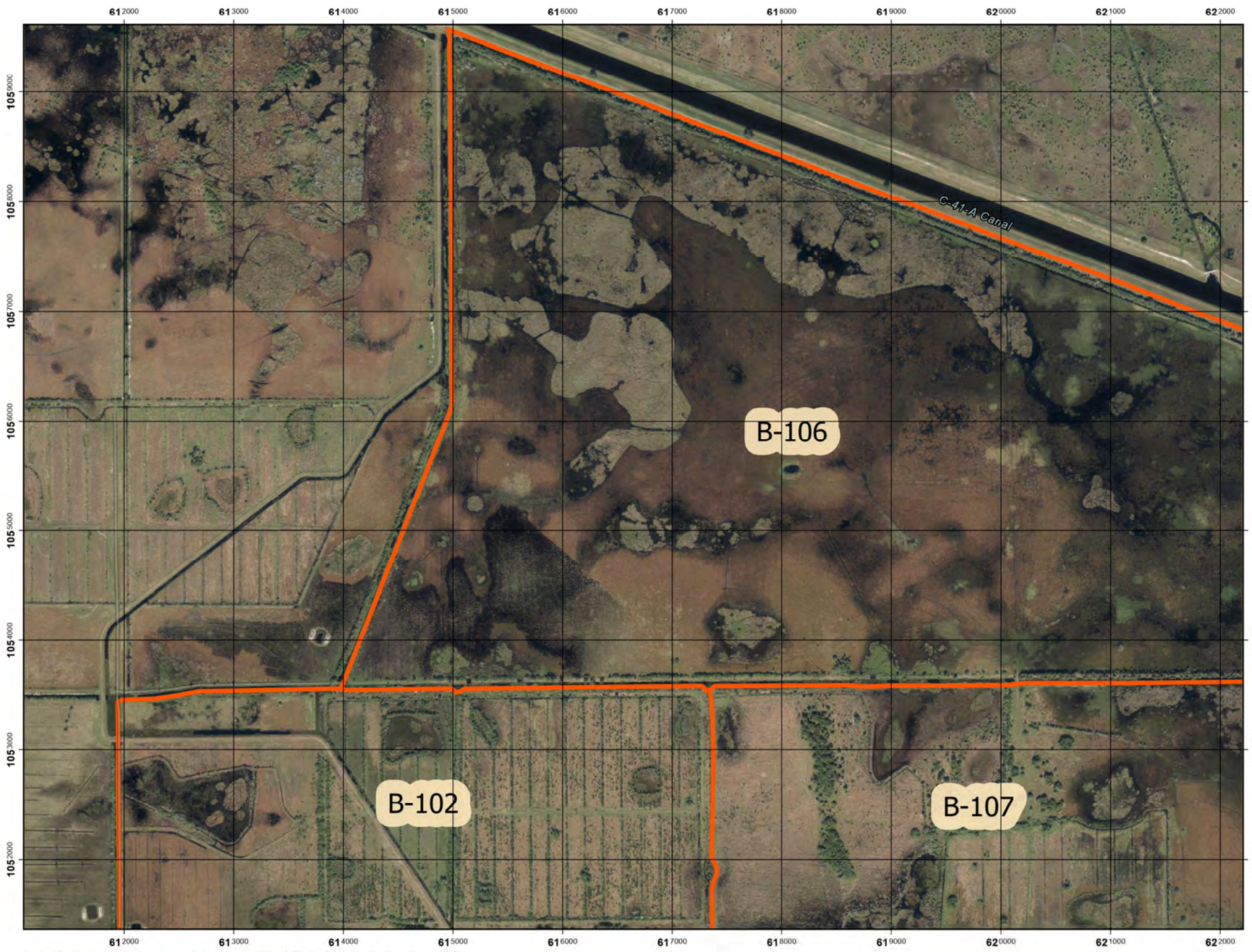

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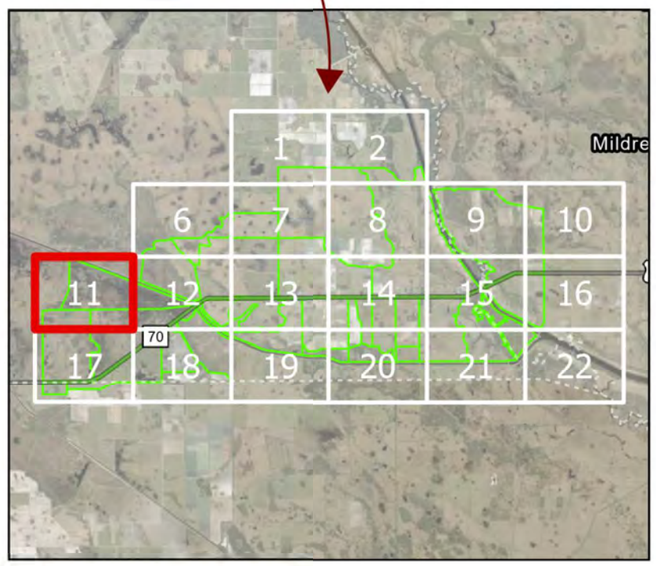

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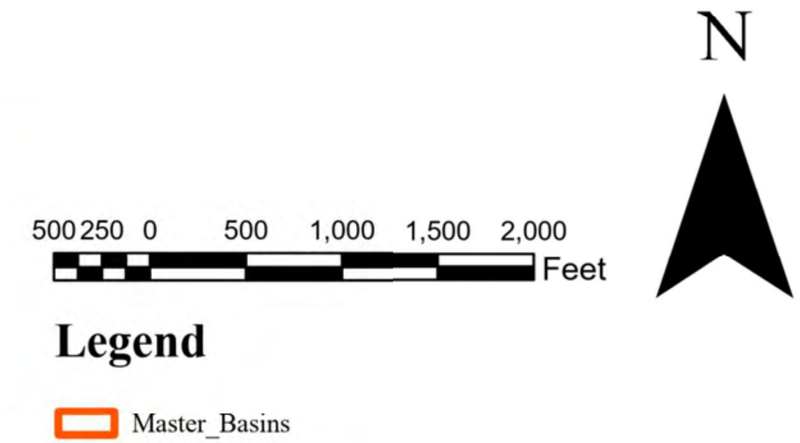

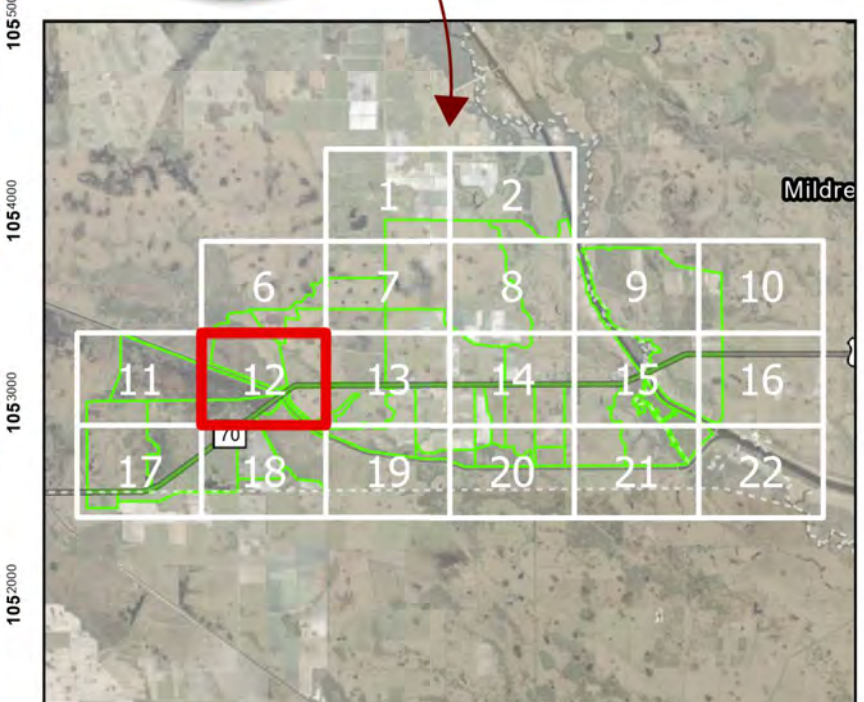

State of Florida, Maxar, Earthstar Geographics, University of South Florida, FDEP, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, NPS, USFWS, Esri Community Maps Contributors, University of South Florida, FDEP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS, Esri, USGS, University of South Florida, FDEP, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS

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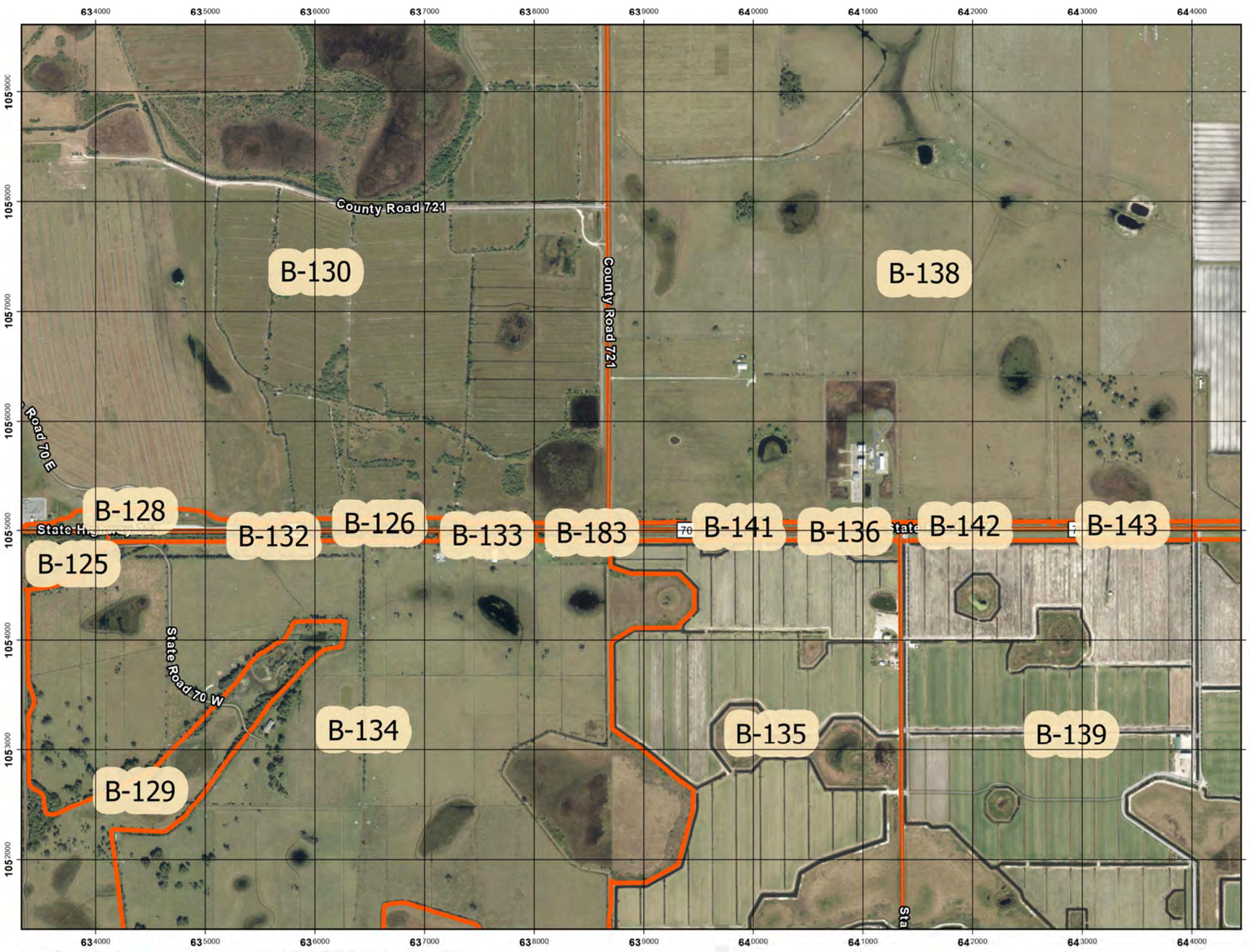

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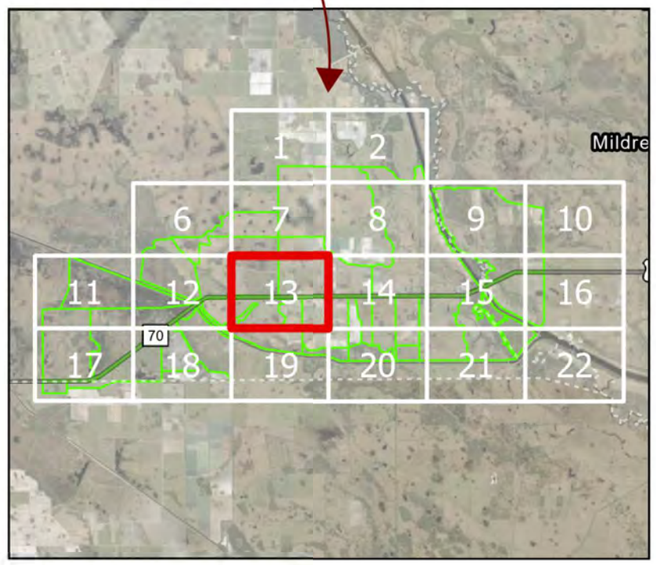

