



SURVEYOR'S REPORT

**Specific Purpose Survey of the
United States Geological Survey
Recorder Well G-2147
in
Broward County, Florida**

Prepared for:

South Florida Water Management District

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Prepared by:

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Florida Professional Surveyor and Mapper
License Number 5381
State of Florida

Dewberry Engineering, Inc. LB No 8011
131 West Kaley Street, Orlando, FL.
32806 Tel (321) 354-9826

Field Date: September 27, 2019
Report Date: December 1, 2019, 2019
PO NO: 9500008146

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PURPOSE

The objective of this work order is to supply NAVD 88 elevations on the site benchmark, ground elevation at the site, well monitoring point and any USGS benchmarks at the site. In addition, horizontal positions of each well and benchmark need to be provided in the North American Datum of 1983.

LOCATION OF PROJECT

The United States Geological Survey's Recorder Well **G-2147** is located in Section 30, Township 48 South, Range 43 East, Broward County, Florida.



General Location (Intended Display scale is "Not to Scale")

PROJECT VERTICAL DATUM

The project vertical datum is the North American Vertical Datum (NAVD) of 1988.

To convert the NAVD 88 elevation to the National Geodetic Vertical Datum of 1929 at station **G-2147 (G2147 2019)**, add 1.57'. These values are based on Corpscon 6.0.1 a US. 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 US. Army Corps of Engineers South Atlantic Division, Jacksonville FL.

PROJECT HORIZONTAL DATUM

All horizontal data shall be collected in and based on the North American Datum of 1983, 2011 adjustment (NAD 83/11). Horizontal coordinate control shall be established from existing National Geodetic Survey (NGS) 2nd Order control or higher in the area by using GPS, RTK GPS, network RTK GPS, or OPUS derived solutions.

LEVELING METHODS (Site Benchmark)

The leveling for this project was performed in accordance with standard survey practice using conventional third order methods, techniques and equipment.

The allowable error (.02 $\sqrt{\text{miles}}$) on this project meets or exceeds third order closures as required by SFWMD for this project per executed SOW for 4600003706-WO03 and discussions with SFWMD.

A level loop was run from the NGS Benchmark "015" (DO2654), through the well site, and to the NGS Benchmark "016" (AD2655). The measurements were collected using a Digital Level and were hand written in Whidden Surveying & Mapping, Inc. Field Book W 203 Page 73, dated September 19, 2019, reduced and adjusted electronically. Additional data was manually recorded in the field book.

GPS METHODS (horizontal position of site benchmark)

Latitude and Longitude for Benchmark G-2147 (G2147 2019) were established by observing a 3-minute session of GPS data on September 19, 2019 using a Trimble R-8-S and The Florida Permanent Reference Network (FPRN). The FPRN network consists of nearly 100 Continuously Operating Reference Stations (CORS) located throughout Florida.

EQUIPMENT USED

- Trimble GPS unit R8-3 Serial #: 4615113539
- Trimble GPS unit R6-4 Serial #: 0220266504
- Dini Digital Level Serial #: 735642

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LEVELING METHODS (Site: ground elevation-well monitoring point- USGS benchmarks)

A level loop was run from the previously established Site Benchmark G-1260 (G1260 2019), through the ground shot north of the well enclosure (ground elevation), through the well monitoring point, through the USGS benchmarks "RM 1", "RM 2", and "RM 3" and back to the Site Benchmark. The measurements were collected using an Automatic Level and were hand written in Dewberry Engineering, Inc. Field Book S.F.W.M.D. #2, Pages 4-6, dated September 27, 2019. Additional data was manually recorded.

GPS METHODS (horizontal position of Well G-1260 monitoring point & USGS Benchmarks)

Latitude and Longitude for Well G-2147 monitoring point (West top of flange, indicated by black sharpie mark) and USGS RM 1 (nail in concrete sidewalk), USGS RM 2 (Nail in concrete sidewalk), and USGS RM 3 (Nail in concrete sidewalk) were established by observing a 3-minute session of GPS data on September 27, 2019 using a Spectra SP-80 and The Florida Permanent Reference Network (FPRN). The FPRN network consists of nearly 100 Continuously Operating Reference Stations (CORS) located throughout Florida.


EQUIPMENT USED


- Spectra SP-80 Rover Serial #: 1165
- Topcon AT-G2 Serial #: 1439

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VERTICAL CONTROL POINT

The Vertical Control point utilized and set as part of this survey is the:

NGS Benchmark "015" (DO2654)						
26° 14' 59.37" (N)	80° 06' 04.77" (W)	Published	6.77 ft.	(NAVD88)	2.06 m	Published
		<p>LOCATED 80 FT WEST OF THE CENTERLINE OF FEDERAL HWY 1, 77 FT SOUTH OF THE CENTERLINE OF NE 14TH STREET, 46.6 FT SW OF A METAL LIGHT POLE, 30.9 FT WEST OF THE WEST EDGE OF A CONCRETE SIDEWALK, 12.9 FT SOUTH OF A SIGN POST, 4 FT EAST OF A FENCE AND 1 FT EAST OF A CARSONITE WITNESS POST</p> <p>NGS BENCHMARK DISK, SET IN GRASS AREA</p> <p>STAMPING: CITY OF POMPANO BEACH 015 2019 BENCHMARK</p>				

