
SURVEYOR'S REPORT

CENTRAL FLORIDA WATER INITIATIVE (CFWI) SURVEYS

DISNEY PRESERVE SOUTH (WR-11) TRANSECTS & SEASONAL HIGH-WATER MARKS SURVEY

**County: Osceola
Location Name: WR11**

Prepared for:

**South Florida Water Management District
WORK ORDER NO. 4600003702-WO2**

Prepared by:



**P&A PROJECT NO.: 19001
FIELD DATES: 05/23/2019
DATE OF THIS REPORT: 06/26/2019**

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PROJECT DESCRIPTION

This survey was prepared to recover and verify existing benchmarks and establish an additional benchmark near the associated wetlands to be monitored and locate transects and seasonal high-water markers at the wetland site associated with the existing monitoring well known as WR11.

The benchmark recovered at the site was previously established in 1996 and is stamped "WR-11 2007". The benchmark set near the wetlands area is a standard SFWMD 2" survey marker disk set in the top of a 1 ¼ " iron pipe in concrete stamped "WR-11A 2019".

LOCATION:

The project area is within the approximately 11,000 acre Disney Wilderness Preserve located at 2700 Scrub Jay Trail, Kissimmee. The preserve is managed by the Nature Conservancy and all access to the preserve is through the main visitor center.

HORIZONTAL DATUM:

The horizontal position of existing mark "WR-11" was determined by a 4-hour static GPS derived NGS OPUS Solution. As a redundant check on the position, the mark was observed by two Network Real Time Kinematic GPS observations. The resulting measure confirmed the OPUS solution and agreed with a horizontal difference of 0.05' North and .01' East. The values determined by the OPUS Solution was held. All other locations were determined by base-rover RTK- GPS.

Horizontal coordinate values are referenced to the East Zone of the Florida State Plane Coordinate System, North American Datum of 1983, Adjustment of 2011 (Epoch 2010.0000), US Survey Feet. (sFT)

VERTICAL DATUM:

As a check on the elevation of existing benchmark "WR-11", a 4-hour static GPS/NGS OPUS Solution, as noted above, was observed. The OPUS solution elevation was 67.539' and differed from the published by 0.051 feet. The previously published elevation of 67.59' (NAVD 88) was held. The elevation of WR-11A was determined by double run differential leveling from WR-11.

Vertical elevations were established in the North American Vertical Datum of 1988 (NAVD 88). Units are in feet.

WR-11 Benchmark Summary
Elevations are NAVD 88 (feet)

Latitude: 28° 05' 03.63750" Longitude: 81° 24' 23.95382"
Northing: 1,363,587.138 sFT Easting: 525,045.272 sFT
BM Elevation: 67.59'

WR-11A Benchmark Summary

Latitude: 28° 05' 04.28875" Longitude: 81° 24' 21.78843"
Northing: 1,363,652.260 sFT Easting: 525,239.441 sFT
BM Elevation: 66.39'

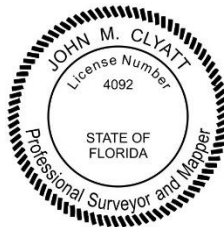
EQUIPMENT USED

- Trimble DiNi 22 Level, Serial Number 772842 (digital level)
- Trimble GPS unit R-10, Serial Number 0079 (RTK)
- Trimble GPS unit R-10, Serial Number 2948 (RTK)
- Trimble Total Station S5, Serial Number 0056 (optical)
- Trimble GPS unit R-8, Serial Number 7604 (static)
- Trimble GPS unit R-8, Serial Number 6916 (static)

See attached following documents:

- NGS OPUS Solution Report
- SFWMD Benchmark forms
- Survey Maps

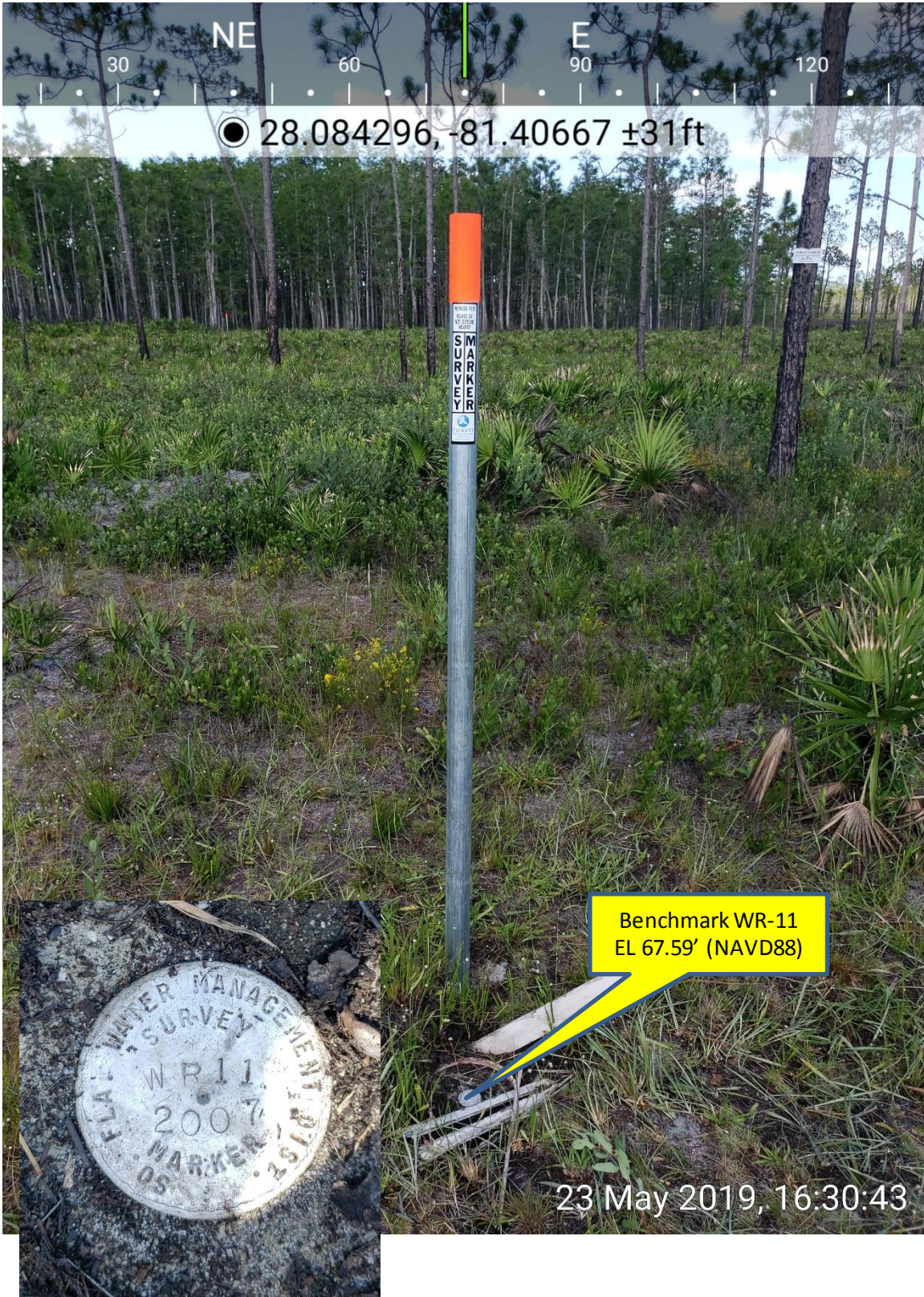
John M. Clyatt P.S.M.
Florida Registration No. 4092
Pickett & Associates, Inc.
Florida Registration No. LB 364