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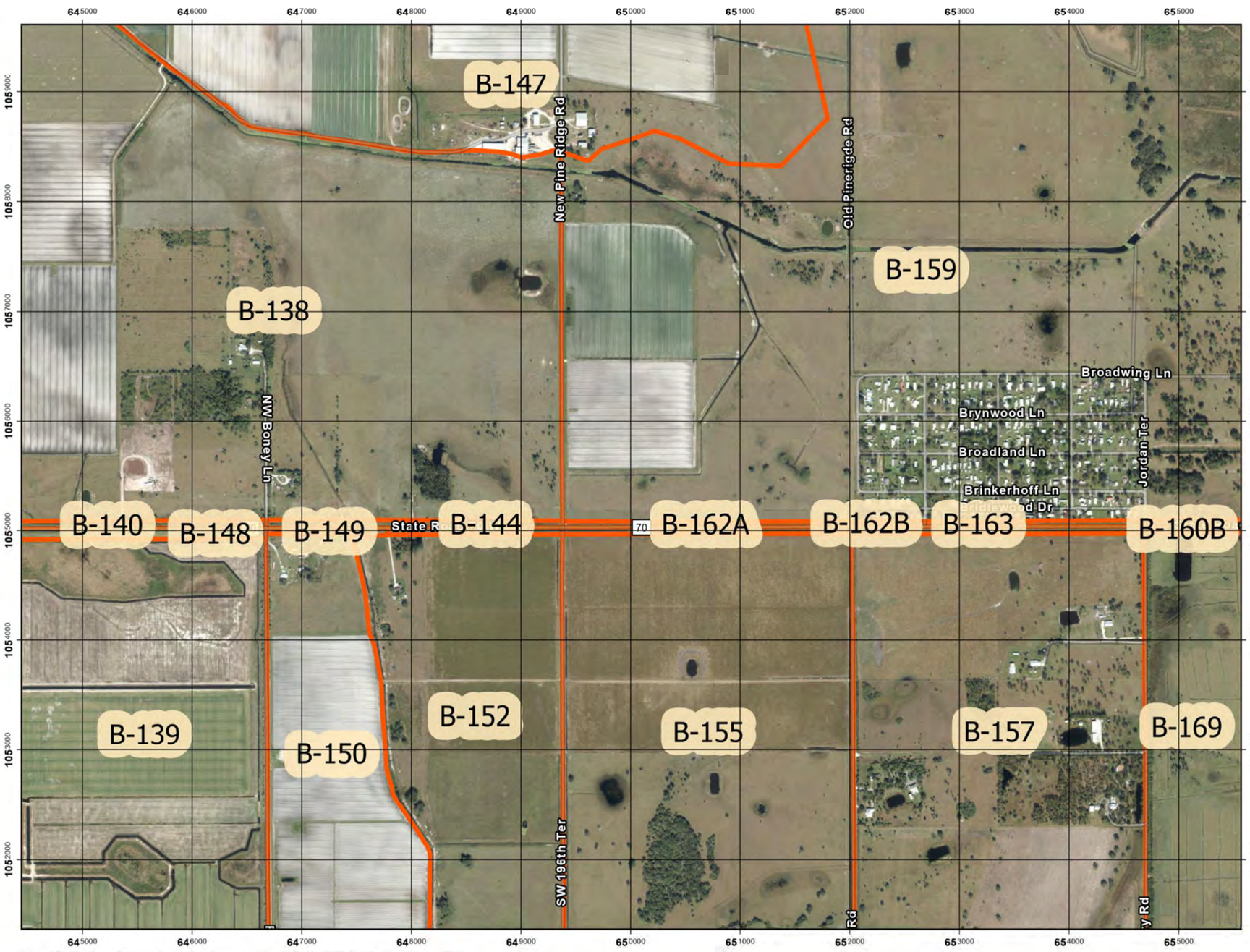

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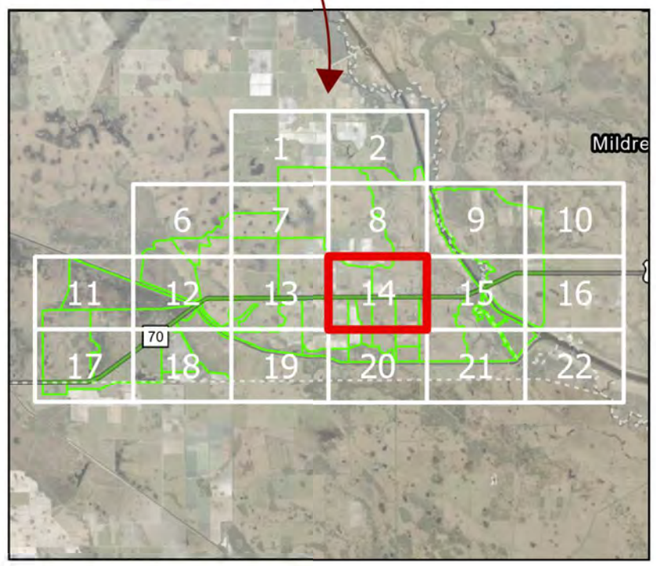

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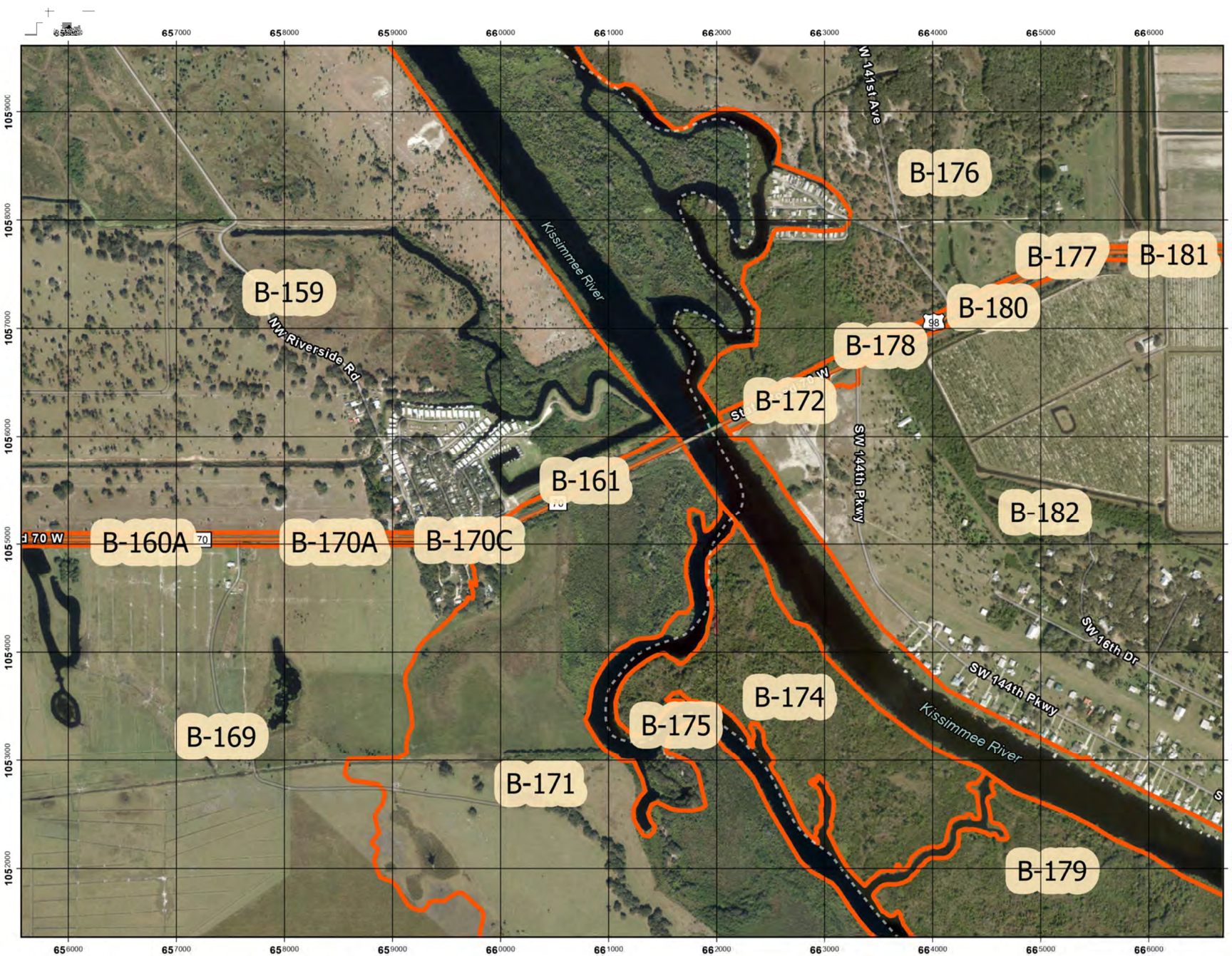

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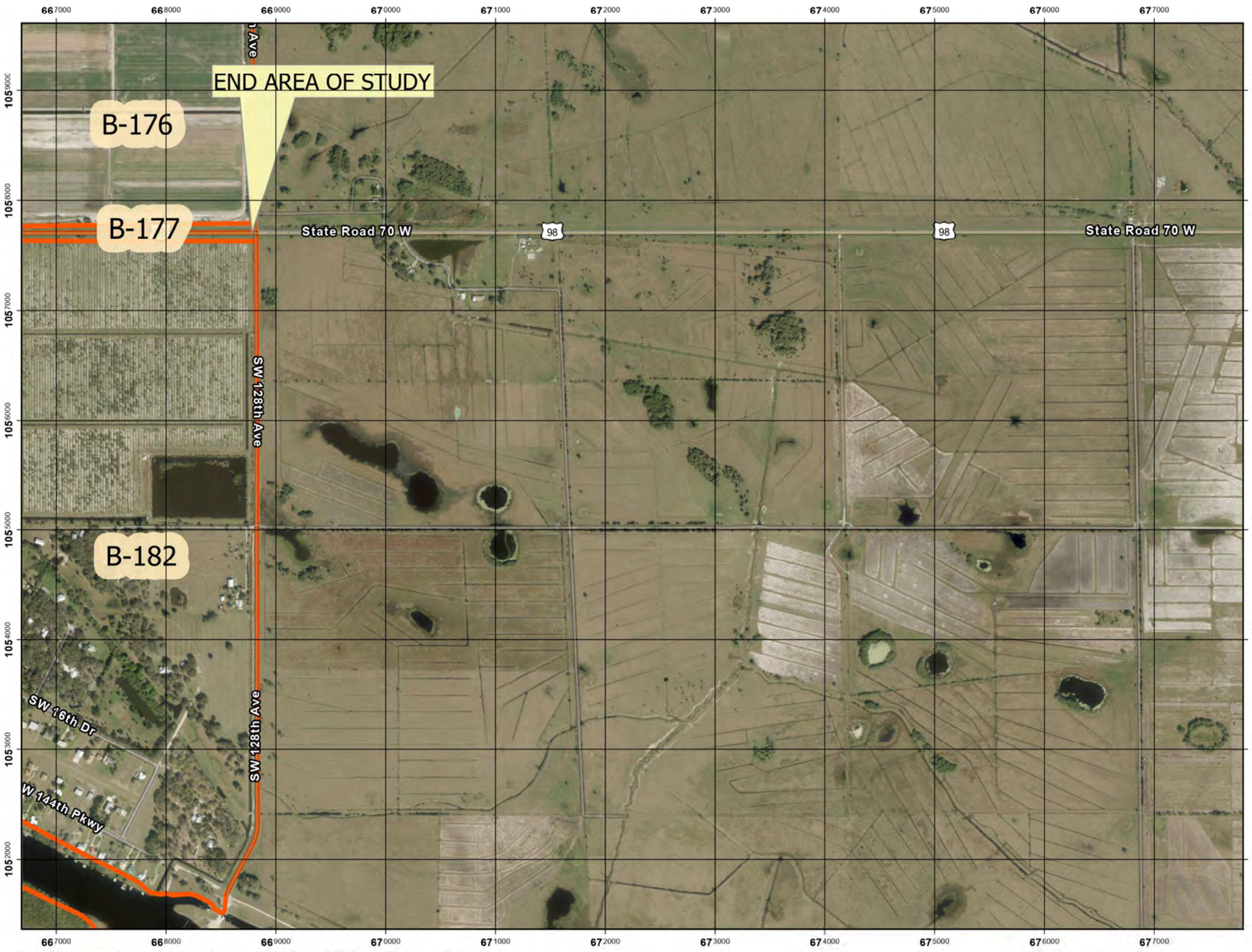

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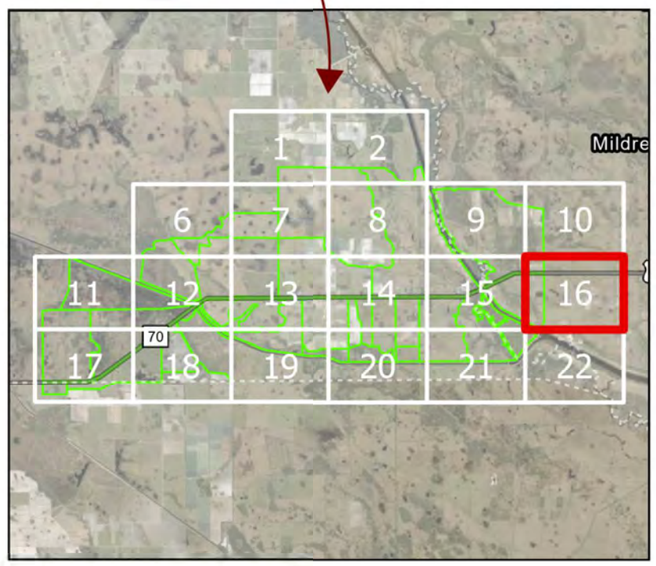