NGS Benchmark "016" (DO2655)						
26° 14' 34.84" (N)	80° 06' 08.47" (W)	Published	7.32 ft.	(NAVD88)	2.23 m	Published
		<p>LOCATED 100 FT WEST OF CENTERLINE OF FEDERAL U.S. 1, 45 FT SOUTH OF CENTERLINE OF NE 10TH ST, 44.6 FT NW OF A METAL SIGNAL POLE, 24 FT NORTH OF THE NORTH EDGE OF A CONCRETE SIDEWALK, 14.3 FT SE OF A WIRE PULL BOX, 8.9 FT EAST OF A METAL LIGHT POLE AND 1.2 NORTH OF A CARSONITE WITNESS POST</p> <p>NGS BENCHMARK DISK SET IN GRASS AREA STAMPING: CITY OF POMPANO BEACH 016 2011 BENCHMARK</p>				

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BM: G-2147 (Existing on site benchmark set by Dewberry Engineering, Inc.)

26° 15' 0.93" (N)	80° 06' 04.21" (W)	9.12 ft.	(NAVD88)	2.78 m	Level run
NAD_83(2011)		10.68 ft.	(NGVD29)	3.26 m	Converted
			1.56 ft. (conversion factor)		Corpscon 6.0.1



STATION IS A S.F.W.M.D. BM STAMPED "G2147 2019" SET IN THE NW CORNER OF A CONCRETE SLAB FOR A LIGHTPOLE

LOCATED: AT NE INTERSECTION OF FL-844 AND NORTH FEDERAL HWY

Field Book W203, Page 73

STA	+	H/I	-	Elev	(m)
015	7.665	14.435		6.77	(m)
62197	3.716	12.868	5.873	8.724	(m)
772	5.482	12.762	5.558	7.31	
IP 3			5.437	7.324	
	2.117	13.497			
FP 4			4.696	8.796	
	4.714	13.181			
775	9.791	14.346	3.995	9.869	
776	5.607	14.381	5.677	8.674	
			6.757	7.83	(m)

NGS BM "015"
ELEV. 6.77 (NAVD88)

BM G-2147
ELEV. 9.12 (NAVD88)

NGS "016"
ELEV. 7.32 (NAVD88)

DATE	W203/73
09/19/19	
Receiver G/A: 735632 Receiver DG-3: 4615116334 Receiver DG-4: 6307425729	

PROJECT RESULTS

Overall Site



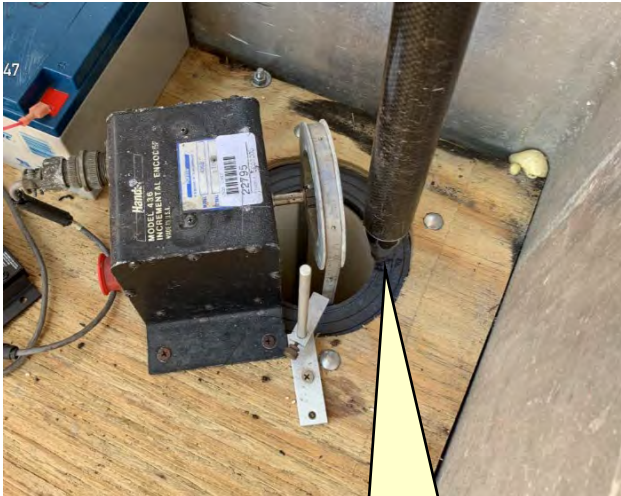
SURVEYOR'S REPORT

Tabular Form

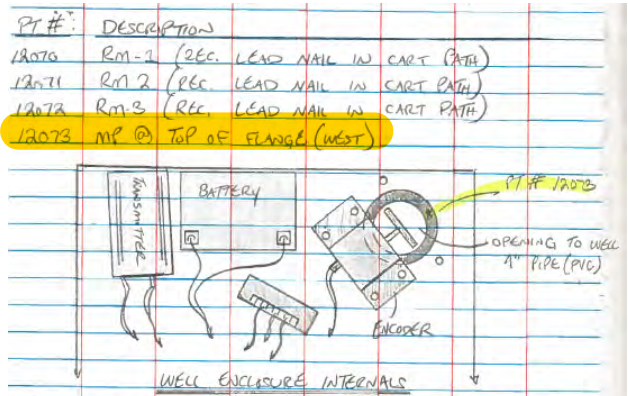
Reference and Ground Elevations: NAVD88			
Well	Ground Elevation	Reference Elevation	Comments
G-2147	7.39 ft.	10.04 ft.	West top of flange at sharpie mark
Offset to NGVD29: +1.57' (See Project Vertical Datum Notes in Page: 4)			
Well diameter		Casing material	DTW
4" PVC		Metal	-6.66 ft. (9/27/19 at 11:30 AM)

