



SURVEYOR'S REPORT

**Specific Purpose Survey of the
United States Geological Survey
Recorder Well G-2264
in
Broward County, Florida**

Prepared for:

South Florida Water Management District

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West Palm Beach, Florida 33406
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Prepared by:

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

Field Date: September 19, 2019
Report Date: December 4, 2019
PO NO: 9500008146

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-2264** is located in Section 36, Township 50 South, Range 41 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-2264 (G2264 2019), add 1.60'**. 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 √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 Broward County Benchmark "2685", through the well site, through the site BM G-2264, and closed back to the Broward County Benchmark "2685". A GPS base receiver was then set on well site BM G-2264, and a GPS rover receiver was used to check into Broward County Benchmark "1802" to confirm its elevation . The measurements were collected using a Digital Level and were hand written in Whidden Surveying & Mapping, Inc. Field Book W212, Page Number 67, Field Book N/A, Page N/A 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-2264 (G2264 2019) were established by observing a 3-minute session of GPS data on November 25, 2019 using a Trimble R-8-3 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 SPS 985 Serial #: 5609F56781
- Trimble GPS unit SPS 985 Serial #: 5614F58916
- 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-2264 (G2264 2019), through the USGS benchmarks "RM 1" and "RM 3", through the well monitoring point, through all corners of concrete slab around well casing, through the ground shot north of the concrete slab around well (ground elevation), through USGS benchmark "RM 2", 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. #1, Pages 17-21, dated September 19, 2019. Additional data was manually recorded.

GPS METHODS (horizontal position of Well G-2264 monitoring point & USGS Benchmarks)

Latitude and Longitude for Well G-2264 monitoring point (North rim of 8" HDPE well casing) and USGS RM 1 (Nail/disc in concrete slab), USGS RM 2 (Nail/disc in concrete sidewalk), and USGS RM 3 (Nail/disc in concrete curb) were established by observing a 3-minute session of GPS data on September 19, 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.

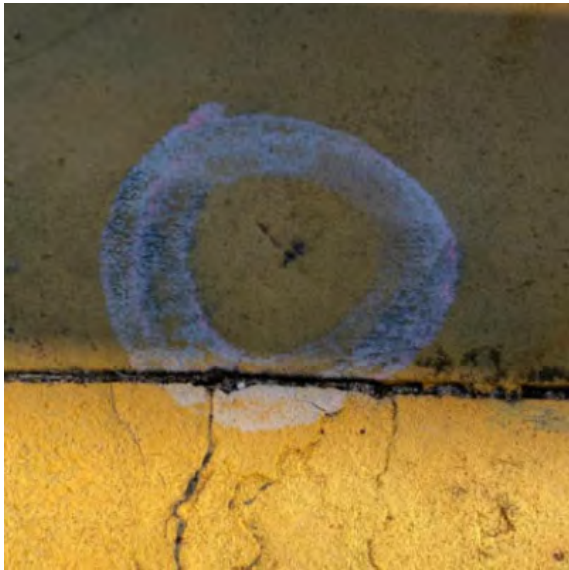
EQUIPMENT USED


- 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:

Broward County Benchmark "1802"						
26° 03' 45.14" (N)	80° 11' 32.90" (W)	Published	7.58 ft.	(NAVD88)	1.115 m	Converted
			9.18 ft.	(NAVD29)	2.80 m	Published
			2 FT EAST OF THE EAST BULLNOSE IN THE CENTERLINE OF STIRLING ROAD AND SOUTHWEST 35 AVE. 55 FT ± OR – NORTHEAST OF POWER POLE #34B8			
			BROWARD COUNTY BM IS A X-CUT IN THE BACK OF CURB IN A ROAD MEDIAN STAMPING: NO STAMPING			

Broward County Benchmark "2685"						
26° 03' 43.62" (N)	80° 11' 03.33" (W)	Published	3.66 ft.	(NAVD88)	2.23 m	Converted
			5.26 ft.	(NAVD29)	1.60 m	Published
			CANAL CROSSING GRIFFIN ROAD AT SOUTHWEST 31 AVENUE. SQUARE CUT ON SOUTH HEADWALL.			
			BROWARD COUNTY BENCHMARK IS A SQUARE CUT ON HEAD WALL OF A CANAL STAMPING: NO STAMPING			

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BM: G-2264 (Existing on site benchmark)			
26° 03'40.69" (N)	80° 11' 59.40" (W)	3.49 ft.	(NAVD88)
NAD_83(2011)		5.09 ft.	(NGVD29)
		1.60 ft.	(conversion factor)
		1.06 m	Level run
			Converted
			Corpscon 6.0.1
<p>STATION IS A S.F.W.M.D. BM STAMPED "G2264 2019" SET IN BACK OF CURB PLACED IN MEDIAN OF ROAD INTERSECTION</p> <p>LOCATED: IN THE MEDIAN OF INTERSECTION SW 40TH AVENUE AND SW 49TH STREET</p>			