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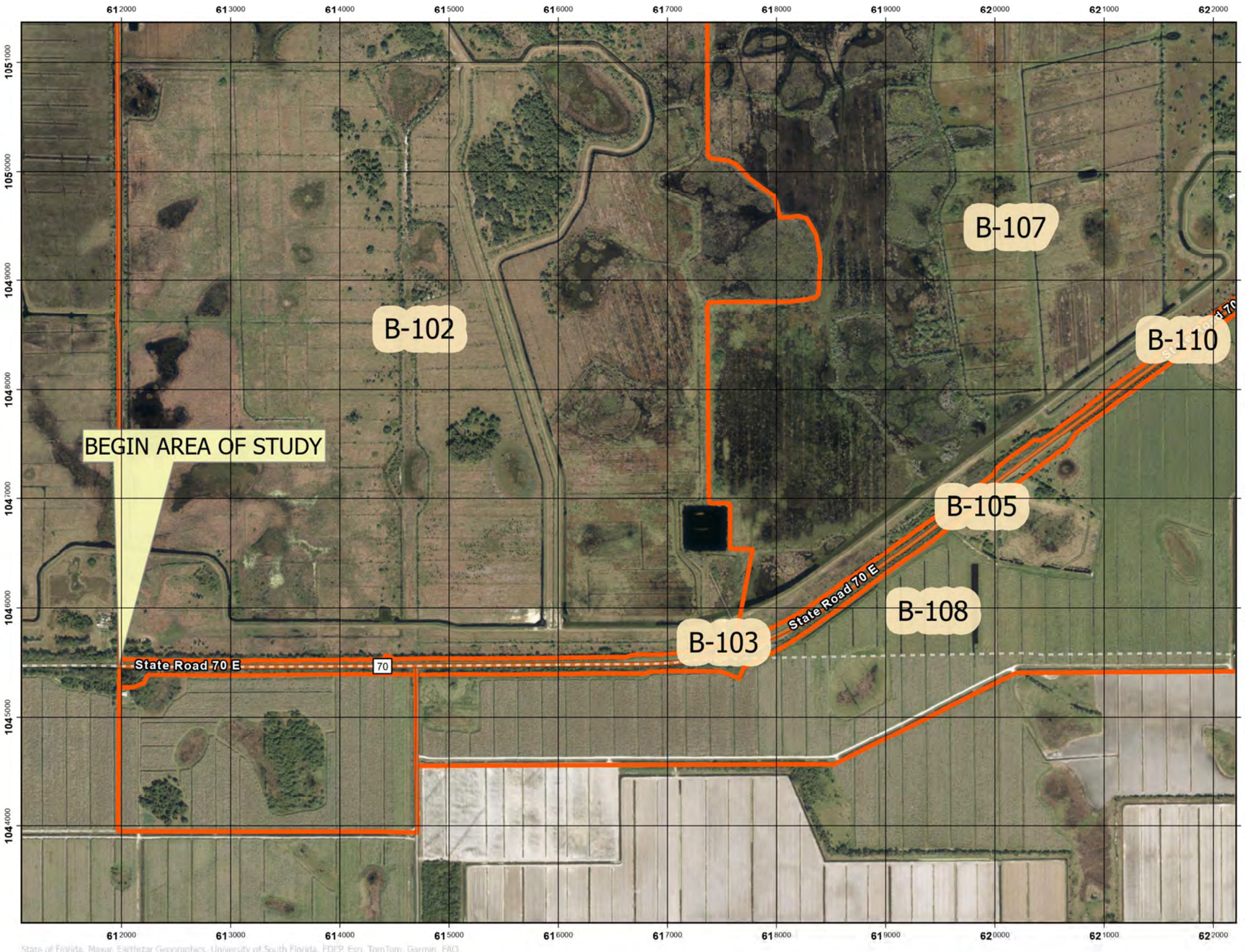

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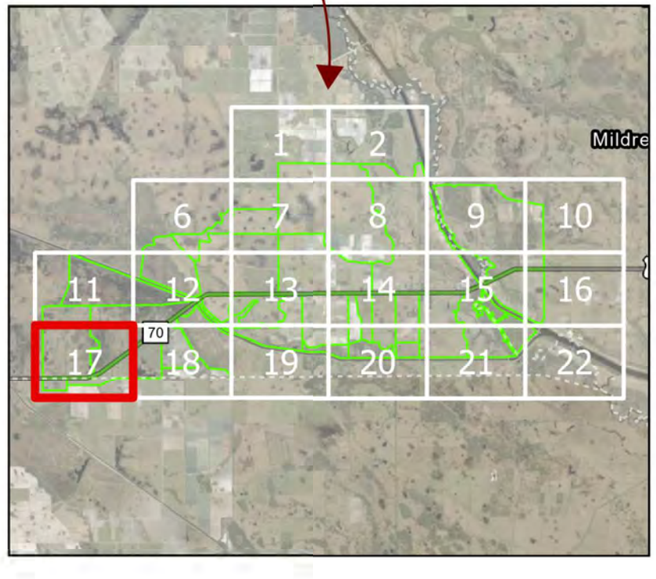

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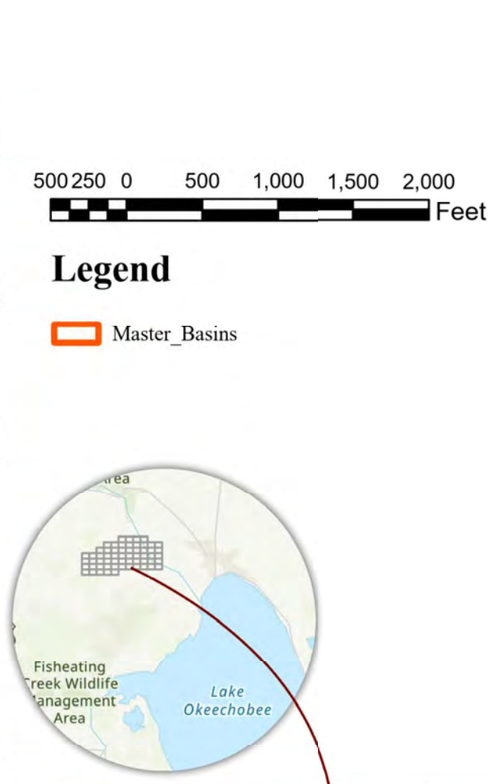

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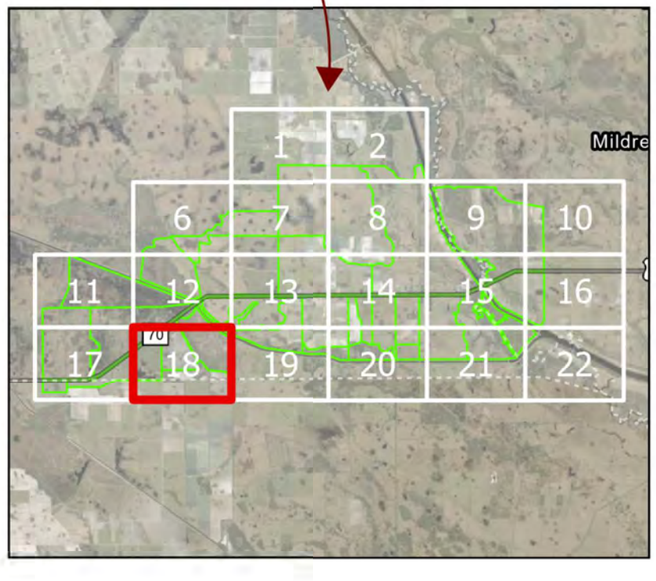

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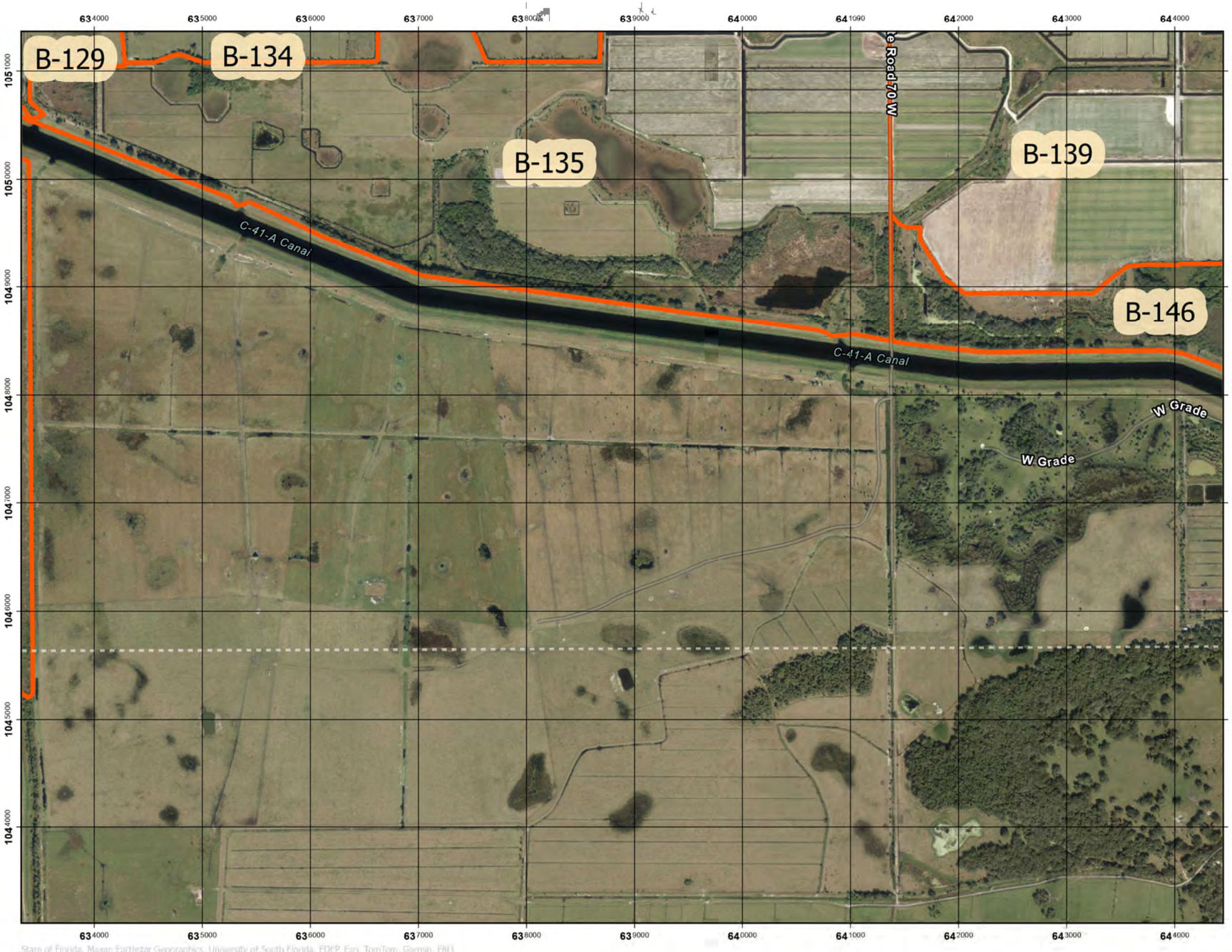

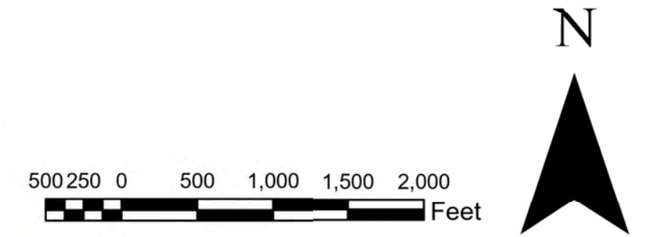

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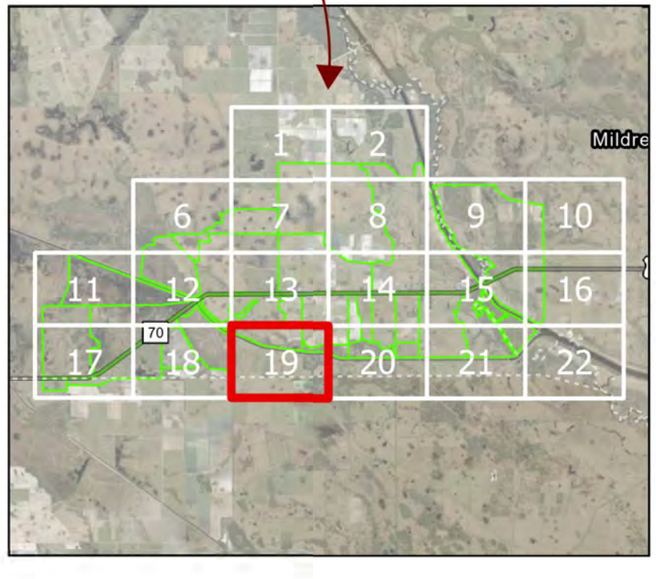