Source & Site Benchmark	NAVD88	NGVD29 (Published)	NGVD29 (Corpscon)
NGS "015" (DO2654)	6.77 ft. (Published)		
NGS "016" (DO2655)	7.32 ft. (Published)		
BM G2147 (SFWMD)	9.12 ft. (Measured)		10.68 ft. (Converted)
RM-1	6.77 ft. (Measured)		
RM-2	6.82 ft. (Measured)		
RM-3	6.78 ft. (Measured)		

Well Photos and Diagrams (Continued)



Reference Point
 El. 10.04' (NAVD88)



PT #: DESCRIPTION

12070 RM-1 (REC. LEAD NAIL IN CART PATH)

12071 RM-2 (REC. LEAD NAIL IN CART PATH)

12072 RM-3 (REC. LEAD NAIL IN CART PATH)

12073 MP @ TOP OF FLANGE (WEST)

WELL ENCLOSURE INTERNALS

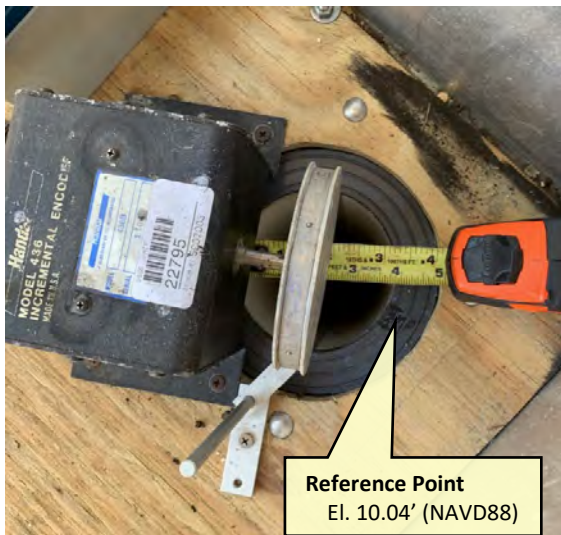
TASK: MEASURE & RECORD DISTANCE FROM MONITORING POINT TO WATERLINE

MEASUREMENT: 6.66 ; AS MEASURED FROM MP (PT# 12073), AS INDICATED BY BLACK SHARPIE MARK ON WEST EDGE OF BLACK FLANGE @ TOP OF WELL HEAD

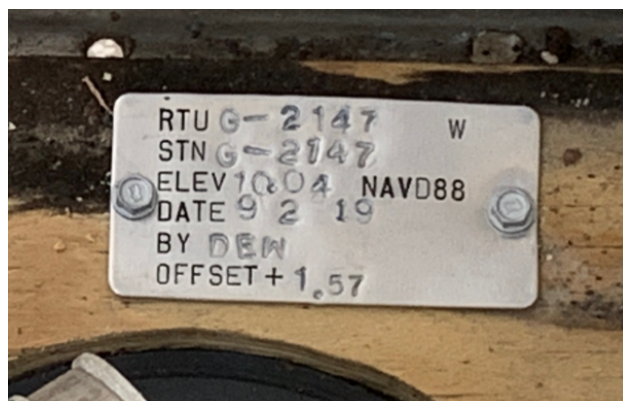
Time: 11:30 AM

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Well Photos and Diagrams (Continued)



Overhead View (Oblique Not to scale)



Surveyors' Notes:

1. All measurements herein are in United States Survey feet and decimal thereof, unless otherwise specified.
2. Underground utilities were not located as part of this survey.
3. This survey report or copies thereof are not valid without the original signature and seal of a Florida licensed Surveyor and Mapper.
4. Additions or deletions to this survey report by other than the signing party (or parties) is prohibited without written consent of the signing party (or parties).
5. To convert from NAVD 88 to NGVD 29 add 1.57 feet. This value is based on 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.
6. Date of last field work: September 27, 2019, PO NO: 9500008146
7. SFWMD Data records (on file at the District's headquarters):
8. A. Electronic Data files:
Miscellaneous picture files
- B. Conventional reporting
Field Book: W203 pages 73

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Abbreviations:

- EI.** - Elevation
- DTW** - Distance to the water table inside the well
- M-DC** - Miami-Dade County
- NAVD88** - North American Vertical Datum of 1988
- NGVD29** - National Geodetic Vertical Datum of 1929
- NGS** - National Geodetic Survey
- PSM** - Professional Surveyor & Mapper
- PID** - Permanent Identifiers
- SFWMD** - South Florida Water Management District
- USGS** - United States Geological Survey
- BEC** - Biscayne Engineering Company, Inc.

SURVEYOR'S CERTIFICATION

In my professional opinion this Specific Purpose Survey meets applicable portions of the Standards of Practice set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 5J-17, Florida Administrative Code. This report is prepared for the sole and specific use of the South Florida Water Management District and is not assignable.