Whidden Field Book				
STA	+	HI	-	EL.
BM2685				5.26
TP1	5.447	10.787		5.340
TP2	4.484	10.708	5.083	5.625
TP3	5.257	11.272	4.693	6.579
TP4	5.611	11.500	5.804	5.696
TP5	5.291	10.747	6.047	5.704
TP6	5.132	11.805	9.897	6.357
TP7	5.798	10.585	5.798	4.787
TP8	5.820	11.220	5.820	5.400
TP9				
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Field Book W212 Page 67

62264 - 1137.17

RELEASE @ 52264 CM/D "62264" (2m)

RECHECK @ 52264 XCVT (2m)

AV - 0.223

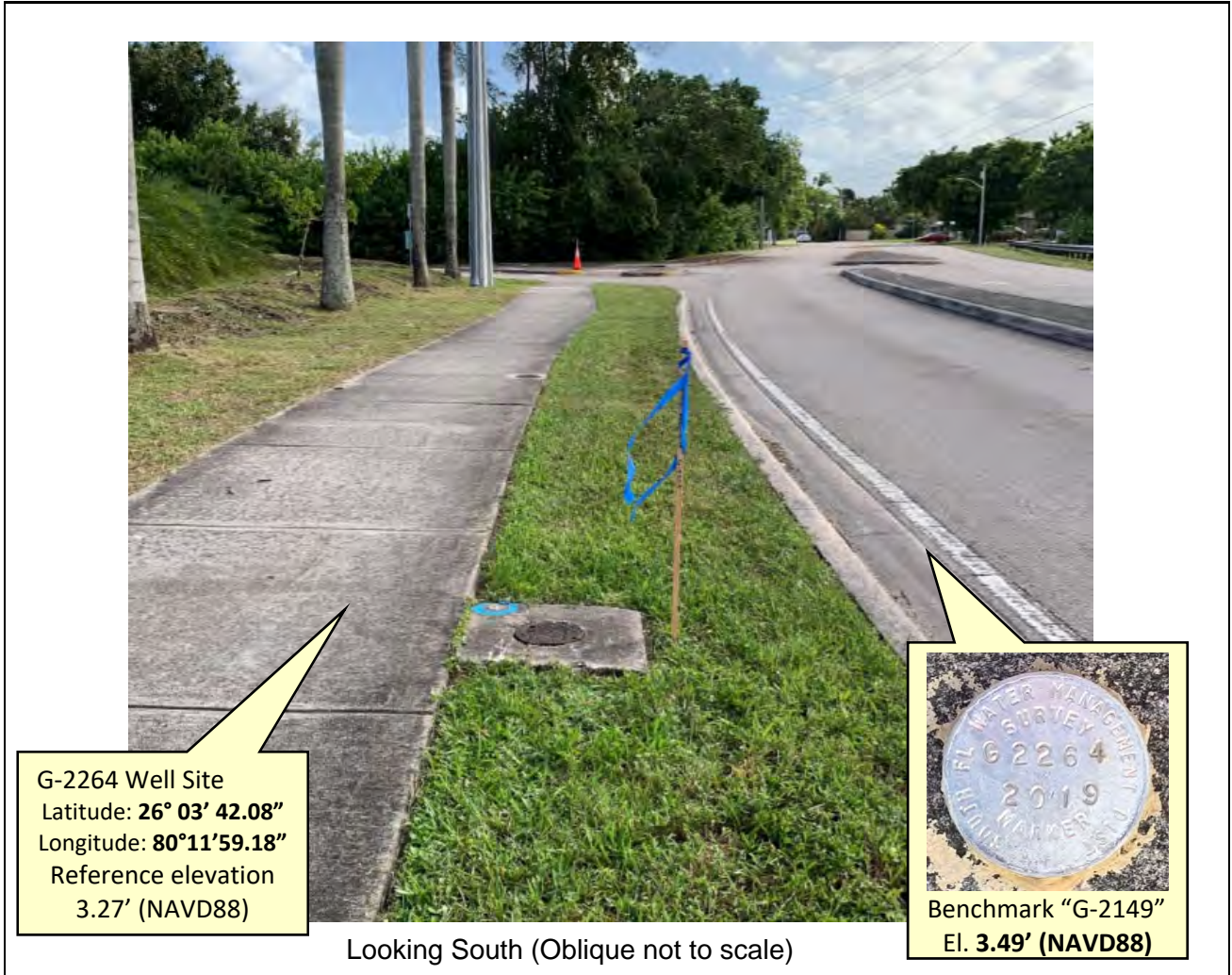
DW
NB
BM

11/25/19

10212/67

PROJECT RESULTS

Overall Site



G-2264 Well Site
Latitude: **26° 03' 42.08"**
Longitude: **80°11'59.18"**
Reference elevation
3.27' (NAVD88)

Benchmark "G-2149"
El. **3.49' (NAVD88)**

Looking South (Oblique not to scale)