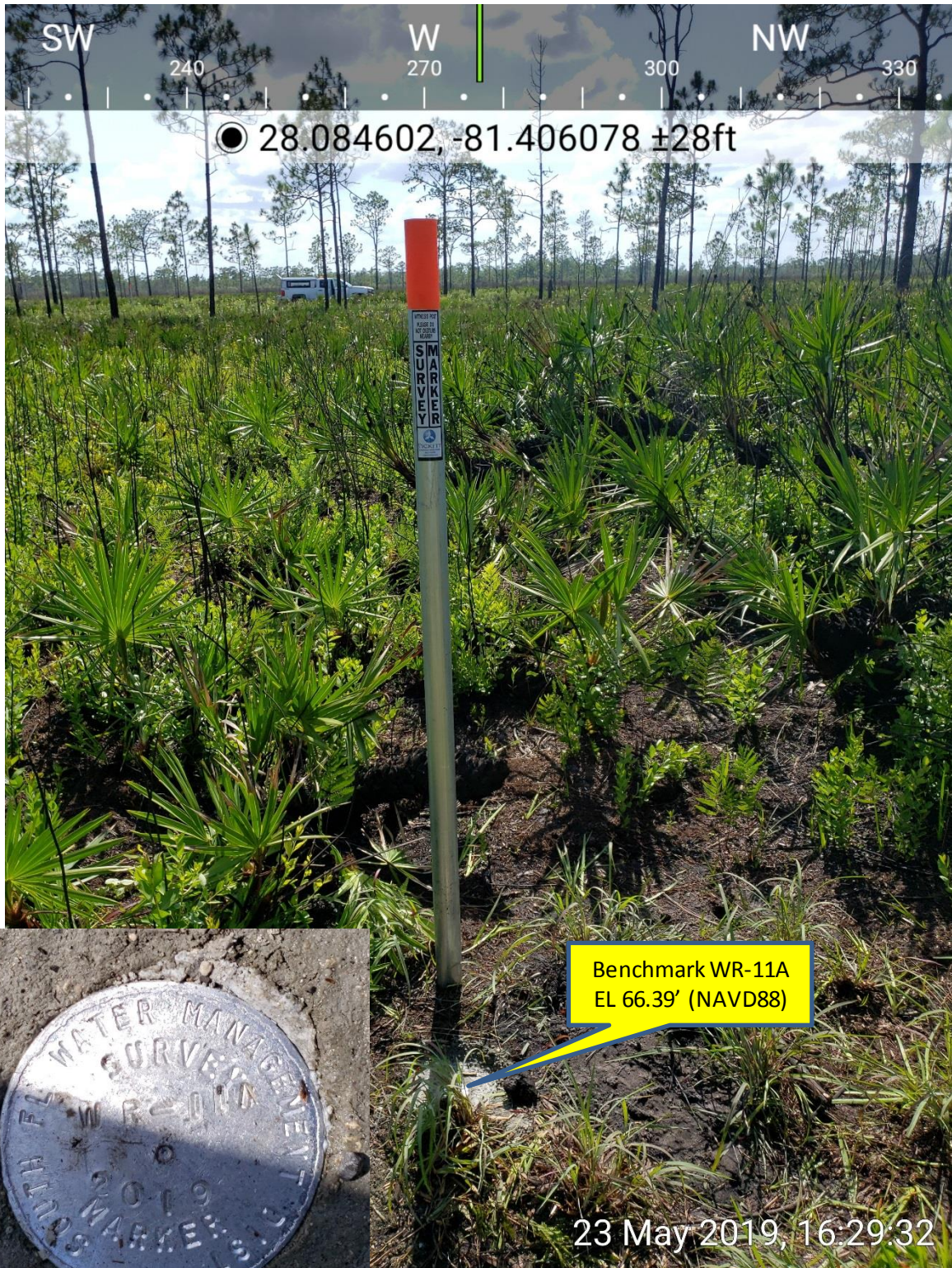
June 5, 2019

Survey Date

WR-11 BENCHMARK PHOTOS



WR-11A BENCHMARK PHOTOS



**WR-11
TRANSECT POINTS AND SEASONAL HIGH-WATER MARKS
SUMMARY TABLE**

Transect	Point ID	Attribute	Elevation	LAT - LONG	SPC Coord
1	WR11 1.1	Wetland boundary	66.2'	28° 05' 02.77762" 81° 24' 20.85155"	N 1363499.370 E 525322.846
	WR11 1.2	Hydricat surface	66.2'	28° 05' 02.81713" 81° 24' 20.83215"	N 1363503.354 E 525324.597
	WR11 1.3	Muck at surface	65.0'	28° 05' 04.16445" 81° 24' 19.35707"	N 1363638.981 E 525457.170
2	WR11 2.1	Wetland boundary	66.2'	28° 05' 04.12008" 81° 24' 18.13660"	N 1363634.136 E 525566.469
	WR11 2.2	Hydricat surface	65.5'	28° 05' 04.15250" 81° 24' 18.35281"	N 1363637.475 E 525547.115
	WR11 2.3	Muck at surface	65.0'	28° 05' 04.27966" 81° 24' 19.01315"	N 1363650.514 E 525488.013
3	WR11 3.1	Wetland boundary	66.8'	28° 05' 05.77663" 81° 24' 21.14588"	N 1363802.331 E 525297.494
	<i>ONLY ONE POINT ON THIS TRANSECT</i>				
High Water Marks	WR11 SH 1	Seasonal HW elevation	66.87'	28° 05' 03.87011" 81° 24' 19.21404"	N 1363609.213 E 525469.882
	WR11 SH 2	Seasonal HW elevation	66.79'	28° 05' 04.67775" 81° 24' 19.26431"	N 1363690.792 E 525465.651
	WR11 SH 3	Seasonal HW elevation	66.93'	28° 05' 05.20683" 81° 24' 20.49640"	N 1363744.592 E 525355.474

NOTE:

The horizontal locations of all the above points were determined by base-rover RTK-GPS with an estimated horizontal accuracy of +/- 0.10 feet.

The estimated vertical accuracy of all transect points is +/- 0.10 '. Seasonal High-Water marks were determined by differential leveling and have an estimated vertical accuracy of +/- .01'.

See General Location Map and Transects & Seasonal High-Water Marks Map included herein.

TRANSECT 1 PHOTO



TRANSECT 2 PHOTOS



TRANSECT 3 PHOTOS



SEASONAL HIGH-WATER MARKS



WR11 SH 1

SEASONAL HIGH-WATER MARKS

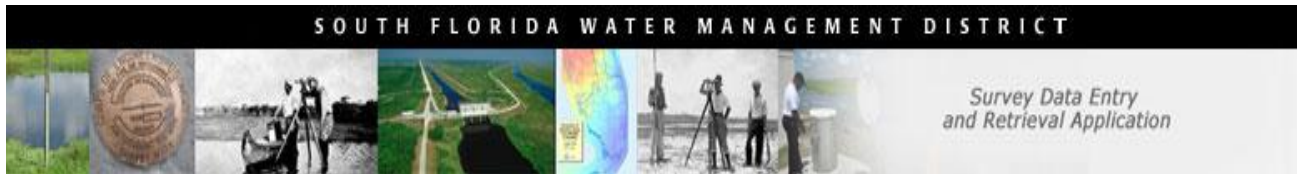


WR11 SH2

SEASONAL HIGH-WATER MARKS



WR11 SH3



Survey Data Entry and Retrieval Application (SDERA) Print Output

Control Point Search Results

Derived Data - Denoted By: **

Designation	WR112007	Record State	ACCEPTED
NGS PID		Date Entered/Updated	06/27/2009
Project Name	WR11 WELL SITE	Status	
Updated By	ATLAS DATA LOAD	Type	H/V
Party Chief		Date Established	01/01/2007
Monument Set By	WOOLPERT INC	Section	3
County	OSCEOLA	Range	29
Township	28	Offset (29 to 88)	
Quadrangle	LAKE HATCHINEHA	CCR Link	
NGS Source BM			
Ctrl Pt Source(s)			