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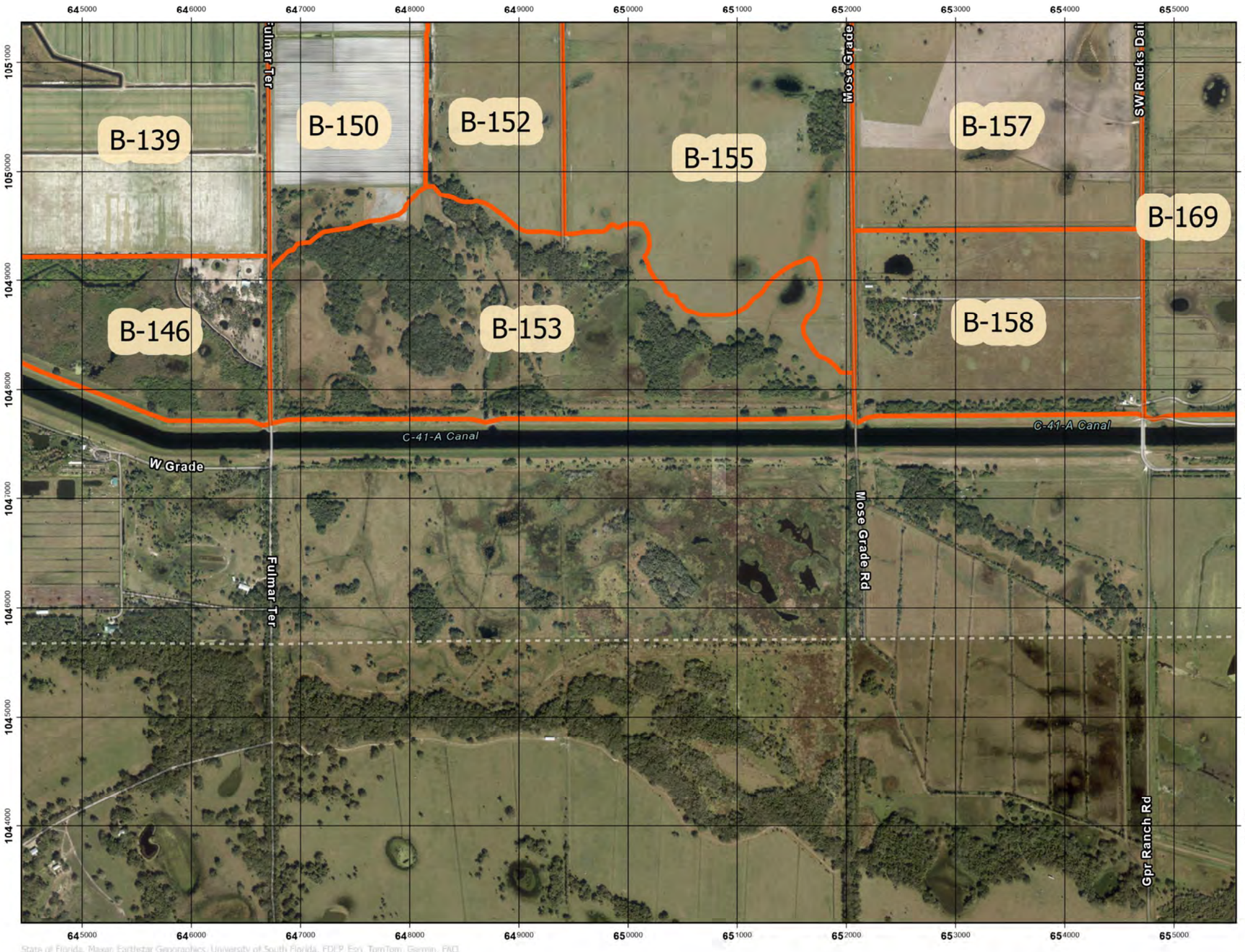

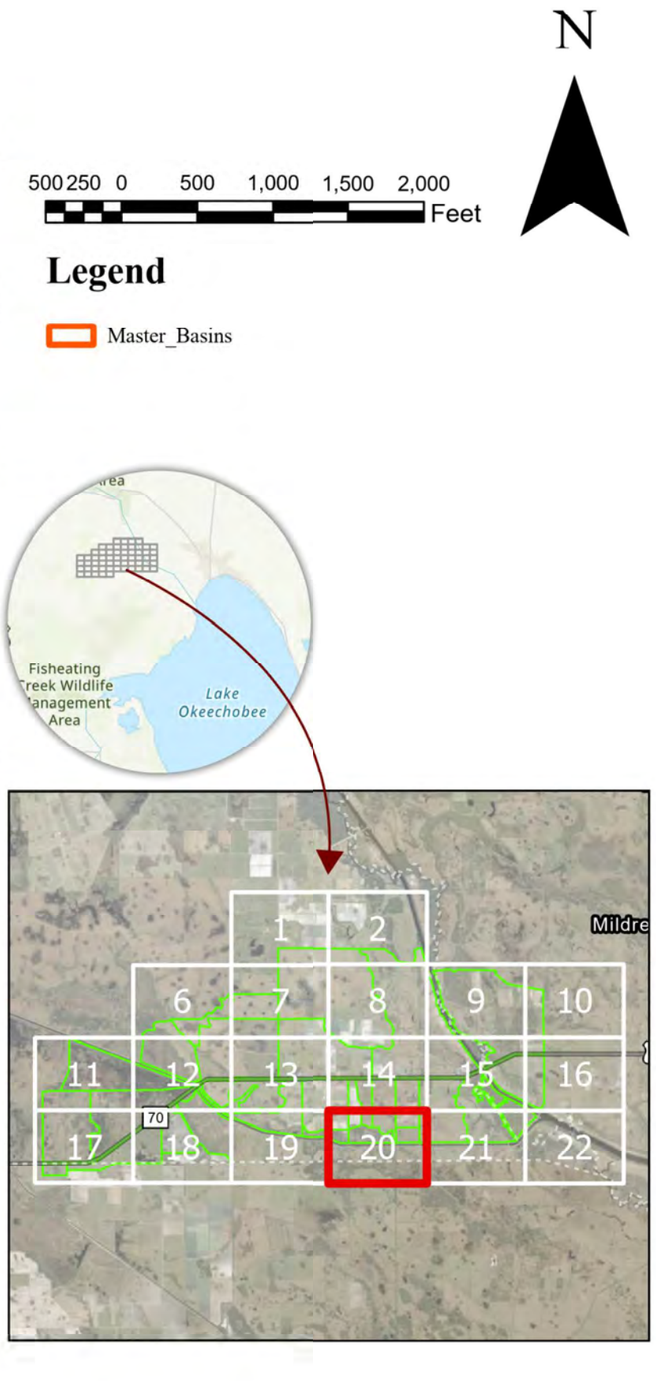

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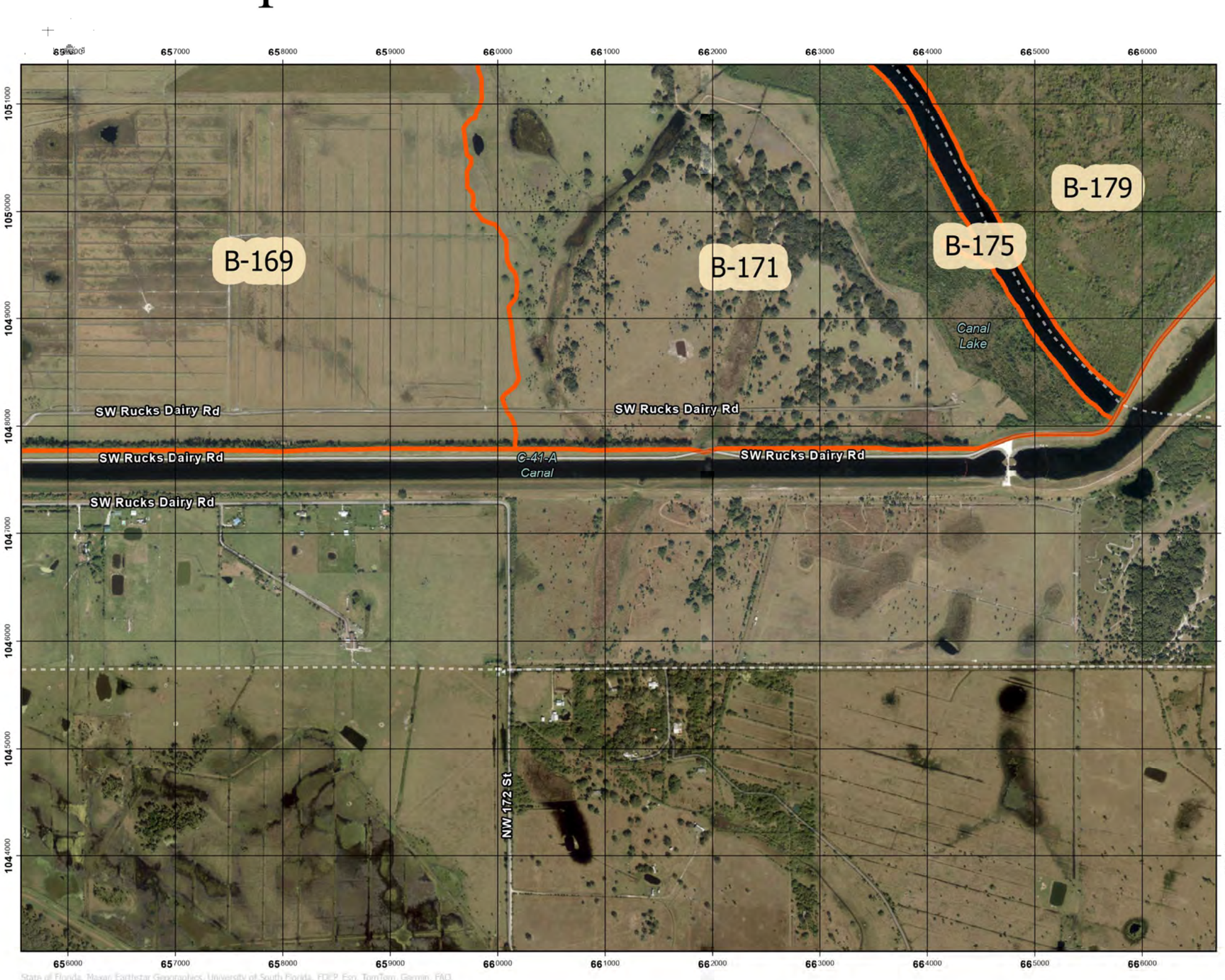

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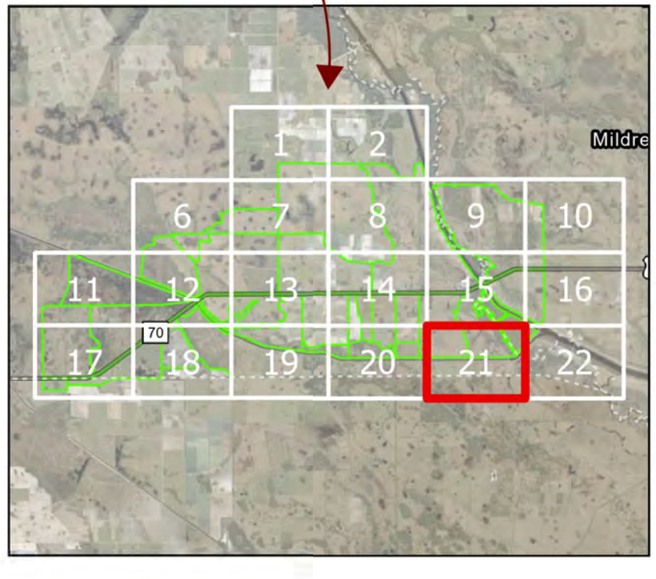

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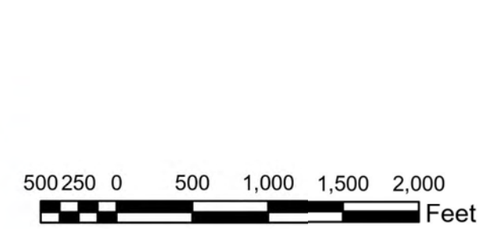

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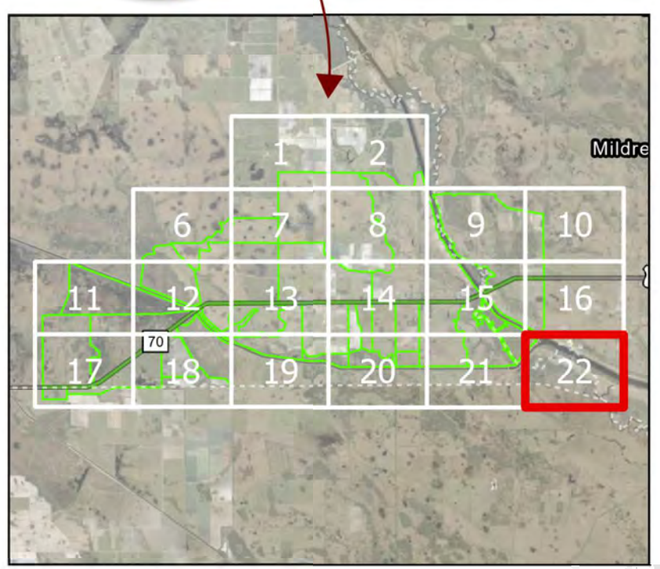