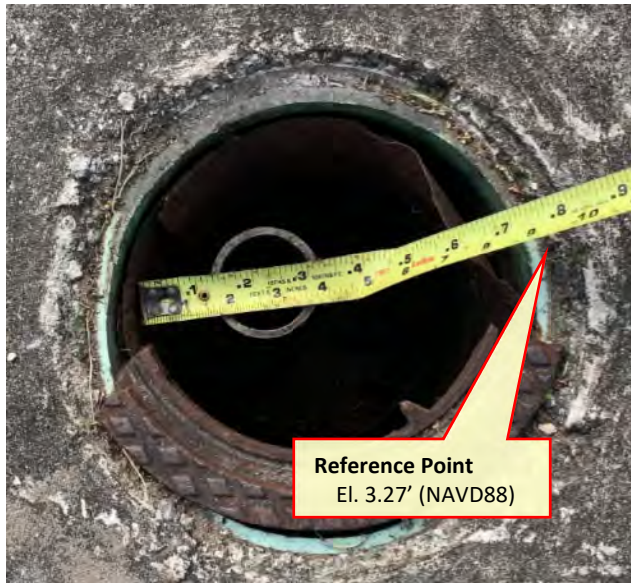
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Tabular Form

Reference and Ground Elevations: NAVD88			
Well	Ground Elevation	Reference Elevation	Comments
G-2264	3.19 ft.	3.27 ft.	North rim of 8" HDPE well casing
Offset to NGVD29: +1.60' (See Project Vertical Datum Notes in Page: 4)			
Well diameter		Casing material	DTW
2 ½" PVC		HDPE	-2.82 ft. (9/19/19 at 5:45 PM)

Source & Site Benchmark	NAVD88	NGVD29 (Published)	NGVD29 (Corpscon)
BROWARD COUNTY BM "1802"	7.575 ft. (Converted)	9.176 ft.	
BROWARD COUNTY BM "2685"	3.659 ft. (Converted)	5.26 ft.	
BM G-2264 (SFWM D)	3.49 ft. (Measured)		5.09 ft. (Converted)
RM-1	3.23 ft. (Measured)		
RM-2	3.40 ft. (Measured)		
RM-3	3.93 ft. (Measured)		

Well Photos and Diagrams (Continued)



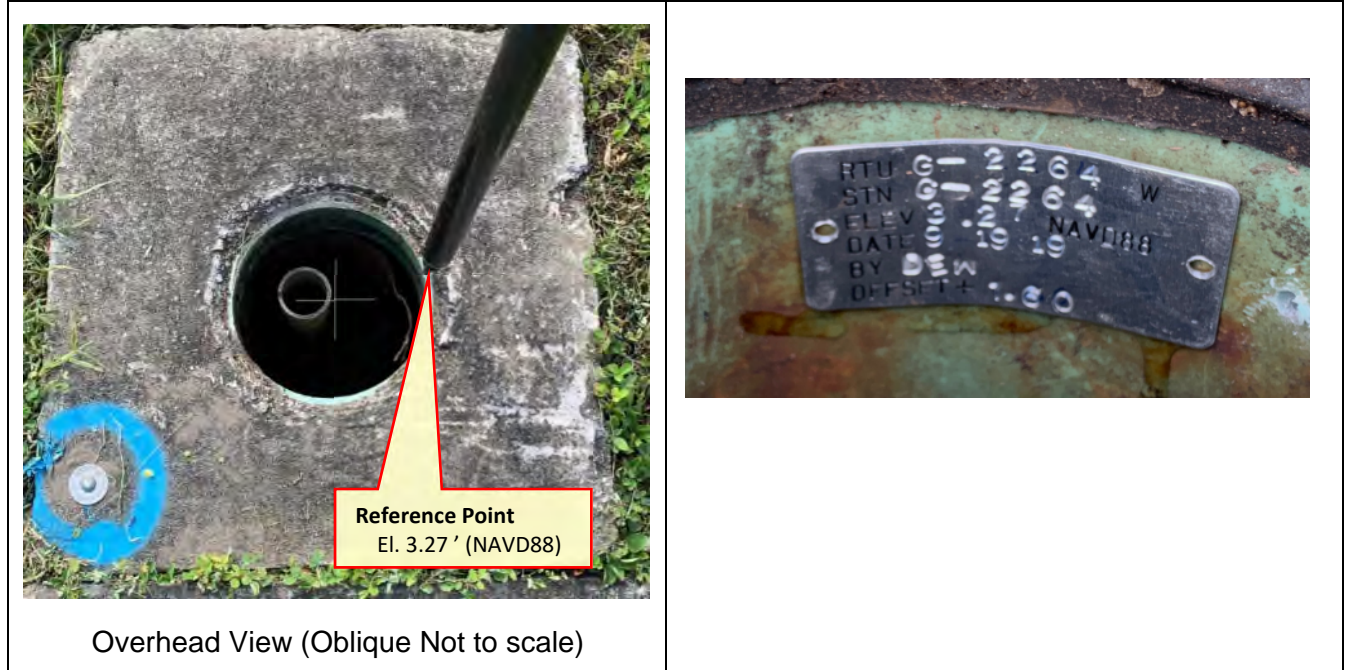
PT #	DESCRIPTION	MEASUREMENT #
12026	RM1 LAND REC USGS SURVEY MARK	12021
12027	RM2 LAND REC USGS SURVEY MARK	12024
12028	RM3 LAND REC USGS SURVEY MARK	12025
12029	NW CORNER OF CONC SLAB	—
12010	NE CORNER OF CONC SLAB	—
12011	SE CORNER OF CONC SLAB	—
12012	SW CORNER OF CONC SLAB	—
12013	INLET CASING OPENING (HDPE) (MP)	12022
12014	PIPE INLET @ WELL CASING (PC)	12023