<u>Horizontal</u>	<u>NAD 1927</u>	<u>NAD 1983</u>	<u>Vertical</u>	<u>NGVD 1929</u>	<u>NAVD 1988</u>
Latitude		28 05 03.6	Class		
Longitude		81 24 24.0	Order	3	3
Northing(Y)		1363587.0	Elevation	68.66	67.59
Easting(X)		525045.0	Measurement Unit	Feet	Feet
Class					
Order					
NAD83 Adj Year					

Field Book

WO104-

Field Book Pages**Stamping**

WR11 2007

How to Reach**Description**

12/19/2007 CESTNICK, WOOLPERT, INC. CONTRACTOR S FB WO104 NO PAGE INDICATED TO REACH FROM THE INTERSECTION OF US 423 AND US 192 IN KISSIMMEE, FLORIDA; TRAVEL SOUTH ON NORTH JOHN YOUNG PARKWAY FOR 3.51 MILES TO PLEASANT HILL ROAD. TURN LEFT (SOUTH) ON PLEASANT HILL ROAD AND TRAVEL 8.6 MILES TO SCRUB JAY TRAIL. TURN LEFT (EAST) ONTO SCRUB JAY TRAIL (ENTRANCE TO DISNEY WILDERNESS PRESERVE, GATE ACCESS REQUIRED) TRAVEL ALONG SCRUB JAY TRAIL 1.4 MILES TO UNNAMED DIRT ROAD ON RIGHT. TURN ONTO DIRT ROAD (WEST) AND TRAVEL DIRT ROAD 0.70 OF A MILE TO ANOTHER UNNAMED DIRT ROAD AND TURN LEFT (SOUTH). TRAVEL DIRT ROAD FOR 3.1 MILES TO OFF ROAD TRAIL ON LEFT (EAST). TURN LEFT ON TRAIL AND FOLLOW TRAIL FOR 0.40 OF A MILE. BENCH MARK



FOR
WELL IS ON RIGHT SIDE (SOUTH) OF TRAIL +/- 10 FT.

DISCLAIMER:

The South Florida Water Management District (hereinafter referred to as the DISTRICT) shall not be held liable for improper or incorrect use of the data, information, apparatus, products, processes or materials described and/or contained herein. These data, information, apparatus, products, processes, materials and related graphics are not legal documents and are not intended to be used as such. The user hereby recognizes that the information, data, apparatus, products, processes and materials are dynamic and may change over time without notice. However, the DISTRICT makes no commitment to update the information, data, apparatus, products, processes or materials contained herein.



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16

DESIGNATION: WR-11A	PROJECT: CFWI DISNEY PRESERVE SOUTH (WR-11)
ESTABLISHED BY: PICKETT AND ASSOCIATES, INC	SURVEYOR: John M. Clyatt
RECOVERED BY:	DATE: May 16, 2019

GEOGRAPHIC POSITION

SECTION 03	TOWNSHIP 28 SOUTH	RANGE 29 EAST
COUNTY: OSCEOLA	NAME OF QUADRANGLE: LAKE HATCHINEHA GEOGRAPHIC INDEX OF QUAD: 3312	
HORIZONTAL DATUM: 1927 (1983) 2022 Other ___ (circle one) ZONE (E) or W		
VERTICAL DATUM: MSL 1929 (1988) 2022 Other ___ (circle one)		
VERTICAL ACCURACY: 1 2 (3)		
STATE PLANE COORDINATE	(N) Y= 1,363,652.260	(E) X= 525,239.441
		NAVD 88 EL. 66.39' NGVD 29 EL. 67.43

CORPSCON 6.0.1 CONVERSION FACTOR (NAVD88 TO NGVD29): + 1.040'

(A U.S. Army Corps of Engineers Engineering Research and Development Center Topographic Engineering Center Alexandria, Virginia Windows-based program to convert coordinates and elevations between datum's using vertcon05.txt and vertcon05.05 files supplied by the U.S. Army Corps of Engineers South Atlantic Division, Jacksonville FL.)

ACTUAL NGS or (ngvd29.txt file) OPUS Ortho Height = 23.355 meters

LATITUDE: 28° 05' 04.28875" (N)	LONGITUDE: 81° 24' 21.78843" (W)	(NAD_83 (2011) EPOCH:2010.0000)
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RECOVERY DATA

Stamping: **WR-11A 2019**

To Reach: From intersection of of US 423 and US 192 in Kissimmee, FL, travel south on N John Young Pkwy for 3.51 mi. to Pleasant Hill Rd. Turn left (south) on Pleasant Hill Rd. and travel 8.6 miles to Scrub Jay Trail. Turn left (east) onto Scrub Jay Trail to main entrance of Disney Wilderness Preserve (gate access required). Travel along Scrub Jay Trail 1.4 mi. to unnamed dirt road on right. Turn onto dirt road (west) and travel along 0.7 mi. to another unnamed dirt road and turn left (south). Travel dirt road for 3.1 mi. to off road trail on left (east). Turn left on trail and follow trail for 0.4 mi. to reach mark WR-11 on right side of trail. Continue north easterly ~200' towards the wetland to mark WR-11A. . Mark is a standard SFWMD aluminum disk set in a 1-1/4" pipe.