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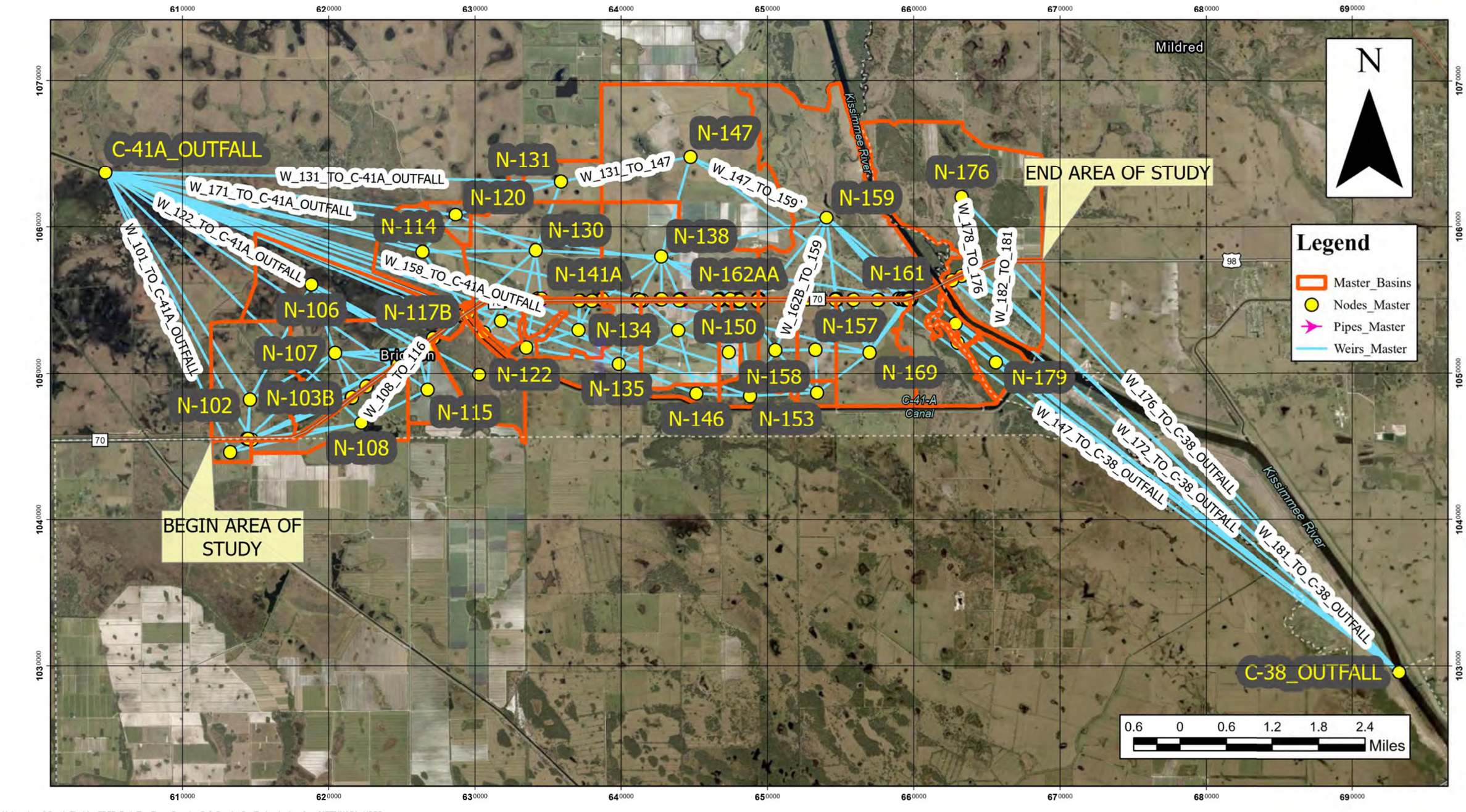

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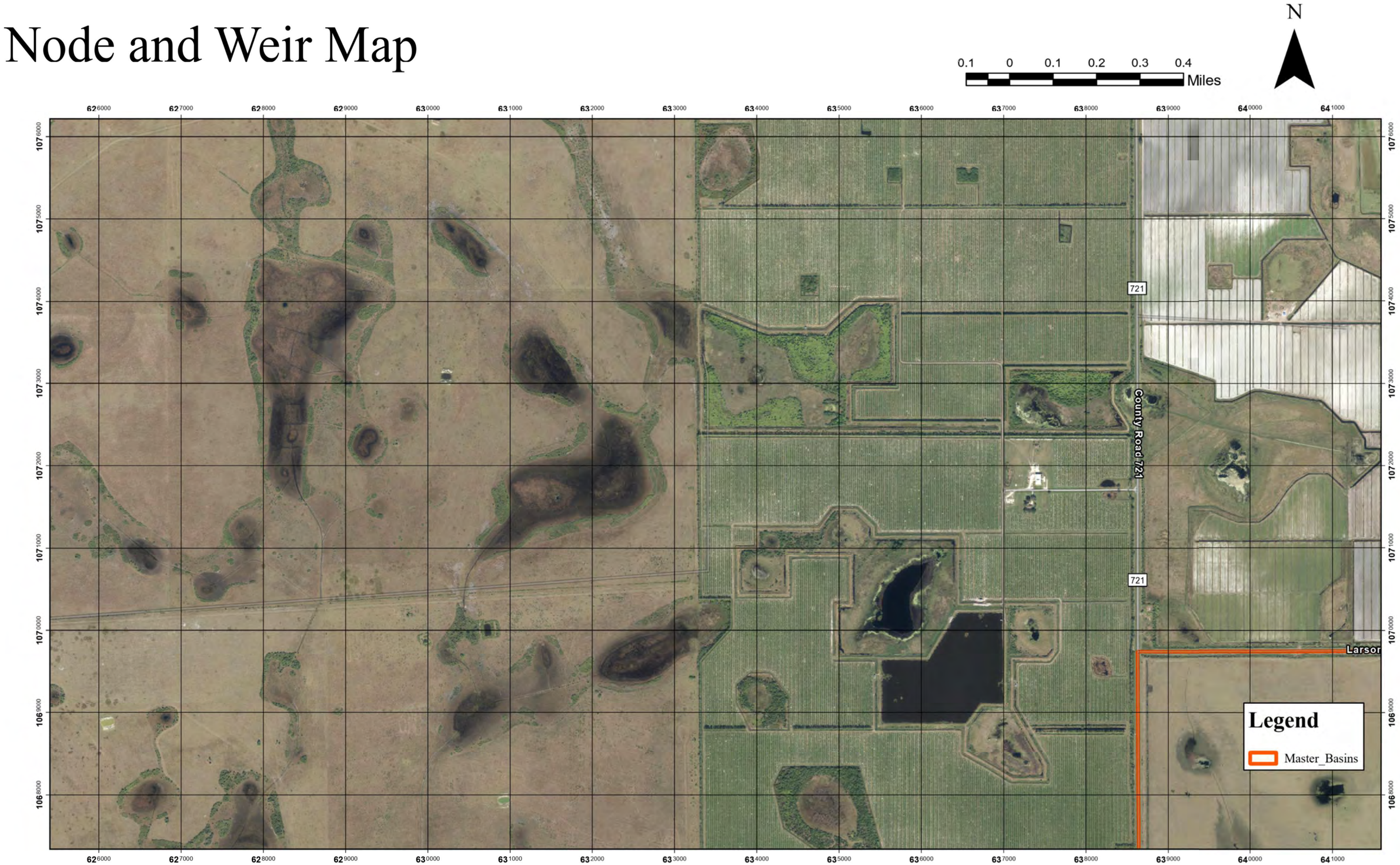

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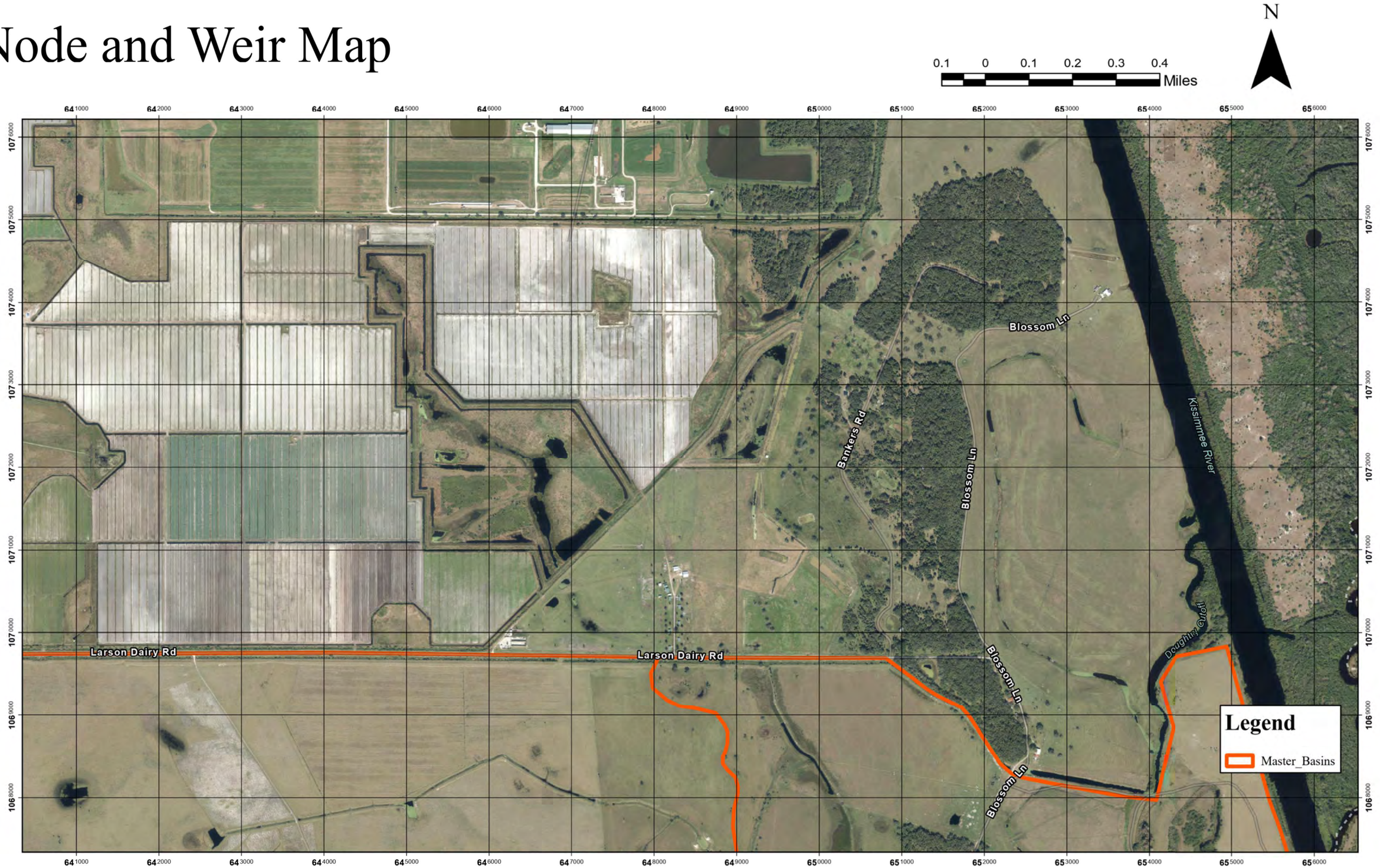