W/L READING WAS TAKEN @ APPROX. 5:45 PM

READING: 2.82' FROM MP (MEASURING POINT)

SURVEYOR'S REPORT

Well Photos and Diagrams (Continued)



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 1.60 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 19, 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: W212 page 67 and page N/A

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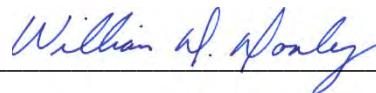
Abbreviations:

- Elev.** - Elevation
- DTW** - Distance to the water table inside the well
- BroCo.** - Broward 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
- MP** - Monitoring Point
- GS** - Ground Shot
- BM** - Benchmark
- RM** - Reference Monument

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. 19, 2019



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) 354-982



South Florida Water Management District Benchmark Datasheet

Designation: <u>G-2264</u>	Project Name: <u>USGS Ph 2, BROWARD</u>	Type: <u>V</u>	State Plane Zone: <u>FL East</u>
Stamping: <u>G2264 2019</u>	Field Book Name: <u>W 212 & N/A</u>	Field Book Page: <u>67 & N/A</u>	
Established By: <u>DEWBERRY / WHIDDEN</u>	Recovered By: <u>N/A</u>	Recovery Date: <u>N/A</u>	
Surveyor: <u>WILLIAM D. DONLEY</u>	Established Date: <u>10/11/2019 & 11/25/19</u>	Status: <u>New</u>	

GEOGRAPHIC POSITION INFORMATION

Section: <u>36</u>	Township: <u>50 SOUTH</u>	Range: <u>41 EAST</u>
County: <u>BROWARD</u>	Quadrangle: <u>FORT LAUDERDALE SOUTH</u>	Quad Index: <u>1702</u>
NAD83 Adj. Year: <u>2011</u>	Vertical Datum: <u>NAVD1988</u>	Horizontal Datum: <u>NAD1983</u>
NAVD88 Elevation (feet): <u>3.49</u>	NGVD29 Elevation (feet): <u>5.09</u>	2022 Elevation: <u>N/A</u>
NAVD88 Class: <u>N/A</u>	NGVD29 Class: <u>N/A</u>	Other Elevation: <u>N/A</u>
NAVD88 Order: <u>3</u>	NGVD29 Order: <u>N/A</u>	Other Elevation Type: <u>N/A</u>

NGS Source BM(s): COUNTY BM 1802
 NGS PID(s): N/A
 NGS NAVD88 Elev (ft): 7.56 (NGVD29 9.176)
 NGS NAVD88 Elev (m): N/A
 NGS 2022 Elev (ft): 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 vertical offset and version 02.05 files supplied by the U.S. Army Corps of Engineers South Atlantic Division, Jacksonville, FL)

Vertical Datum Offset: + <u>1.60</u>	Actual NGS Elevation or ngvd29.txt file: <u>N/A</u>	OPUS Ortho Height: <u>N/A</u>
Northing (Y) (feet): <u>628777.5</u>	Easting (X) (feet): <u>918850.3</u>	Source of Latitude & Longitude: <u>AVERAGED FPRN & TRIMBLE VRSNOW RTK</u>
Latitude: <u>26</u> DD°	<u>3</u> MM'	<u>40.69</u> SS"
Longitude (Decimal Degrees): <u>26.061303</u>		Longitude (Decimal Degrees): <u>-80.199833</u>

RECOVERY DATA

How to Reach: **1. FROM FL-7, HEAD EASTERLY ON SW 49TH CT FOR 0.45 MI
 2. TURN LEFT ON SW 40TH AVE, CONTINUE 369 FEET TO THE MARK ON THE RIGHT**

Description/Notes: **2" ALUMINUM SFWMD DISK SET IN CURB OF CONCRETE TURN BARRIER**