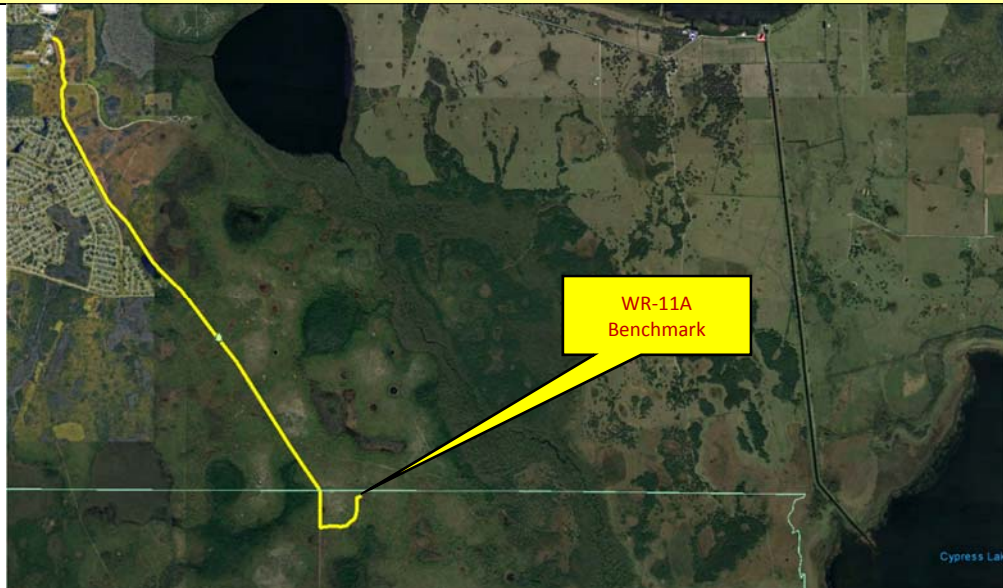
NOTABLE LAND MARKS: Disney Wilderness Preserve ; Lake Russell

NGS-SOURCE BENCHMARK: N/A - Determined by OPUS Solution

FIELD BOOK **972 PAGE 48**

PICTURES

Aerial Overall Site
From: Google Earth
Imagery Date:12/17/18

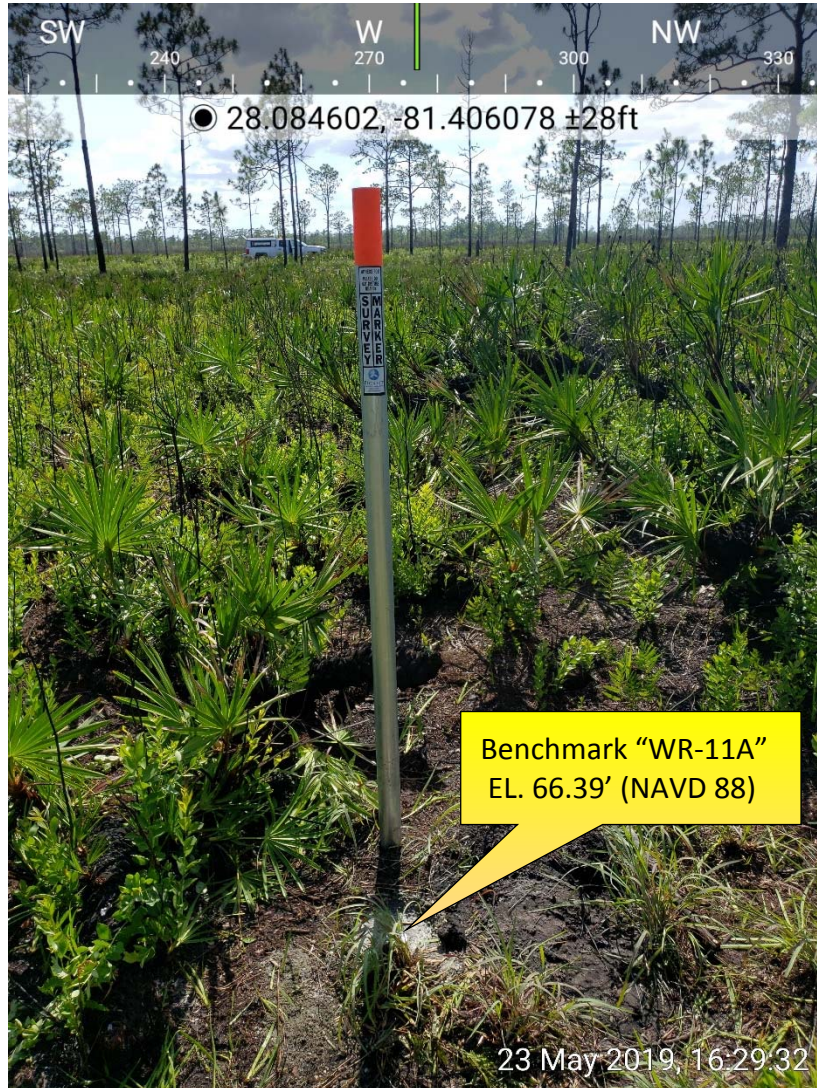


Cypress Lake



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16



Top View

FILE: 76041430.DAT OP1561643795675

NGS OPUS SOLUTION REPORT

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All computed coordinate accuracies are listed as peak-to-peak values.