Last date of Survey
Sept. 27, 2019

William D. Donley

William Donley, PSM
Florida Professional Surveyor and
Mapper License Number 5381
State of Florida
Dewberry Engineering, Inc. LB No 8011
131 West Kaley Street, Orlando, FL. 32806
Tel (321) 354-9826





South Florida Water Management District Benchmark Datasheet

Designation: G-2147	Project Name: USGS Ph 2, BROWARD	Type: V	State Plane Zone: FL East
Stamping: G2147 2019	Field Book Name: W203	Field Book Page: 73	
Established By: DEWBERRY / WHIDDEN	Recovered By: N/A	Recovery Date: N/A	
Surveyor: WILLIAM D. DONLEY	Established Date: 09/19/19	Status: New	

GEOGRAPHIC POSITION INFORMATION

Section: 30	Township: 48 SOUTH	Range: 43 EAST
County: BROWARD	Quadrangle: BOCA RATON	Quad Index: 1901
NAD83 Adj. Year: 2011	Vertical Datum: NAVD1988	Horizontal Datum: NAD1983
NAVD88 Elevation (feet): 9.12	NGVD29 Elevation (feet): 10.69	2022 Elevation: N/A
NAVD88 Class: N/A	NGVD29 Class: N/A	Other Elevation: N/A
NAVD88 Order: 3	NGVD29 Order: N/A	Other Elevation Type: N/A
	NGS Source BM(s): "016"	NGS PID(s): DO2655
	NGS NAVD88 Elev (ft): 7.32	NGS NAVD88 Elev (m): 2.232
	NGS 2022 Elev (ft): N/A	NGS 2022 Elev (m): N/A

CORPSCON 6.0.1 CONVERSION FACTOR (NAVD88 TO NGVD29): (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)

Vertical Datum Offset: + 1.57	Actual NGS Elevation or ngvd29.txt file: N/A	OPUS Ortho Height: N/A
Northing (Y) (feet): 697672.5	Easting (X) (feet): 950767.0	Source of Latitude & Longitude: AVERAGED FPRN & TRIMBLE VRSNOW RTK
Latitude: 26	15	0.93
DD°	MM'	SS"
Longitude: 80	6	4.21
DD°	MM'	SS"
Latitude (Decimal Degrees): 26.250258	Longitude (Decimal Degrees): -80.101169	

RECOVERY DATA

How to Reach: **1. FROM FL-811/N DIXIE HWY, HEAD EASTERLY ON NE 10TH ST FOR 1.4 MI
2. TURN LEFT ONTO US-1/FL-5/N FEDERAL HWY, CONTINUE 0.5 MI TO THE MARK ON THE LEFT, IMMEDIATELY PAST THE INTERSECTION WITH NE 14TH STREET.**

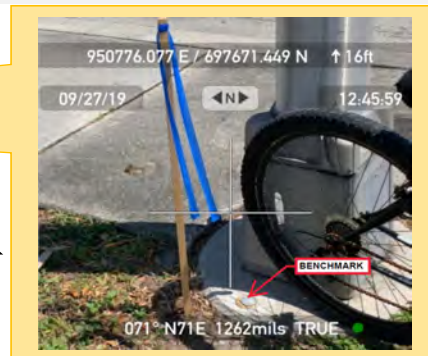
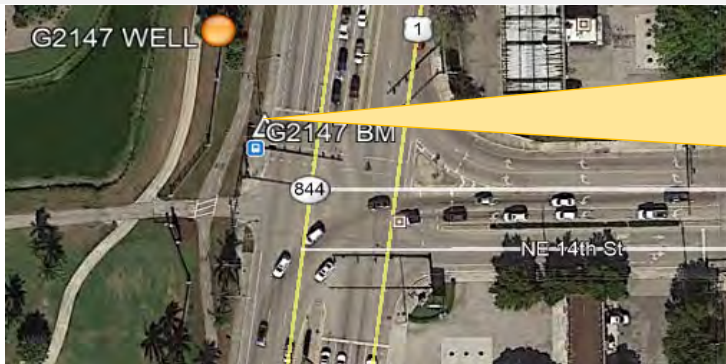
Description/Notes: **2" ALUMINUM SFWMD DISK SET IN LIGHT POLE CONCRETE BASE**

Notable Landmarks: **POMPANO BEACH GOLF COURSE**

Other Source Benchmarks: **NGS BENCHMARK "015" (DO2654)**

PICTURES

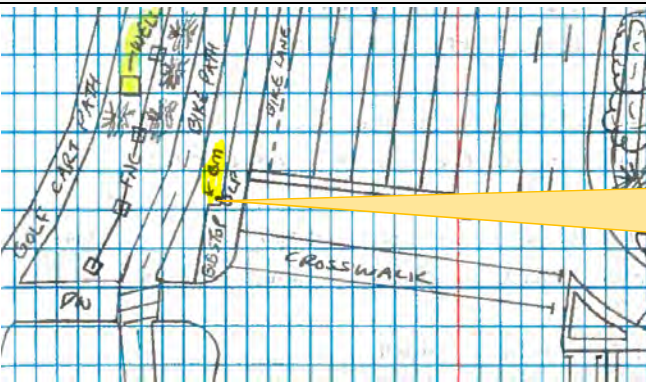
Aerial View of Overall Site



NOT TO SCALE. AERIAL FROM GOOGLE EARTH.