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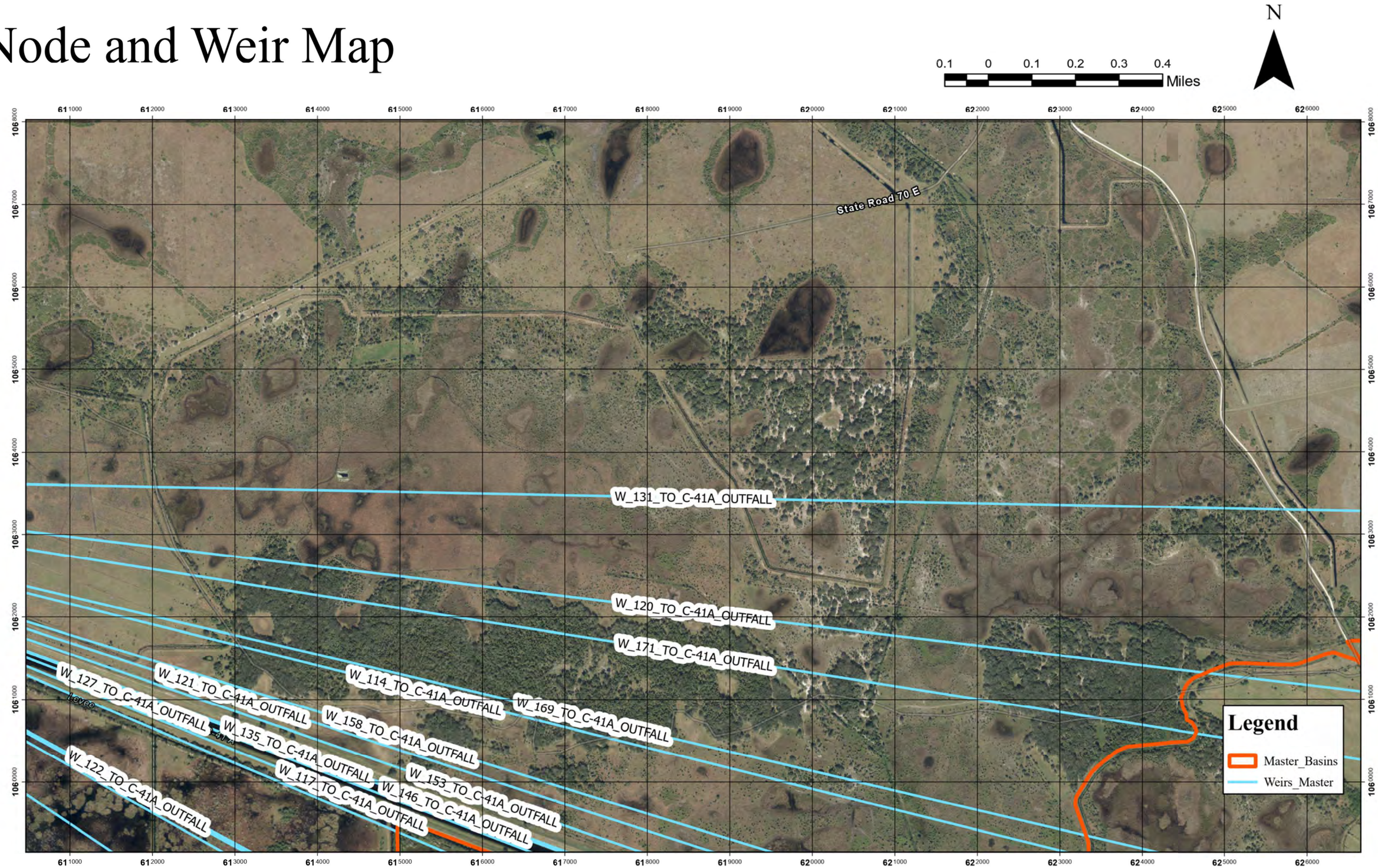

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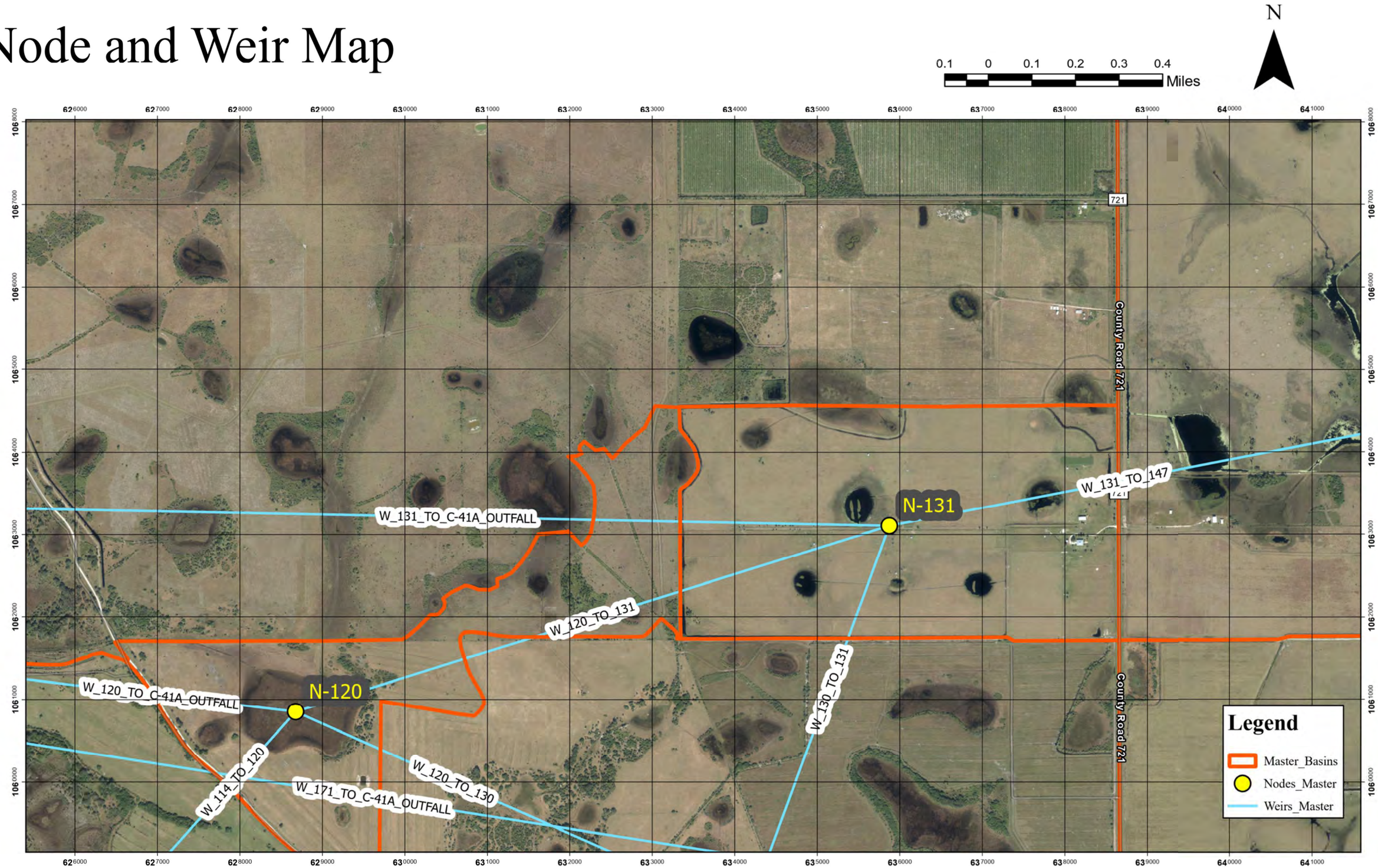

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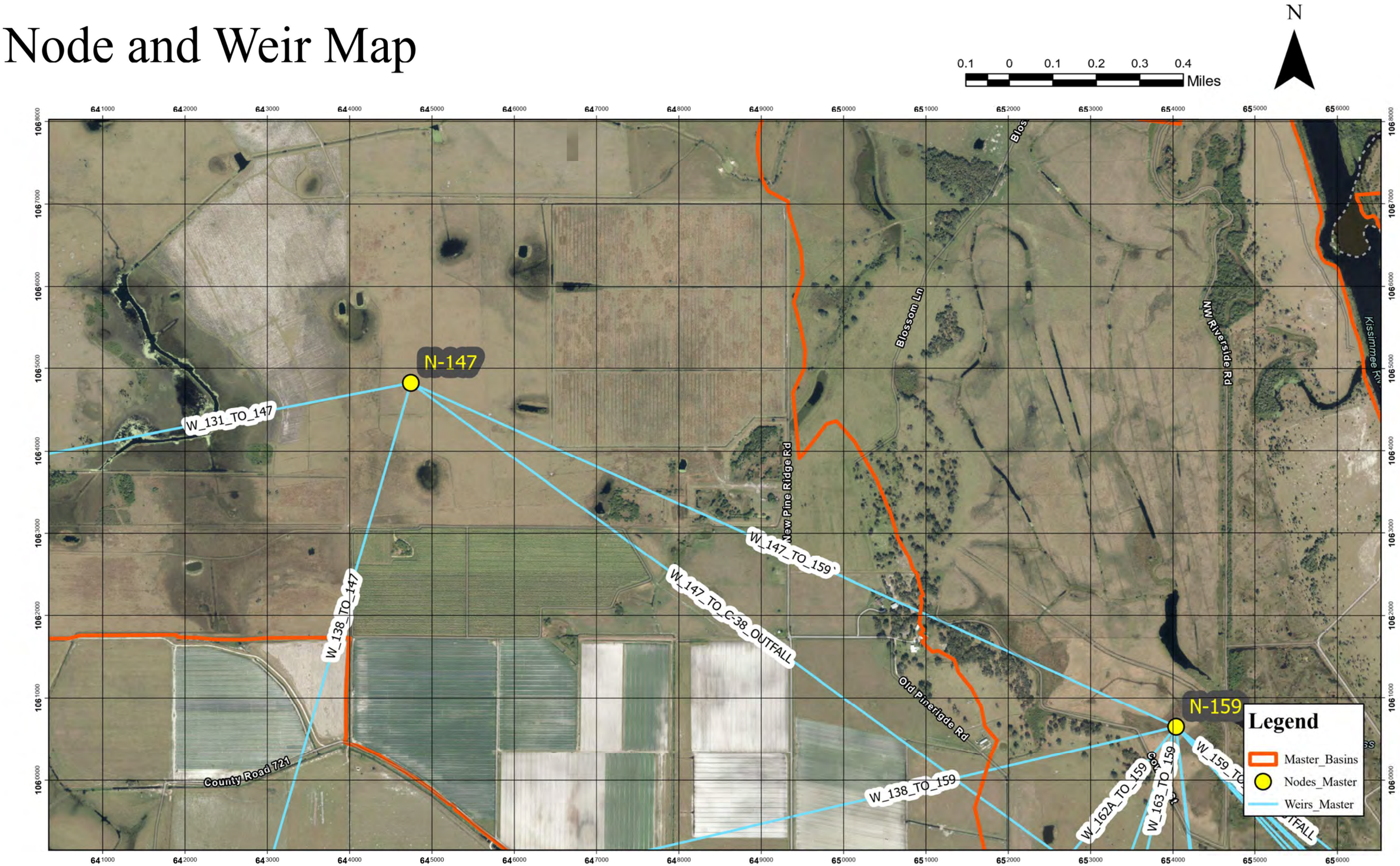

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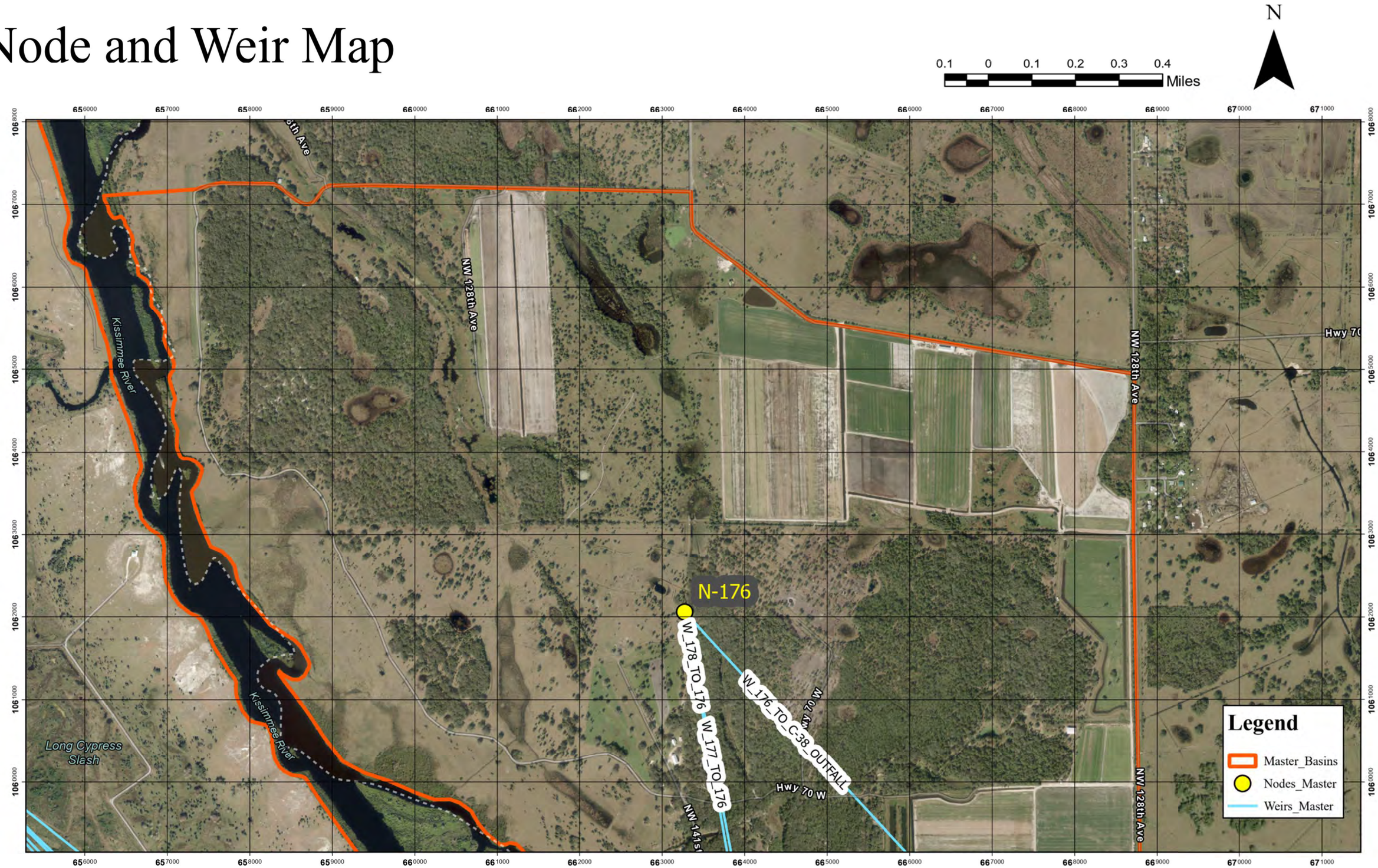