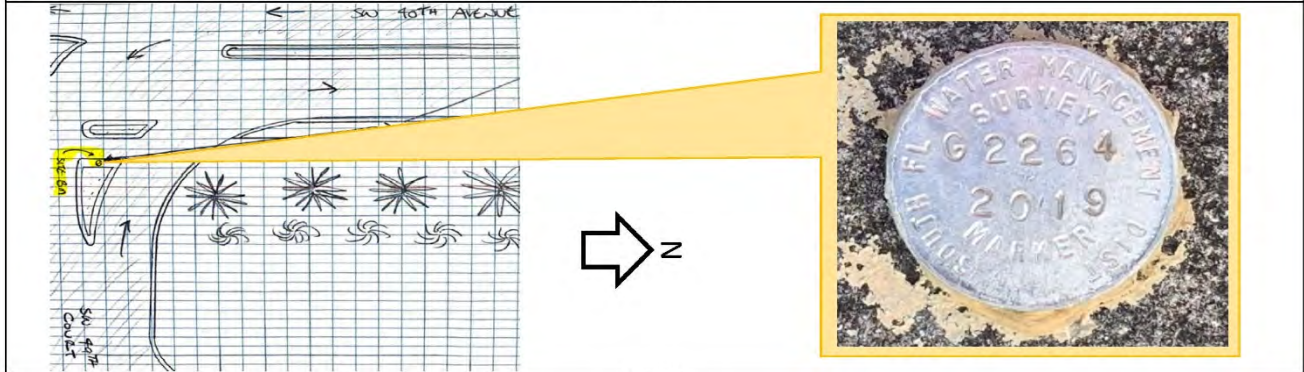
***NO NGS BENCHMARKS WERE UTILIZED.**

Notable Landmarks:
 Other Source Benchmarks: COUNTY BM "2685"

PICTURES



PICTURES





SOUTH FLORIDA WATER MANAGEMENT DISTRICT



Well Site
Latitude: 26° 03' 42.08"
Longitude: 80° 11' 59.18"

Benchmark "G-2264"
Latitude: 26°03'40.7"
Longitude: 80°11'59.4"
NAVD88 EL = 3.49 FEET

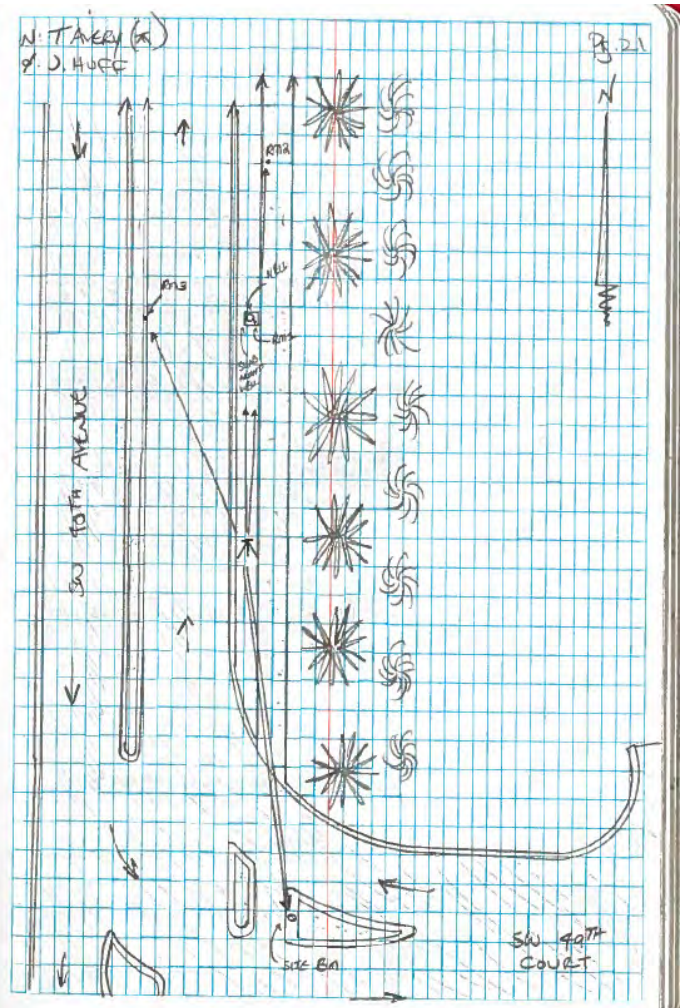
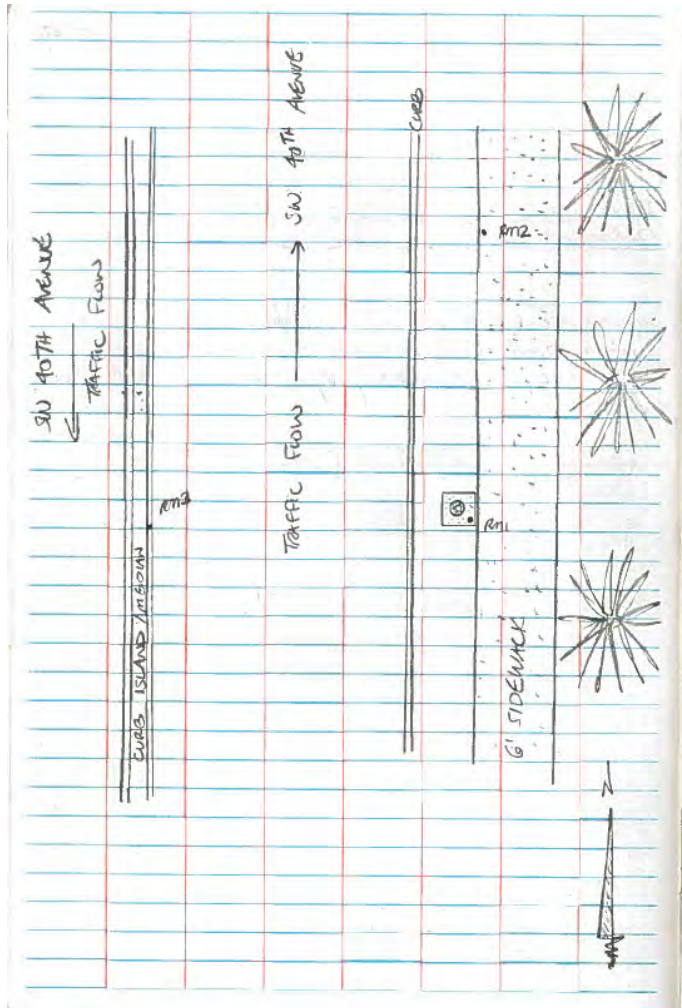
NOT TO SCALE (Google Earth Product)