PICTURES

Site Sketch





SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/18



Office

Project

1 December 2019

INPUT

State Plane, NAD83
0901 - Florida East, U.S. Feet
Vertical - NAVD88, U.S. Feet

OUTPUT

Geographic, NAD83
Vertical - NGVD29 (Vertcon94), U.S. Feet

BM G-2147

1/2

Northing/Y: 697672.5
Easting/X: 950767
Elevation/Z: 9.12
Convergence: 0 23 51.26326
Scale Factor: 1.000040692
Combined Factor: 1.000044311

Latitude: 26 15 00.93495
Longitude: 80 06 04.20820
Elevation/Z: 10.688

WELL G-2147

2/2

Northing/Y: 697743.23
Easting/X: 950733.97
Elevation/Z: 10.04
Convergence: 0 23 51.11505
Scale Factor: 1.000040670
Combined Factor: 1.000044244

Latitude: 26 15 01.63769
Longitude: 80 06 04.56557
Elevation/Z: 11.608

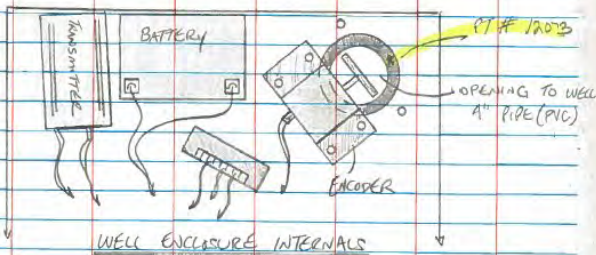
Remark:

SPECTRA SP-80 SFWMS 09/27/19
 Rover S/N: 1163 USGS WEIGS & RMS
 Trimble Network Job # 5009 9999
 H.T.: G562 WELL SITE: G-2147

TASK: ESTABLISH HORIZONTAL LOCATIONS ON MONITORING POINT & ANY REFERENCE MONUMENTATION ON SITE

PT#	(N)ERR	(E)ERR	(Z)ERR	PT#	DESCRIPTION
S/O	G	-0.039	0.136	F 0.217	5050 CHK-W BM@G2147
* LOCATED PT #'S 12070-12073					
S/O	G	-0.053	-0.111	C 0.033	5051 CHK-WT BM@G2147

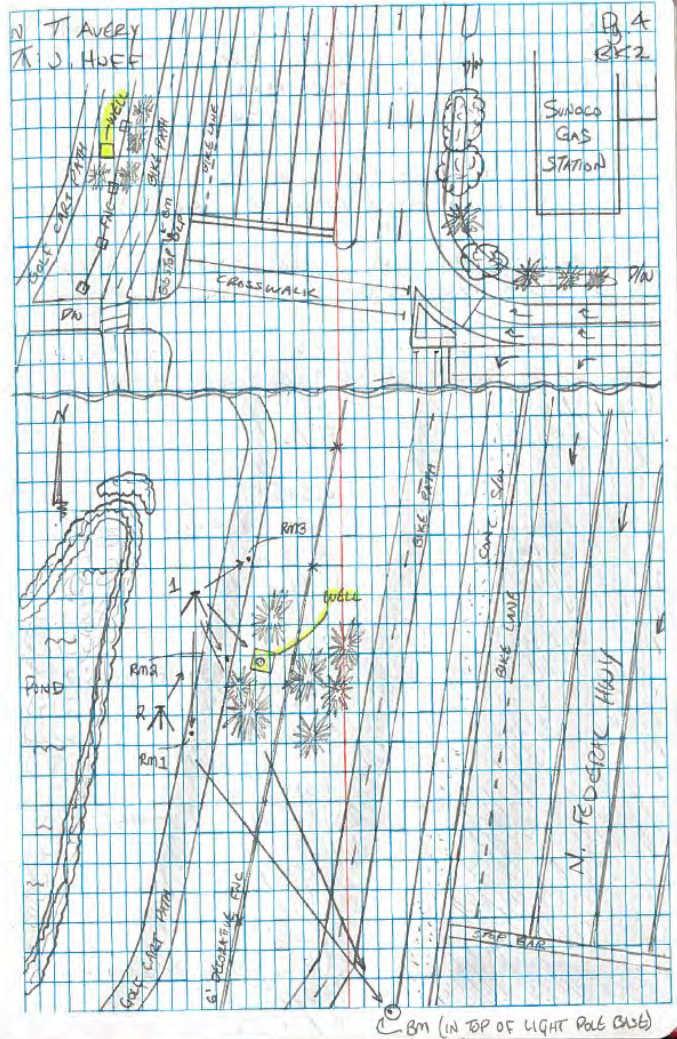
PT#	DESCRIPTION
12070	RM-1 (REC. LEAD NAIL IN CART PATH)
12071	RM-2 (REC. LEAD NAIL IN CART PATH)
12072	RM-3 (REC. LEAD NAIL IN CART PATH)
12073	MP @ TOP OF FLANGE (WEST)



