

PREPARED FOR



HYDROLOGICAL TECHNOLOGY SERVICES

SPECIFIC PURPOSE SURVEY SURVEYOR'S REPORT

VERTICAL DATUM UPGRADE PROJECT

WO# 4600002187-WO12
SAP PO# 9500006814
WGI# 1071.12



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Overview of Project

OVERVIEW OF PROJECT

Purpose of Project:

19 gauges

Procure all materials to construct and install 20 staff gauges calibrated to the North American Vertical Datum of 1988 (NAVD88) at various sites identified by the Vertical Datum Project Manager. Establish a NAVD88 Bench Mark at each site and prepare a SFWMD Bench Mark Data Sheet.

Accuracy:

Staff gauges have been set (adjusted) to the nearest two hundredth (.02') of a foot. Elevations have been transferred from bench mark using a digital level, steel tape, and redundant measurements.

Bench Marks:

found or

A bench mark was set at each location, and was used to establish the reference elevation and calibrate each staff gauge.

Survey Equipment Used:

Topcon DL-502 (Digital Level)
Fiberglass Digital Level Rods
Conventional Level Rod

Vertical Datum Factor:

The staff gauges in this report, have been correctly calibrated to the North American Vertical Datum of 1988. The datum conversion to the National Geodetic Vertical Datum of 1929 (NGVD 29), as shown herein and engraved on each gauge, were provided by the SFWMD VDUP Project Manager. **Amelia Rodriguez-Alers**

Completion Date:

Staff Gauge installation and calibration was completed on July 15, 2016.

July 18, 2016 see BCA13 FB646 p26

Construction:

Each Staff Gauge is attached to a 4" O.D. galvanized steel pipe with stainless steel hardware. The pipes were driven to a depth to achieve required stability, to a minimum of 10', unless otherwise noted. Sections of pipes were driven by jack hammer, and attached with a galvanized threaded coupling.

Note: All conversions between vertical datum use Corpscon 6.0.1 - 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.

Details of Staff Gauges

Staff Gauge Detail Summary Chart:

Gauges completed:

Staff Gauge Site	Latitude	Longitude	Benchmark Used	Benchmark Elevation NAVD88	Well Head Reference BM Elevation	Conversion Elevation to NGVD29
BCA17	26° 12' 17.81"	81° 10' 06.46"	BCA17	15.10	18.25	+1.36
BCA18	26°12'14.14"	80°58'36.62"	BCA18	12.37	17.26	+1.41
BCNPA1	26°14'54.31"	81°17'42.61"	BI4	16.535	17.06	+1.34
BCNPA3	26° 9'35.98"	81°13'34.65"	EC2	13.05	17.22	+1.40 +1.37
BCNPA4	25° 57' 27.344"	81° 06' 13.249"	MR A	7.549	12.04	+1.42
BCNPA5	25°58'8.929"	80°55'35.219"	RP12	9.619	12.95	+1.45
BCNPA8	25°53'27.30"	81°16'11.05"	JBA B	5.23	5.62	+1.39
BCNPA11	25°47'20.5"	81° 6'0.8"	JBARL5R	5.01	5.98	+1.43
BCNPA12	26°12'19.58"	81° 4'28.29"	KB4	13.07	18.26	+1.37
L28.GAP	26° 07' 26.321"	80° 59' 02.349"	L28GAP A	11.516	18.06	+1.41
L28.GAP_GW	26° 07' 26.321"	80° 59' 02.349"	L28GAP A	11.516	12.55	+1.41
BCA15	26° 02' 22.542"	81° 01' 37.624"	A15	11.55	15.78	+1.42
BCA16	26° 03' 23.67"	81° 09' 21.42"	BCA16	12.37	14.91	+1.39
BCA19	25° 47' 34"	81° 12' 09"	BCA19	2.63	5.91	+1.41
BCA20	25° 41' 49.471"	80° 55' 39.547"	BCA20	6.01	8.77	+1.47
BCA2	26° 11' 45.443"	81° 17' 19.228"	EH4	13.69	16.92	+1.36
BCA9	25° 45' 42.179"	80° 54' 44.282"	BCA9	8.45	10.00	+1.47
BCA10	25° 42' 48.5"	81° 01' 18.8"	BCA10	4.24	6.50	+1.45
BCA13	26° 09' 24.317"	81° 13' 18.254"	BCNPA13	12.42	14.72	+1.36
BCA14	26° 02' 40.335"	81° 17' 59.263"	JBA DL1	9.662	13.01	+1.38