For additional information: <https://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: gprather@pickettusa.com

DATE: June 27, 2019

RINEX FILE: 7604143n.19o

TIME: 13:57:25 UTC

SOFTWARE: page5 1603.24 master91.pl 160321 START: 2019/05/23 13:38:00

EPHEMERIS: igs20544.eph [precise] STOP: 2019/05/23 18:01:30

NAV FILE: brdc1430.19n OBS USED: 11050 / 12191 : 91%

ANT NAME: TRM5800 NONE # FIXED AMB: 73 / 78 : 94%

ARP HEIGHT: 2.000 OVERALL RMS: 0.017(m)

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2019.3909)

X: 841434.685(m) 0.022(m) 841433.860(m) 0.022(m)

Y: -5568100.946(m) 0.012(m) -5568099.383(m) 0.012(m)

Z: 2984751.698(m) 0.011(m) 2984751.537(m) 0.011(m)

LAT: 28 5 3.63750 0.013(m) 28 5 3.65838 0.013(m)

E LON: 278 35 36.04618 0.020(m) 278 35 36.02486 0.020(m)

W LON: 81 24 23.95382 0.020(m) 81 24 23.97514 0.020(m)

EL HGT: -6.892(m) 0.013(m) -8.440(m) 0.013(m)

ORTHO HGT: 20.586(m) 0.027(m) [NAVD88 (Computed using GEOID12B)] 67.539 (ft)

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 17) SPC (0901 FL E)

Northing (Y) [meters] 3106612.364 415622.191

1,363,587.138 (sft)

Easting (X) [meters] 460047.756 160034.119

525,045.272 (sft)

Convergence [degrees] -0.19144444 -0.19144444

Point Scale 0.99961970 0.99996088

Combined Factor 0.99962078 0.99996196

US NATIONAL GRID DESIGNATOR: 17RMM6004706612(NAD 83)

BASE STATIONS USED

PID DESIGNATION LATITUDE LONGITUDE DISTANCE(m)

DF7046 BRTW BARTOW CORS ARP N275658.642 W0814658.200 39894.8

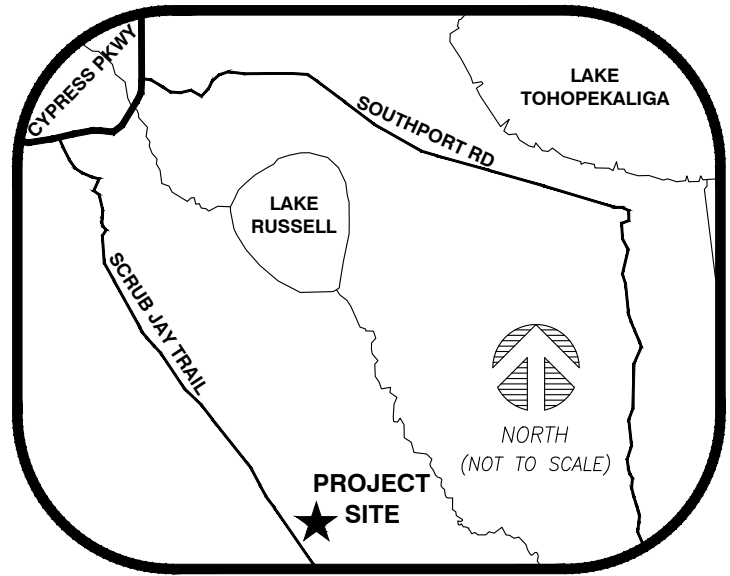
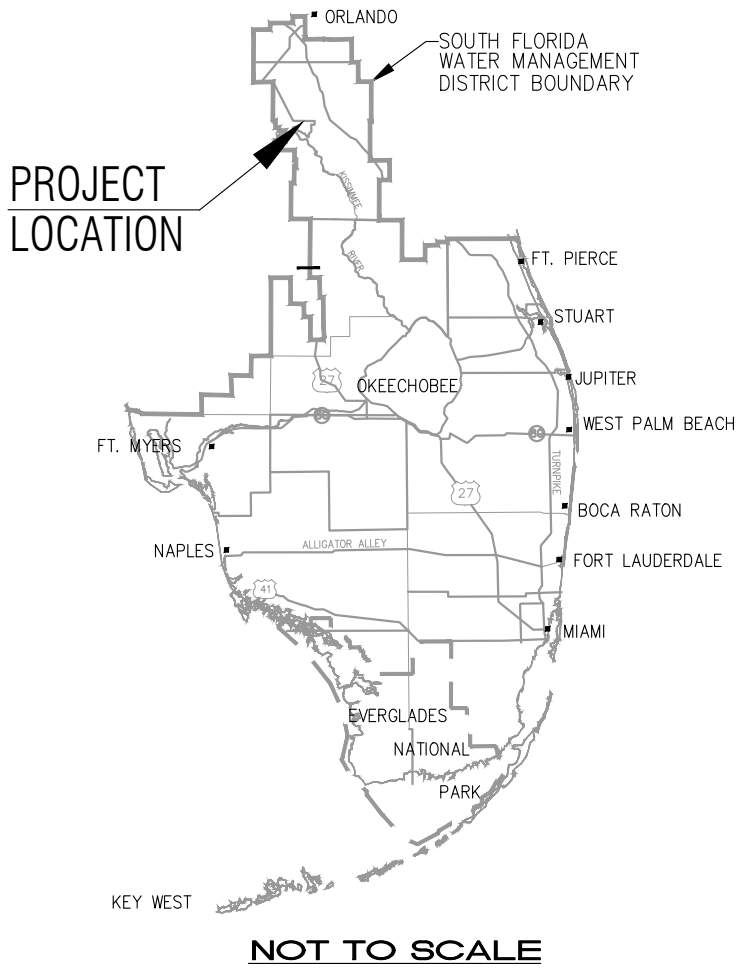
DF7982 BKVL BROOKSVILLE CORS ARP N282825.669 W0822713.194 111416.6