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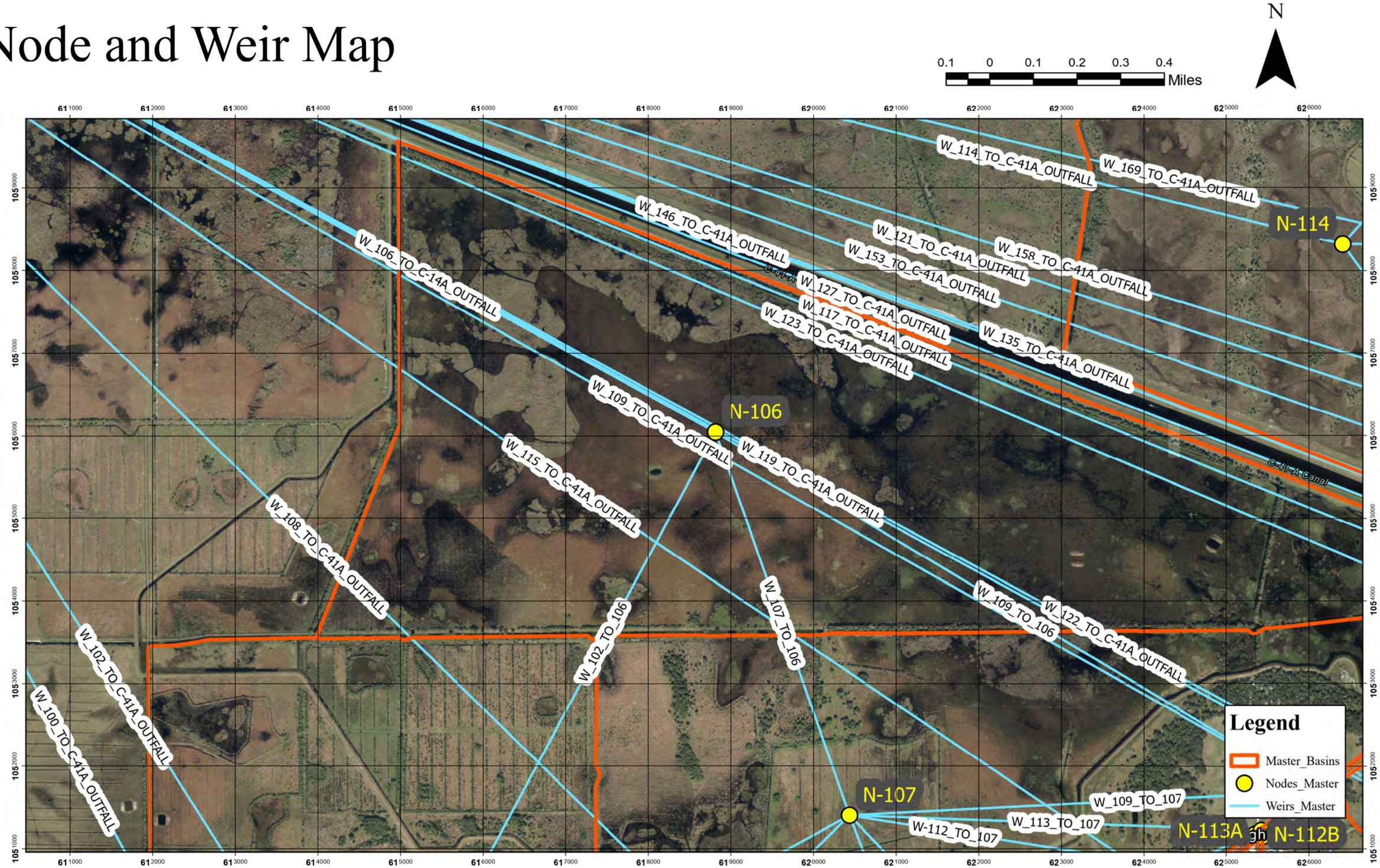

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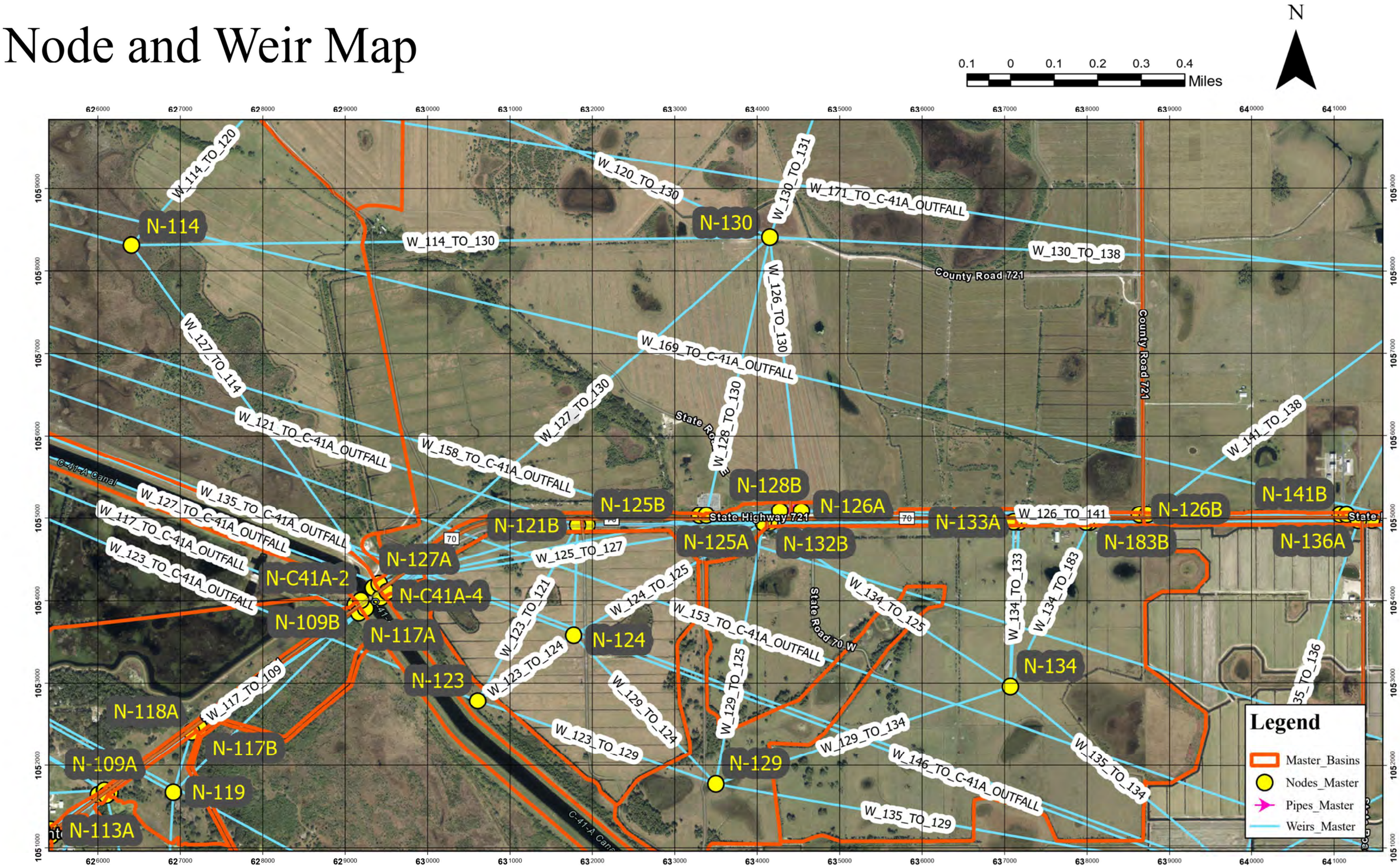

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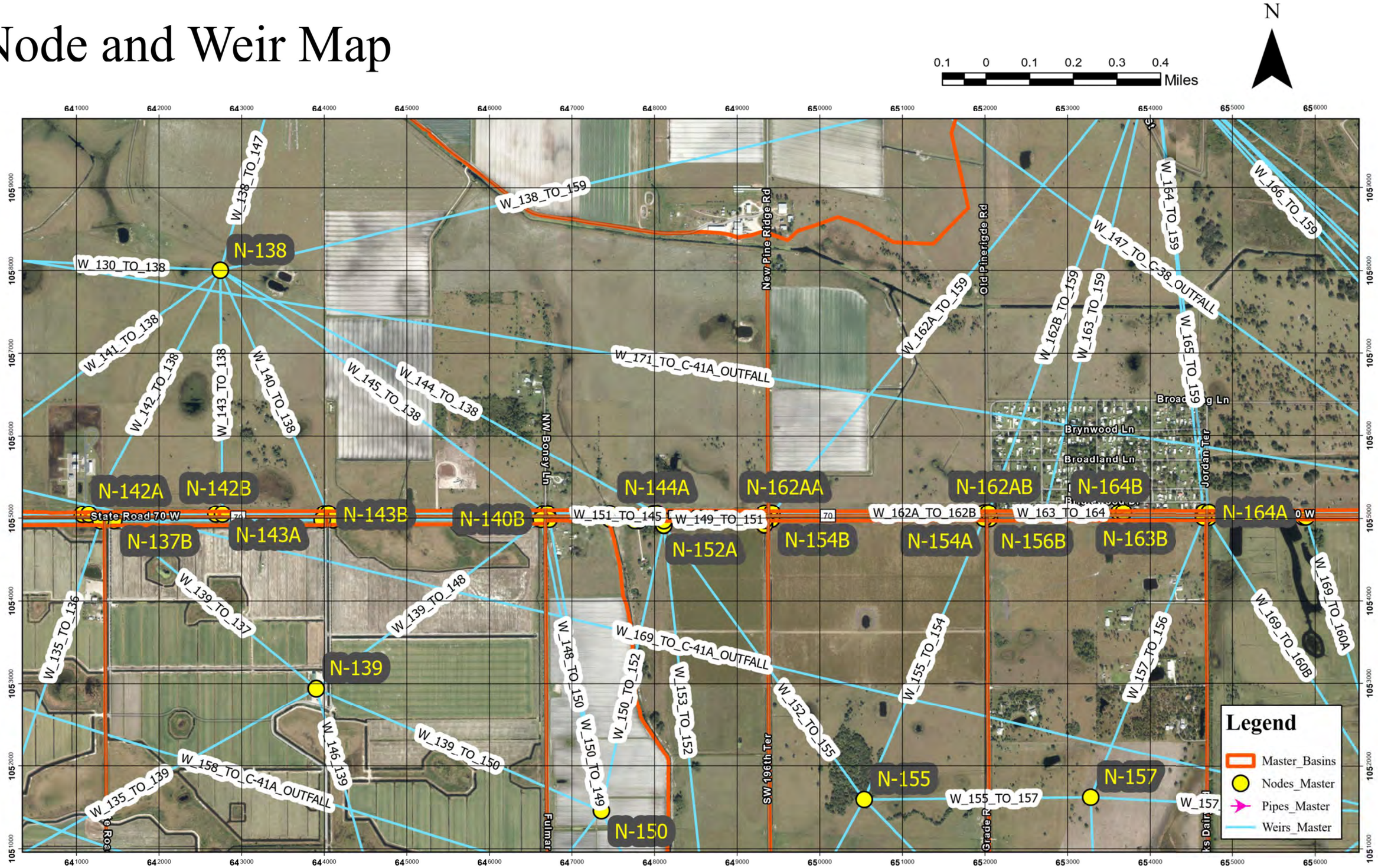