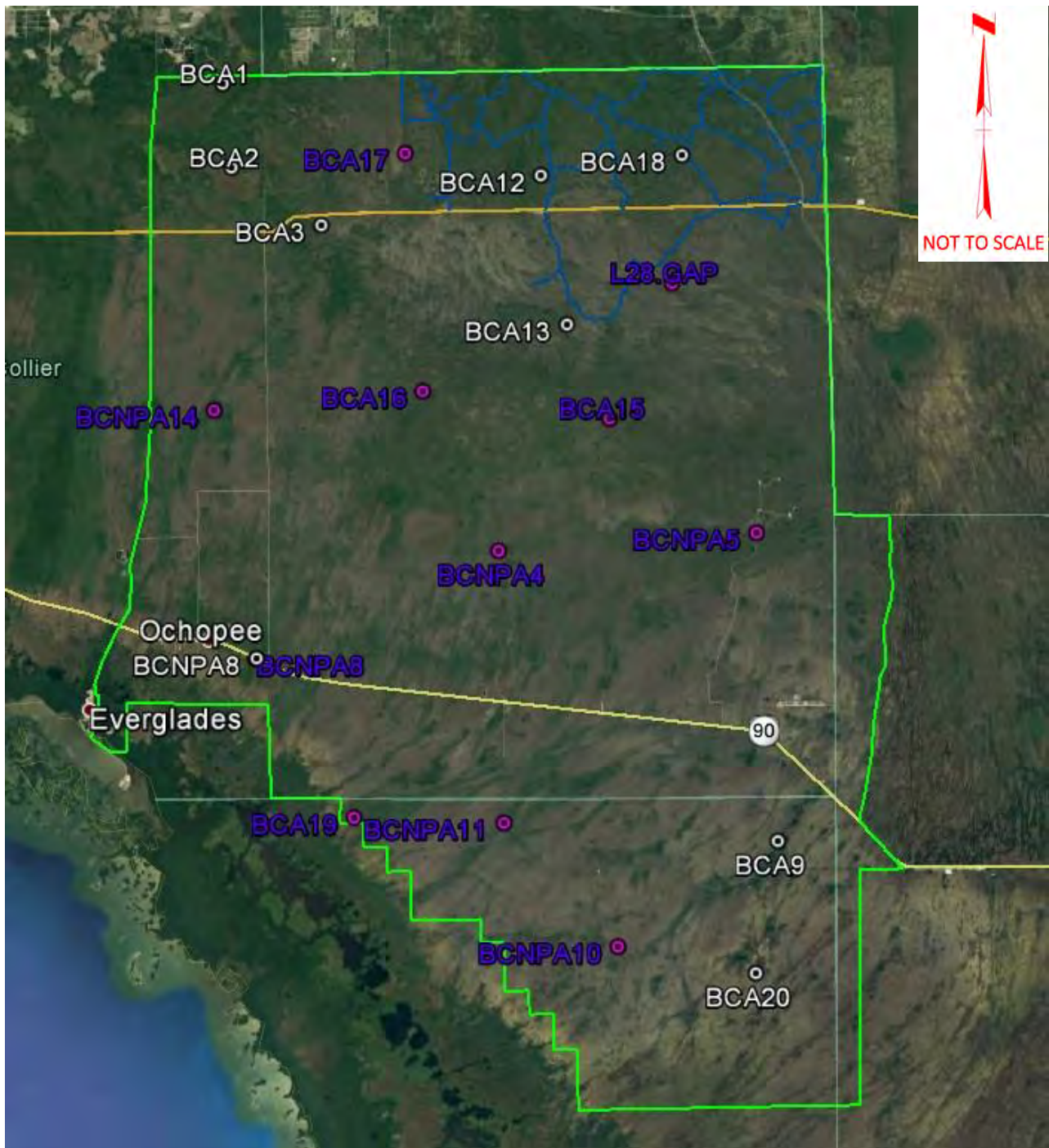
same site

- All Elevations shown are NAVD 88

Note: All conversions between NAVD88 and NGVD29 use Corpscon 6.0.1 - 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.