DI3564 CCV6 CAPE CANAVERAL 6 CORS ARP N282735.827 W0803243.702 94189.4

NEAREST NGS PUBLISHED CONTROL POINT

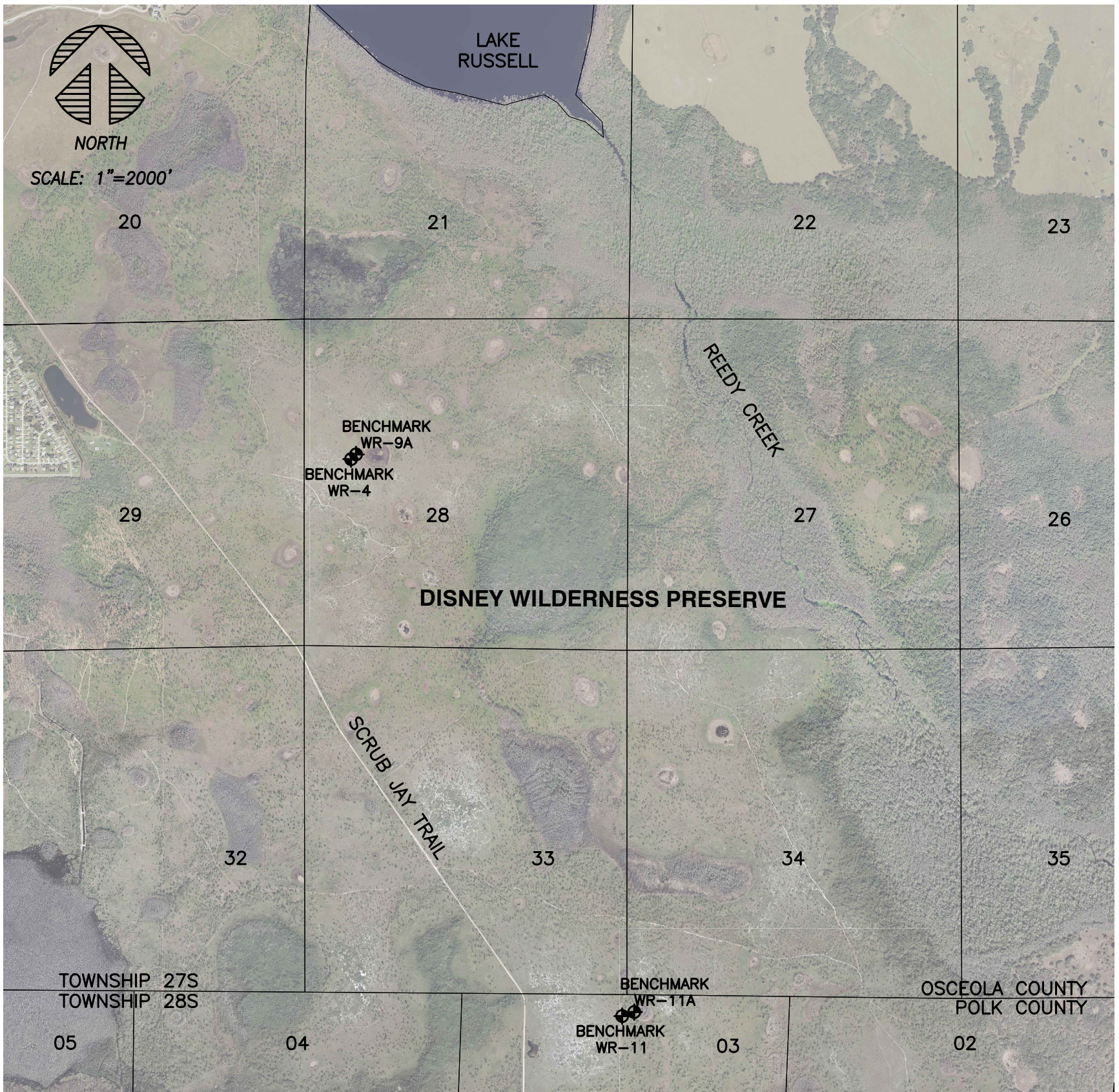
AK7114 K093 N280538.273 W0812728.560 5151.3

LOCATION MAP
 CENTRAL FLORIDA WATER INITIATIVE (CFWI) SURVEYS
DISNEY PRESERVE SOUTH (WR-11)
 SECTION 03, TOWNSHIP 28 S, RANGE 29 E,
 POLK COUNTY, FL



LEGEND:

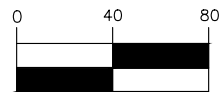
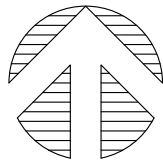
◆ BENCHMARK



DRAWN	CHECKED	DATE	REVISIONS

CENTRAL FLORIDA WATER INITIATIVE (CFWI)
 DISNEY PRESERVE SOUTH (WR-11)
 WELL, TRANSECTS & SEASONAL
 HIGH-WATER MARKS SURVEY