TASK: MEASURE & RECORD DISTANCE FROM MONITORING POINT TO WATERLINE

MEASUREMENT: 6.66 ; AS MEASURED FROM MP (PT# 12073), AS INDICATED BY BLACK SHARPIE MARK ON WEST EDGE OF BLACK FLANGE @ TOP OF WELL HEAD

TIME: 11:30 AM



Topcon SFWM D 09/21/19
 AT G2 USGS WELLS & Bms
 S/N 1439 JOB # 5009 9949
 WELL SITE: G-2147

TASK: ELEVATE MONITORING POINT, REFERENCE MONUMENTATION, & GROUND @ WELL SITE

BACKSIGHT (+)		FORESIGHT (-)		ADJ.
STA ID	RDS	MEAN ELEV	RDS	MEAN ELEV
	2.85		4.69	
Bm	2.35	2.3500	4.58	4.5800
	1.85		4.97	
	100/100'		22'/122'	
			4.585	
"	"	"	4.50	4.5000
			4.415	
			17'/117'	
"	"	"	4.19	4.0800
			4.08	
			3.97	
			22'/122'	
"	"	"	1.545	1.4333
			1.435	
			1.320	
			22.5/122.5	
"	"	"	4.645	4.5900
			4.59	
			4.535	
			11'/111'	

N: T. AVERY
 T. J. MYRE

Page 5
 BKR

BEIN @
 ELEVATION: ~~100.00~~
 9.12
 (WHIPPEN)
 DESCRIPTION: RECOVERED 2" ALUMINUM DISC SET IN TOP OF CONCRETE SLAB FOR 40' LIGHT POLE, NEAR BUS STOP, SE OF WELL ENCLOSURE, ON WESTERN R/W OF N FEDERAL HWY

RM1 - REC. LEAD NAIL IN WEST EDGE OF CART PATH, ON GOLF COURSE PROPERTY, SOUTH OF WELL ENCLOSURE

RM2 - REC LEAD NAIL IN EAST EDGE OF CART PATH, ON GOLF COURSE PROPERTY, WEST OF WELL ENCLOSURE

GROUND SHOT (NORTH OF WELL ENCLOSURE)

MP (MONITORING POINT @ WEST TOP OF FLANGE, AS INDICATED BY BLACK STARRIC MARK

RM3 - REC LEAD NAIL IN EAST EDGE OF CART PATH, ON GOLF COURSE PROPERTY, NORTH OF WELL ENCLOSURE

*BREAK SET-UP

TOPCON S.E. W.M.D. 09/21/19
 AFG2 USGS WELLS & BMS
 S/N: 1439 JOB #: 5009-9999
 WELL SITE: G-2147

TASK: CONTINUE ELEVATING POINTS OF INTEREST

STA ID	BACKSIGHT (+)		MEAN ELEV	FORESIGHT (-)		ADJ. ELEV
	RDs	MEAN		RDs	MEAN	
	4.99			2.08		
Rm3	4.765	4.765	102.5250	2.53	2.5283	99.9967 9.118
	4.54			2.175		
	45'/56"			70 ^s / _{226.5'}		

N: T AVERY Pg. 6
 A: J HUFF SK 2

FORESIGHT (-)
 DESCRIPTION

BACK @ STARTING POINT (SITE BM)
 CHECK IN = +0.002 ✓

T.N. Any

TOM WHIDDEN FIELD NOTES

STA.	+	H/I	-	EL
015	7.665	14.435		6.77 (cm)
62197			5.873	9.722 (DISE)
	3.746	12.868		
772			5.558	7.321
	5.452	12.762		
773			5.487	7.224
	6.167	13.432		
774			4.636	5.740
	4.714	13.811		
775			8.935	9.864
	4.781	14.346		
776			5.677	8.674
	5.607	14.281		
86			6.457	7.83 (cm)

28/11/19		W203/23	
DINI S/N: 735632			
Receiver	RC-3	4615113834	
Receiver	RC-4	6307425729	

The NGS Data Sheet

See file [dsdata.pdf](#) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.2
1 National Geodetic Survey, Retrieval Date = MAY 20, 2019
D02654 *****
D02654 DESIGNATION - 015
D02654 PID - D02654
D02654 STATE/COUNTY- FL/BROWARD
D02654 COUNTRY - US
D02654 USGS QUAD - POMPANO BEACH (1983)
D02654
D02654 *CURRENT SURVEY CONTROL
D02654
D02654* NAD 83(1986) POSITION- 26 14 59. (N) 080 06 04. (W) SCALED
D02654* [NAVD 88](#) ORTHO HEIGHT - 2.063 (meters) 6.77 (feet) ADJUSTED
D02654
D02654 GEOID HEIGHT - -25.873 (meters) GEOID12B
D02654 DYNAMIC HEIGHT - 2.060 (meters) 6.76 (feet) COMP
D02654 MODELED GRAVITY - 979,072.1 (mgal) NAVD 88
D02654
D02654 VERT ORDER - SECOND CLASS II
D02654
D02654.The horizontal coordinates were scaled from a topographic map and have
D02654.an estimated accuracy of +/- 6 seconds.
D02654.
D02654.The orthometric height was determined by differential leveling and
D02654.adjusted by the NATIONAL GEODETIC SURVEY
D02654.in December 2012.
D02654
D02654.Significant digits in the geoid height do not necessarily reflect accuracy.
D02654.GEOID12B height accuracy estimate available [here](#).
D02654
D02654.[Photographs](#) are available for this station.
D02654
D02654.The dynamic height is computed by dividing the NAVD 88
D02654.geopotential number by the normal gravity value computed on the
D02654.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
D02654.degrees latitude (g = 980.6199 gals.).
D02654
D02654.The modeled gravity was interpolated from observed gravity values.
D02654
D02654;
D02654;SPC FL E - North East Units Estimated Accuracy
D02654; - 212,590. 289,800. MT (+/- 180 meters Scaled)
D02654
D02654_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK897036(NAD 83)
D02654
D02654 SUPERSEDED SURVEY CONTROL
D02654
D02654.No superseded survey control is available for this station.
D02654
D02654_MARKER: DB = BENCH MARK DISK
D02654_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
D02654_STAMPING: 015 2011
D02654_MARK LOGO: FL2570
D02654_PROJECTION: RECESSED 5 CENTIMETERS
D02654_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT
D02654_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
D02654+STABILITY: SURFACE MOTION

"015" NGS Benchmark Datasheet (2 of 2)

D02654_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

D02654+SATELLITE: SATELLITE OBSERVATIONS - December 22, 2011

D02654

D02654 HISTORY - Date Condition Report By

D02654 HISTORY - 20111222 MONUMENTED STONER

D02654

D02654

STATION DESCRIPTION

D02654

D02654'DESCRIBED BY STONER AND ASSOCIATES INC 2011 (DWS)

D02654'THE MARK IS ABOUT 7.7 MI (12.4 KM) SOUTHEAST OF WEST DIXIE BEND, 7.6

D02654'MI (12.2 KM) SOUTH OF BOCA RATON, 1.7 MI (2.7 KM) EAST-NORTHEAST OF

D02654'POMPANO BEACH, IN SECTION 30, TOWNSHIP 48 SOUTH, RANGE 43 EAST.

D02654'OWNERSHIP IS THE FLORIDA DEPARTMENT OF TRANSPORTATION.

D02654'

D02654'TO REACH THE MARK FROM THE INTERSECTION OF WEST ATLANTIC BOULEVARD AND

D02654'NORTH DIXIE HIGHWAY IN POMPANO BEACH, GO EAST ON EAST ATLANTIC

D02654'BOULEVARD FOR 1.5 MI (2.4 KM) TO THE INTERSECTION OF FEDERAL HIGHWAY

D02654'(U.S. HIGHWAY 1). TURN LEFT ON NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1)

D02654'AND GO NORTH FOR 1.2 MI (1.9 KM) TO THE MARK ON THE LEFT, SET IN THE

D02654'TOP OF A 10-INCH (25 CM) ROUND CONCRETE MONUMENT RECESSED 0.2 FT (6

D02654'CM) BELOW THE LEVEL OF THE GROUND AND 0.5 FT (15 CM) BELOW THE LEVEL

D02654'OF NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1).

D02654'

D02654'LOCATED 80.0 FT (24.4 M) WEST OF THE CENTERLINE OF FEDERAL HIGHWAY

D02654'(U.S. HIGHWAY 1), 77.0 FT (23.5 M) SOUTH OF THE CENTERLINE OF

D02654'NORTHEAST 14TH STREET, 46.6 FT (14.2 M) SOUTHWEST OF A METAL LIGHT

D02654'POLE, 30.9 FT (9.4 M) WEST OF THE WEST EDGE OF A CONCRETE SIDEWALK,

D02654'12.9 FT (3.9 M) SOUTH OF A SIGN POST, 4.0 FT (1.2 M) EAST OF A FENCE

D02654'LINE AND 1.0 FT (0.3 M) EAST OF A CARSONITE WITNESS POST.

D02654'

D02654'NOTE REBAR ROD IS IMBEDDED IN THE MONUMENT.

*** retrieval complete.

Elapsed Time = 00:00:04

The NGS Data Sheet

See file [dsdata.pdf](#) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.2

1 National Geodetic Survey, Retrieval Date = MAY 20, 2019

DO2655 *****

DO2655 DESIGNATION - 016
DO2655 PID - DO2655
DO2655 STATE/COUNTY- FL/BROWARD
DO2655 COUNTRY - US
DO2655 USGS QUAD - POMPANO BEACH (1983)

DO2655
DO2655 *CURRENT SURVEY CONTROL

DO2655* NAD 83(1986) POSITION- 26 14 34. (N) 080 06 08. (W) SCALED
DO2655* [NAVD 88](#) ORTHO HEIGHT - 2.232 (meters) 7.32 (feet) ADJUSTED

DO2655
DO2655 GEOID HEIGHT - -25.867 (meters) GEOID12B
DO2655 DYNAMIC HEIGHT - 2.229 (meters) 7.31 (feet) COMP
DO2655 MODELED GRAVITY - 979,071.4 (mgal) NAVD 88

DO2655
DO2655 VERT ORDER - SECOND CLASS II

DO2655
DO2655.The horizontal coordinates were scaled from a topographic map and have
DO2655.an estimated accuracy of +/- 6 seconds.

DO2655.
DO2655.The orthometric height was determined by differential leveling and
DO2655.adjusted by the NATIONAL GEODETIC SURVEY
DO2655.in December 2012.

DO2655
DO2655.Significant digits in the geoid height do not necessarily reflect accuracy.
DO2655.GEOID12B height accuracy estimate available [here](#).

DO2655
DO2655.[Photographs](#) are available for this station.

DO2655
DO2655.The dynamic height is computed by dividing the NAVD 88
DO2655.geopotential number by the normal gravity value computed on the
DO2655.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DO2655.degrees latitude (g = 980.6199 gals.).

DO2655
DO2655.The modeled gravity was interpolated from observed gravity values.

DO2655
DO2655;
DO2655; SPC FL E - North East Units Estimated Accuracy
211,820. 289,700. MT (+/- 180 meters Scaled)

DO2655
DO2655_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK896028(NAD 83)

DO2655
DO2655
DO2655 SUPERSEDED SURVEY CONTROL

DO2655
DO2655.No superseded survey control is available for this station.

DO2655
DO2655_MARKER: DB = BENCH MARK DISK
DO2655_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
DO2655_STAMPING: 016 2011
DO2655_MARK LOGO: FL2570
DO2655_PROJECTION: RECESSED 5 CENTIMETERS
DO2655_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT
DO2655_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DO2655+STABILITY: SURFACE MOTION

"016" NGS Benchmark Datasheet (2 of 2)

DO2655_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DO2655+SATELLITE: SATELLITE OBSERVATIONS - December 22, 2011

DO2655

DO2655	HISTORY	- Date	Condition	Report By
DO2655	HISTORY	- 20111222	MONUMENTED	STONER

DO2655

DO2655 STATION DESCRIPTION

DO2655

DO2655'DESCRIBED BY STONER AND ASSOCIATES INC 2011 (DWS)

DO2655'THE MARK IS ABOUT 8.0 MI (12.9 KM) SOUTH OF BOCA RATON, 7.9 MI (12.7

DO2655'KM) SOUTHEAST OF WEST DIXIE BEND, 1.5 MI (2.4 KM) EAST-NORTHEAST OF

DO2655'POMPANO BEACH, IN SECTION 31, TOWNSHIP 48 SOUTH, RANGE 43 EAST.

DO2655'OWNERSHIP IS THE FLORIDA DEPARTMENT OF TRANSPORTATION.

DO2655'

DO2655'TO REACH THE MARK FROM THE INTERSECTION OF WEST ATLANTIC BOULEVARD AND

DO2655'NORTH DIXIE HIGHWAY IN POMPANO BEACH, GO EAST ON EAST ATLANTIC

DO2655'BOULEVARD FOR 1.5 MI (2.4 KM) TO THE INTERSECTION OF FEDERAL HIGHWAY

DO2655'(U.S. HIGHWAY 1). TURN LEFT ON NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1)

DO2655'AND GO NORTH FOR 0.8 MI (1.3 KM) TO THE MARK ON THE LEFT, SET IN THE

DO2655'TOP OF A 10-INCH (25 CM) ROUND CONCRETE MONUMENT RECESSED 0.2 FT (6

DO2655'CM) BELOW THE LEVEL OF THE GROUND AND 0.5 FT (15 CM) BELOW THE LEVEL

DO2655'OF NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1).

DO2655'

DO2655'LOCATED 100.0 FT (30.5 M) WEST OF THE CENTERLINE OF FEDERAL HIGHWAY

DO2655'(U.S. HIGHWAY 1), 45.0 FT (13.7 M) SOUTH OF THE CENTERLINE OF

DO2655'NORTHEAST 10TH STREET, 44.6 FT (13.6 M) NORTHWEST OF A METAL SIGNAL

DO2655'POLE, 24.0 FT (7.3 M) NORTH OF THE NORTH EDGE OF A CONCRETE SIDEWALK,

DO2655'14.2 FT (4.3 M) SOUTHEAST OF A WIRE PULL BOX, 8.9 FT (2.7 M) EAST OF A

DO2655'METAL LIGHT POLE AND 1.2 FT (0.4 M) NORTH OF A CARSONITE WITNESS POST.

DO2655'NOTE REBAR ROD IS IMBEDDED IN THE MONUMENT.

*** retrieval complete.

Elapsed Time = 00:00:04