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

SKETCH

FIELD BOOK SFWMD #1, PAGE 21



Office

Project

2 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-2264

1/2

Northing/Y: 628777.5
Easting/X: 918850.3
Elevation/Z: 3.49
Convergence: 0 21 05.60882
Scale Factor: 1.000020300
Combined Factor: 1.000024120

Latitude: 26 03 40.69141
Longitude: 80 11 59.40003
Elevation/Z: 5.091

WELL G-2264

2/2

Northing/Y: 628917.86'
Easting/X: 918869.40'
Elevation/Z: 3.27
Convergence: 0 21 05.72243
Scale Factor: 1.000020311
Combined Factor: 1.000024142

Latitude: 26 03 42.08035
Longitude: 80 11 59.18116
Elevation/Z: 4.871

SPECTRA S&EO S.F.W.M.I.D. 09/10/19
 S/N: 0560 (RIVER) USGS WELLS & BMS
 TEMBLEY ST JOB # 5009949
 WELL SITE # G-22CA

TASKS: - DETERMINE HORIZONTAL LOCATIONS ON REFERENCE MONUMENTATION & WELL CASING @ SITE.

- MEASURE & RECORD W/L (WATER LEVEL) @ SITE

		STORED				
PT #	(N) ELEV	(S) ELEV	(L) ELEV	PT #	DESCRIPTION	
S/O	8	0.015	-0.073	5006	CHK IN G-2697 BM	30 FE.
* LOCATED PT #S 12026 - 12014						
S/O	8	0.073	0.058	5007	CHK OUT G-2697 BM	" "

PT #	DESCRIPTION	NEW PT #
12016	RM1 LAND REC. USGS SURVEY MARK	12021
12017	RM2 LAND REC. USGS SURVEY MARK	12024
12018	RM3 LAND REC. USGS SURVEY MARK	12025
12019	NW CORNER OF CONC SLAB	—
12010	NE CORNER OF CONC SLAB	—
12011	SE CORNER OF CONC SLAB	—
12012	SW CORNER OF CONC SLAB	—
12013	WELL CASING OPENING (HOLE) (MP)	12022
12014	PIPE INLET @ WELL CASING (PIC)	12023

W/L READING WAS TAKEN @ APPROX. 5:45 PM

READING: 2.82' FROM MP (MEASURING POINT)

Tolson	SFWMD	09/17/19
ATGL	USGS WELLS & Bms	
S/W 1439	JOB # S009 9999	
	WELL SITE # G2004	
TASK: ELEVATE REFERENCE INSTRUMENTATION, MEASURING POINT, CONC SLAB AROUND WELL CASING, & GROUND SURF N. OF CASING.		
ELEVATION	DESCRIPTION	
BEGIN @ 4.000 3.49 (Whitten)	ALUMINUM DISC EPXY'D TO OF S/W 40TH AVENUE &	
BACK SIGHT (v)	IK	FORESIGHT (-) AD
IA ID READINGS MEAN ELEV	READINGS MEAN ELEV	ELEV
4.975	4.515	
Bm 4.555 4.5567 4.556	4.215 4.2150 4.215	4.177
4.14 53.5' / 133.5'	3.915 60' / 143.5'	3.832
	5.01	
Bm 4.5567	4.725 4.7250 4.725	4.657
	4.44 57' / 140.5'	3.322
	5.065	
Bm 4.5567	4.775 4.7750 4.775	4.617
	4.485 55' / 141.5'	3.272
	5.22	
Bm 4.5567	4.93 4.9300 4.93	4.1567
	4.64 58' / 141.5'	3.117

N: J. AVERY
K: J. HUFF

09/23/19

CHECK-IN / CHECK OUT: (CAPS @ BM) S/W: 1165

PT #	(W)	(E)	(E)	PT#	DESCR.
S/O 8	0.076'	-0.002	0.105	S/O	CHEPT 8
* LOCATED PT'S USING PT#S 12021-12025					
S/O 8	0.071	-0.037	0.184	S/O	CHEPT 8
* RESULT DUE TO COLLECTOR BEING STOLEN					

TOP OF CURB IN CURB ISLAND @ INTERSECTION S/W 90TH COURT & S/W 90TH AVE.

FREE SIGHT (-)
DESCRIPTIONS

RM3 - REC. NAIL & DISC, STAMPED "USGS SURVEY MARKER RM-3", LOCATED IN TOP OF CURB, WEST OF WELL ENCLOSURE, IN MEDIAN OF S/W 90TH AVENUE

RM1 - REC. NAIL & DISC, STAMPED "USGS SURVEY MARKER RM-1", LOCATED IN SE CORNER OF CONC SLAB AROUND WELL CASING

MP (NORTH RIM OF HDPE WELL CASING) (8" HDPE)

NORTH EDGE OF INTERIOR PIPE, PVC

* CONTINUE LEVELING ON NEXT PG (10)

Blow		SFBWMS	09/19/19	
ATGR		USGS WELL E BMS		
S/N: 1989		JOB # 5009999		
		WELL SITE # G2269		
TASK: CONTINUE ELEVATING POINTS				
STATION	READING	MEAN ELEV	FORESIGHT (-) MEAN ELEV	ADJ ELEV.
BACKSIGHT (+)		FORESIGHT (-)		
		5.06		
Bm	4.5567	4.765	4.7667	4.7667
	"	8.047	4.475	3.280
		58.5' / 142'		
		4.99		
Bm	4.5567	4.685	4.6967	4.6967
	"	4.405		3.350
		58.5' / 142'		
		5.02		
Bm	4.5567	4.735	4.7350	4.7350
	"	4.45		3.312
		57' / 140.5'		
		5.075		
Bm	4.5567	4.79	4.7900	4.7900
	"	4.505		3.257
		57' / 140.5'		
		5.14		
Bm	4.5567	4.85	4.8483	4.8483
	"	4.555		3.192
		58.5' / 142'		

N. T. Arvey		Pg. 19
K. J. HUFF		
FORESIGHT (-)		
DESCRIPTIONS		
NW CORNER OF CONC SLAB AROUND WELL CASING		
NE CORNER OF CONC SLAB AROUND WELL CASING		
SE CORNER OF CONC SLAB AROUND WELL CASING		
SW CORNER OF CONC SLAB AROUND WELL CASING		
GROUND SHOT (NORTH OF CONCRETE SLAB AROUND WELL CASING)		

TPCAN S. F. W. MD 09/19/19
 AFGC USGS WELL & B.M.
 S/N 1438 JOB # 5004944
 WELL SITE # G.2264

TASK: CONTINUE ELEVATING POINTS
 BACKSIGHT (+) π FORESIGHT (-) ADJ
 STA ID READINGS MEAN ELEV READINGS MEAN ELEV CLEV.

			5.105		
Bm	104.556	4.609	4.6882	99.866	11.014
	8.047	4.27			3.359
		83.5/167'			
* BREAK SETUP					
	4.77		4.64		
RM2	4.35	4.3533	164.207	4.225	4.2233
	3.94		99.998		4.6284
	7.712	3.805			3.489
		83.5/333.5'			