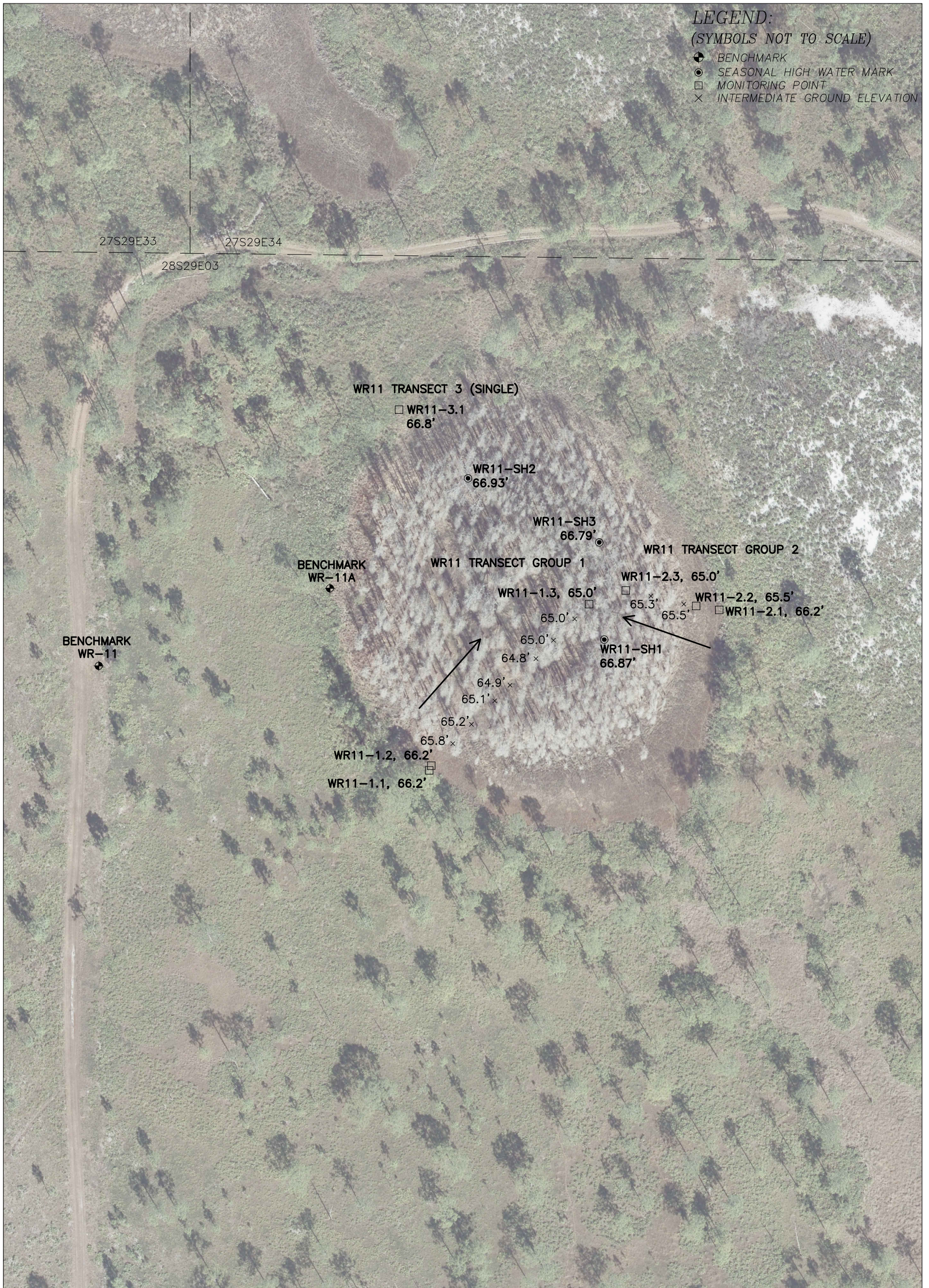
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
 INFRASTRUCTURE MANAGEMENT BUREAU-SURVEY & MAPPING SECTION
 P.O. BOX 24680, 3301 GUN CLUB ROAD
 WEST PALM BEACH, FLORIDA 33416-4680



(IN FEET)
1 inch = 80 ft.

GRAPHIC & INTENDED DISPLAY SCALE

CENTRAL FLORIDA WATER INITIATIVE (CFWI) SURVEYS
DISNEY PRESERVE SOUTH (WR-11)
TRANSECTS & SEASONAL HIGH WATER MARKS



LEGEND:

(SYMBOLS NOT TO SCALE)

- ⊕ BENCHMARK
- ⊙ SEASONAL HIGH WATER MARK
- MONITORING POINT
- × INTERMEDIATE GROUND ELEVATION

SHEET 2 OF 2

DRAWN	CHECKED	DATE	REVISIONS

CENTRAL FLORIDA WATER INITIATIVE (CFWI)
DISNEY PRESERVE SOUTH (WR-11)
WELL, TRANSECTS & SEASONAL
HIGH-WATER MARKS SURVEY

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
INFRASTRUCTURE MANAGEMENT BUREAU-SURVEY & MAPPING SECTION
P.O. BOX 24680, 3301 GUN CLUB ROAD
WEST PALM BEACH, FLORIDA 33416-4680