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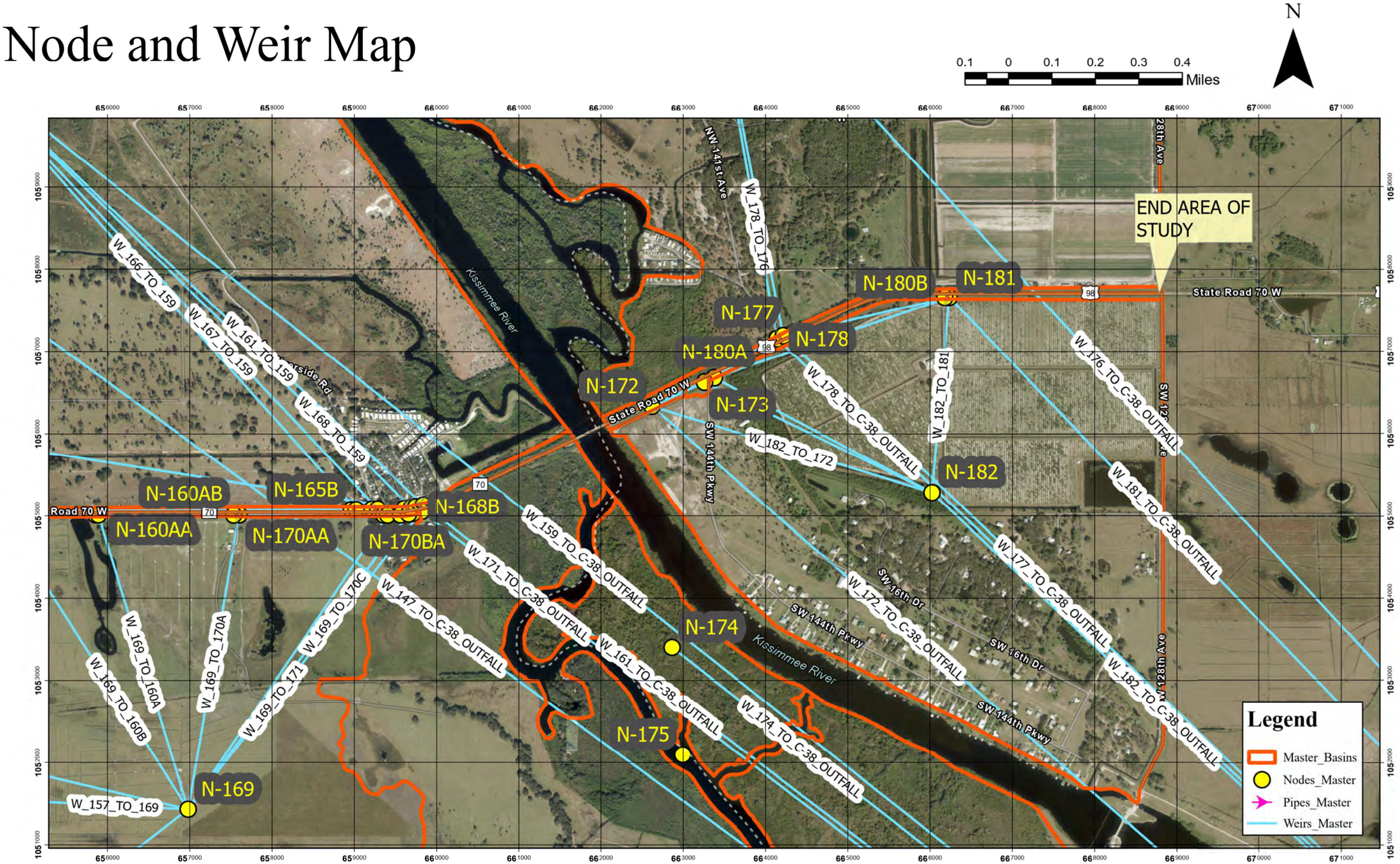

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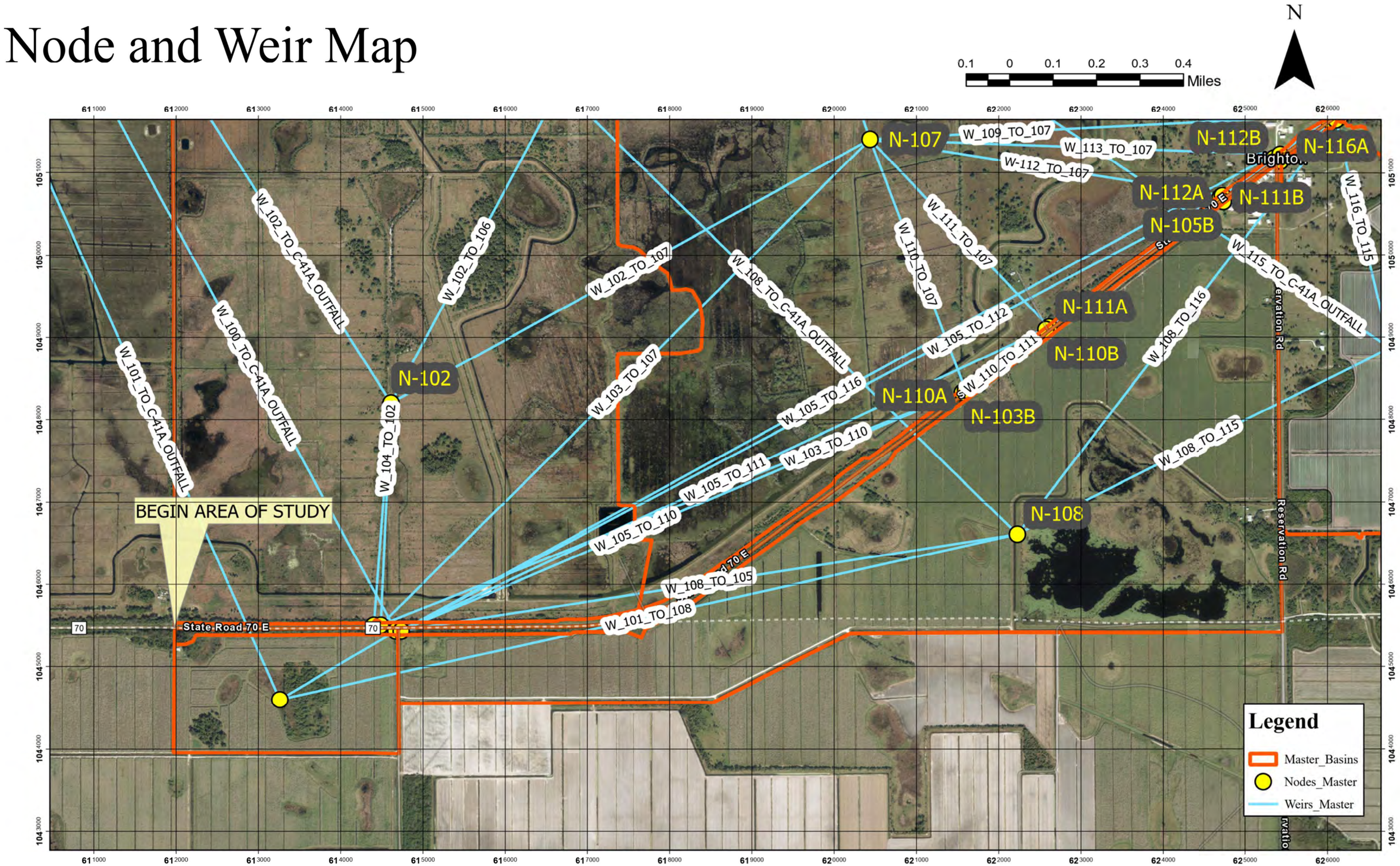

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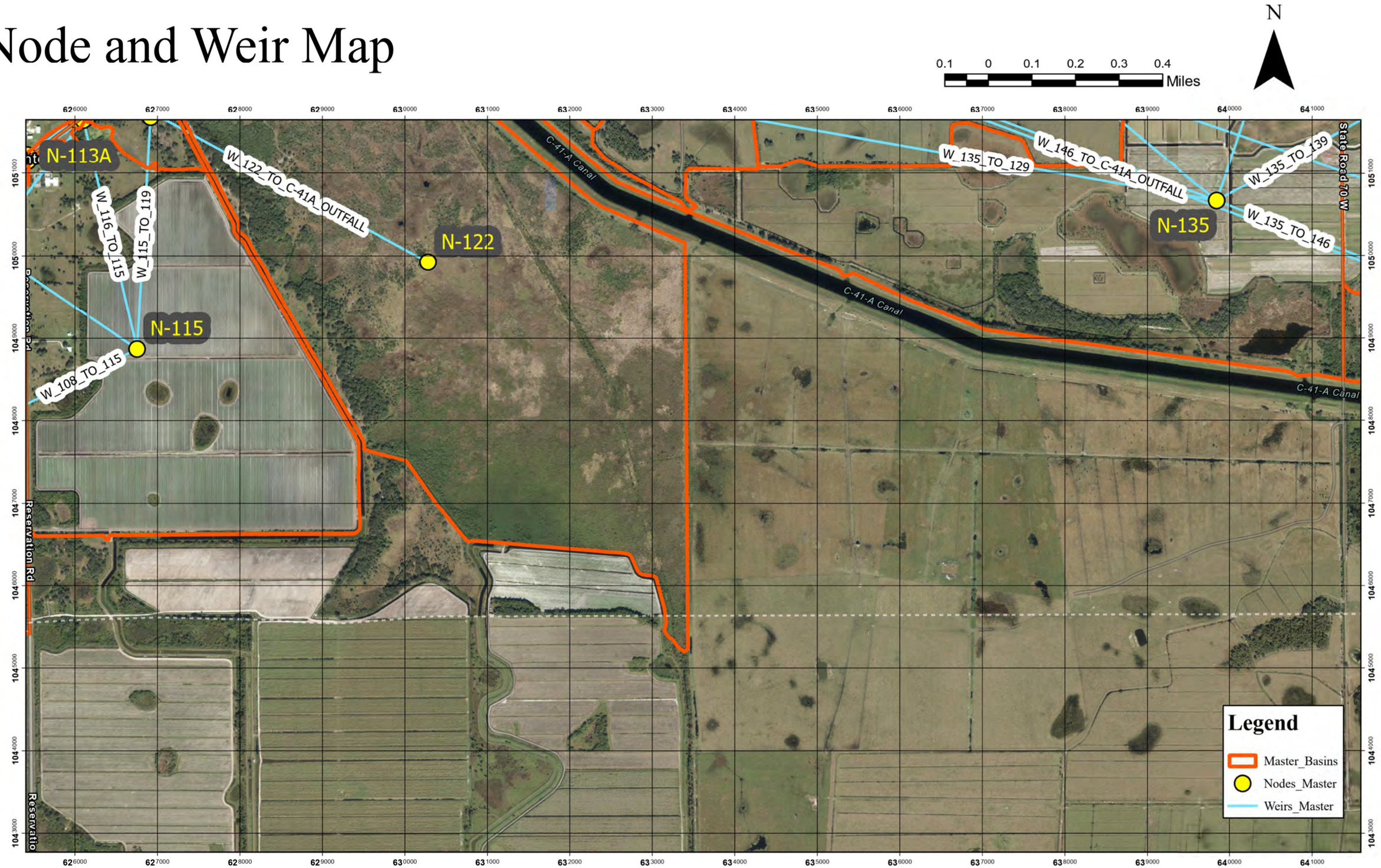

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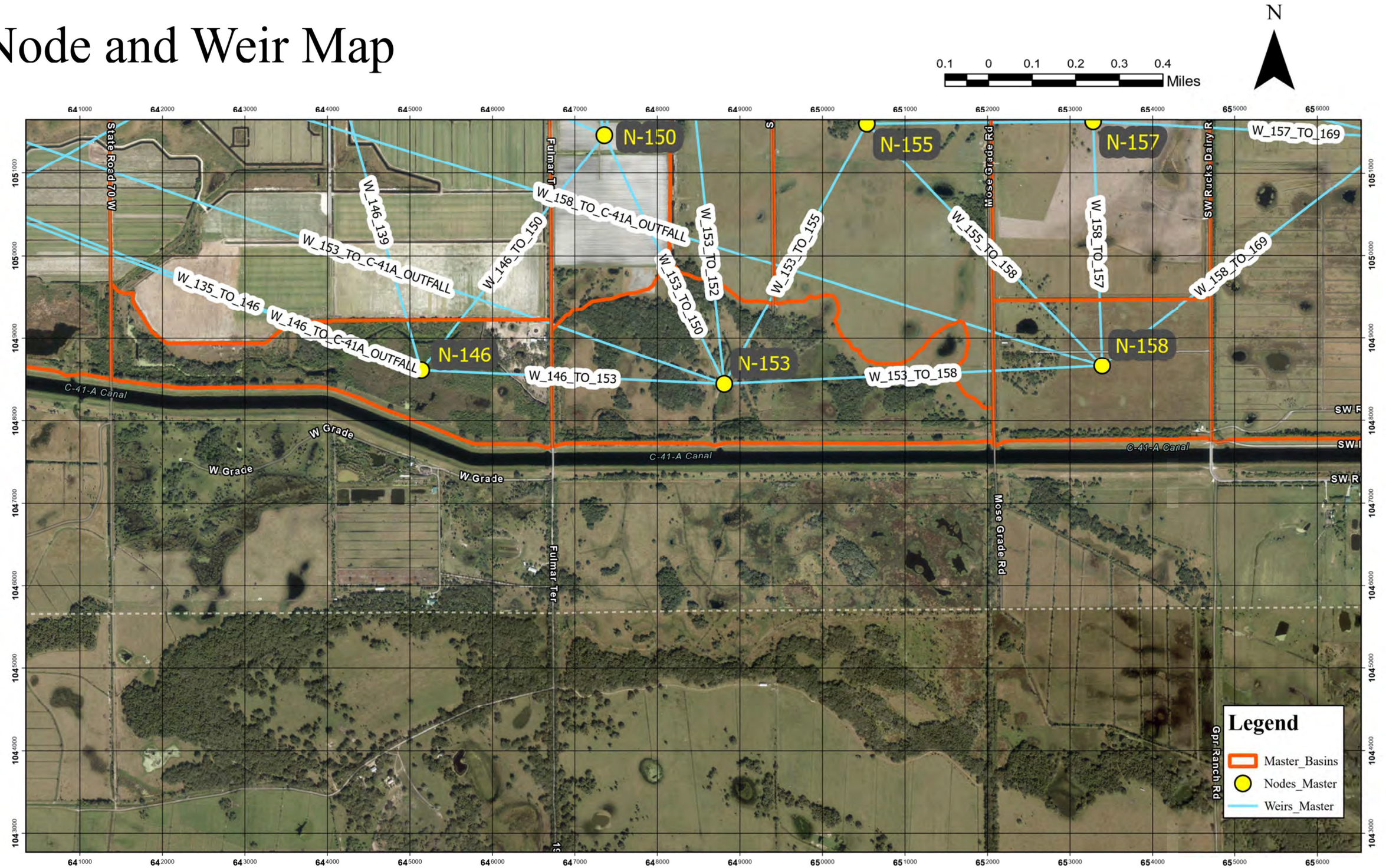

Node and Weir Map