* END LEVELING

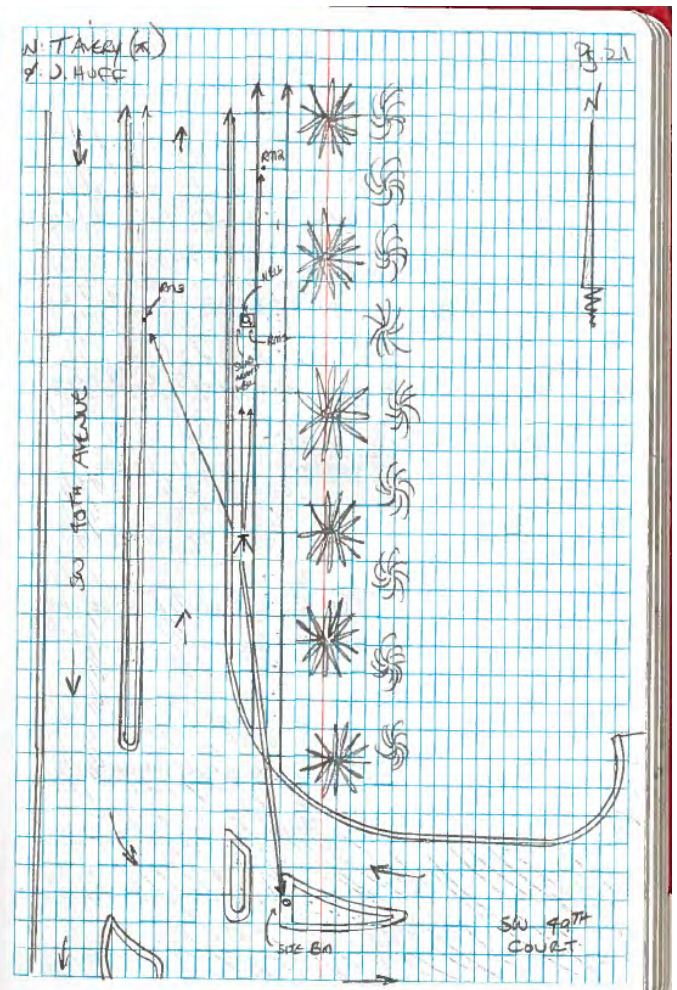
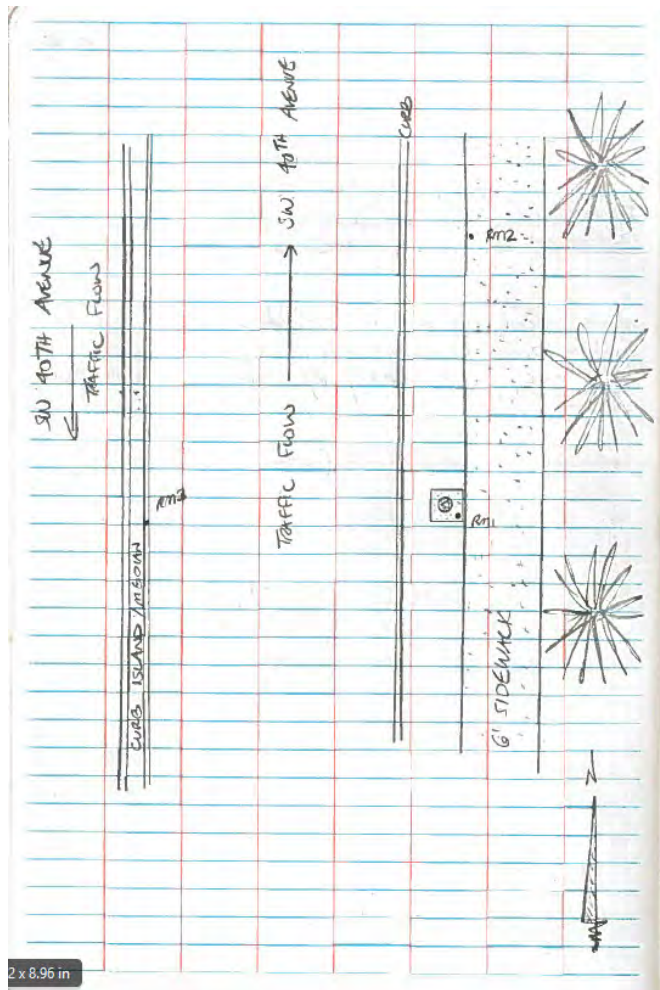
N. T. AVERY
 T. J. HUFF

FORESIGHT
 DESCRIPTION

RM2, REC. NAIL & DISC, STAMPED "USGS SURVEY
 MARKER RM2", LOCATED IN SIDEWALK NORTH OF
 WELL SITE ON EASTERLY R/W OF SW 90TH AVE.

BACK @ STARTING POINT (SITE BENCH MARK)

Check $I_m = -0.001'$



Broward County Benchmark "1802" Datasheet

Office

Project

15 November 2019

INPUT

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

OUTPUT

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

Broward Co. BM 1802

1/1

Latitude: 26.062539
Longitude: 80.192472
Elevation/Z: 9.176

Northing/Y: 629241.598
Easting/X: 921264.244
Elevation/Z: 7.575
Convergence: 0 21 17.30971
Scale Factor: 1.000021761
Combined Factor: 1.000025389

NGVD 29 Elevations acquired from
Broward County Highway Construction
and Engineering Division

Bench Mark Number:	1802
Section-Township-Range:	31-50-42
Elevation:	9.176
Description:	X-CUT 2' EAST OF THE EAST BULLNOSE IN THE CENTERLINE OF STIRLING ROAD AND SOUTHWEST 35 AVE. 55' + OR - NORTHEAST OF POWER POLE # 34B8. B.M. FOUND 4-11-2000 FOUND GOOD 1-31-06

Broward County Benchmark "2685" Datasheet

**Office
Project**

17 October 2019

INPUT

State Plane, NAD83
0901 - Florida East, U.S. Feet
Vertical - NGVD29 (Vertcon94), U.S. Feet

OUTPUT

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

BM2685

1/1

Northing/Y: 629104.772
Easting/X: 923961.789
Elevation/Z: 5.26
Convergence: 0 21 30.28400
Scale Factor: 1.000023409
Combined Factor: 1.000027153

Northing/Y: 629104.772
Easting/X: 923961.789
Elevation/Z: 3.659
Convergence: 0 21 30.28400
Scale Factor: 1.000023409
Combined Factor: 1.000027229

Grid Shift (U.S. ft.): X/Easting = 0.0, Y/Northing = 0.0

NGVD 29 Elevations acquired from
Broward County Highway Construction
and Engineering Division

Bench Mark Number: 2685

Section-Township-Range: 31-50-42

Elevation: 5.26

Description: BROWARD COUNTY NEAR FT. LAUDERDALE - CANAL
CROSSING GRIFFIN ROAD AT SOUTHWEST 31 AVENUE.
"SQUARE" CUT ON SOUTH HEADWALL. B.M. FOUND 4-13-
2000 FOUND GOOD 1-31-06