Project Location Map:

Overall Site



Stage Recorder Site: L28GAP

Party Chief: Jose Mendoza	Field Book Number: 646/BK 12	Page Number: 22-24
Benchmark Elevation (NAVD 88): 11.516	Date of Field Work: June 29, 2016	Datum Offset to NGVD 29: +1.41
Benchmark Agency: SFWMD	Benchmark Type: Precision Rod w/Sleeve	Benchmark Stamp: L28GAP A
Reference Elevation (NAVD88): 18.06	Existing Tag Elevation (Datum): 19.55 NGVD29	
Latitude: 26° 07' 26.321"	Longitude: 80° 59' 02.349"	
Notes: Datum difference SFWMD +1.41 Field +1.49 Vertical checked to second BM		
Removed Old Board: Existing gauge plate removed.		

Photographs:

Overall Site:



Benchmark Location:



Benchmark Close Up:



Brass Tag Close Up:



Reference Mark:



Brass Tag & Reference:



New Staff Gauge:

Front View:





Side View:





SOUTH FLORIDA WATER MANAGEMENT DISTRICT

DESIGNATION L28 GAP SGRP		PROJECT VDUP	
ESTABLISHED BY WANTMAN GROUP		SURVEYOR Patrick Meeds	
RECOVERED BY		DATE June 23, 2016	
GEOGRAPHIC POSITION			
SECTION 12	TOWNSHIP 50S	RANGE 33E	
COUNTY COLLIER		NAME OF QUADRANGLE WEST OF HORSESHOE HEAD	
HORIZONTAL DATUM: 1927 (1983) Other _____ (circle one) ZONE (E) or W			
VERTICAL DATUM: MSL 1929 (1988) Other _____ (circle one)			
CONTROL ACCURACY: HORIZONTAL 1 2 (3) _____ (circle one) VERTICAL 1 2 (3)			
STATE PLANE COORDINATES	X	Y	NAVD 88 ELEV. 13.77 _____ NGVD 29 ELEV. _____
LATITUDE 26° 07' 26.321"		LONGITUDE 80° 59' 02.349"	
RECOVERY DESCRIPTION			
Stamping: L28GAP SGRP			
To Reach: THE MARK FROM THE INTERSECTION OF INTERSTATE 75 AND STATE ROAD 29 IN MILES CITY, GO EAST ON INTERSTATE 75 FOR ABOUT 17.0 MI TO THE REST AREA, PASSING THROUGH THE REST AREA CONTINUE EAST FOR 0.15 MI TO THE EXIT FROM THE REST AREA AND A DIRT TRAIL ON THE RIGHT, NOW BY ATVS TURN RIGHT ON THE DIRT TRAIL AND PASSING THROUGH A CHAIN LINK FENCE GATE (THIS IS AN ENTRANCE TO THE FLORIDA NATIONAL SCENIC TRAIL) GO SOUTHEAST FOR ABOUT 8.5 MI ON THE TRAIL AND VARIOUS OTHER TRAILS TO THE STATION.			
BENCH MARK IS A BOLT THRU OLD STAFF GAUGE BACK BOARD			
Notable Land marks: STILLING WELL L28 GAP			
FIELD BOOK 646	PAGE 22		
PHOTOS			
			

Stage Recorder Site: L28GAP_GW

Party Chief: Jose Mendoza	Field Book Number: 646/BK 12	Page Number: 22-24
Benchmark Elevation (NAVD 88): 11.516	Date of Field Work: June 29, 2016	Datum Offset to NGVD 29: +1.41
Benchmark Agency: SFWMD	Benchmark Type: Precision Rod w/Sleeve	Benchmark Stamp: L28GAP A
Reference Elevation (NAVD88): 12.55	Existing Tag Elevation (Datum): 14.03 NGVD29	
Latitude: 26° 07' 26.321"	Longitude: 80° 59' 02.349"	
Notes: Datum difference SFWMD +1.43 Field +1.48 Vertical checked to second BM		
Removed Old Board:		

Photographs:

Overall Site:



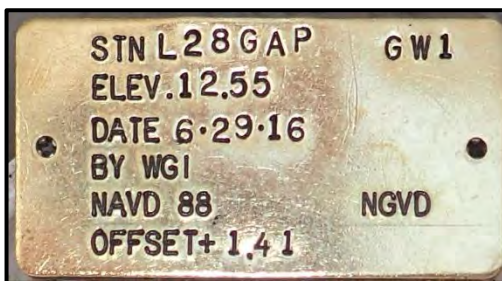
Benchmark Location:



Benchmark Close Up:



Brass Tag Close Up:



Reference Mark:



Brass Tag & Reference:

