



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16

U.S.G.S. Station Name: G-561	U.S.G.S. Station Number: 260545080082001	Agency: SFWMD	Date of Field Work: 09/24/19--09/27/19
Party Chief: T. AVERY	Field Book: SFWMD #1	Page(s): 41-44	Report Prepared by: DEWBERRY

SITE SPECIFIC DATA

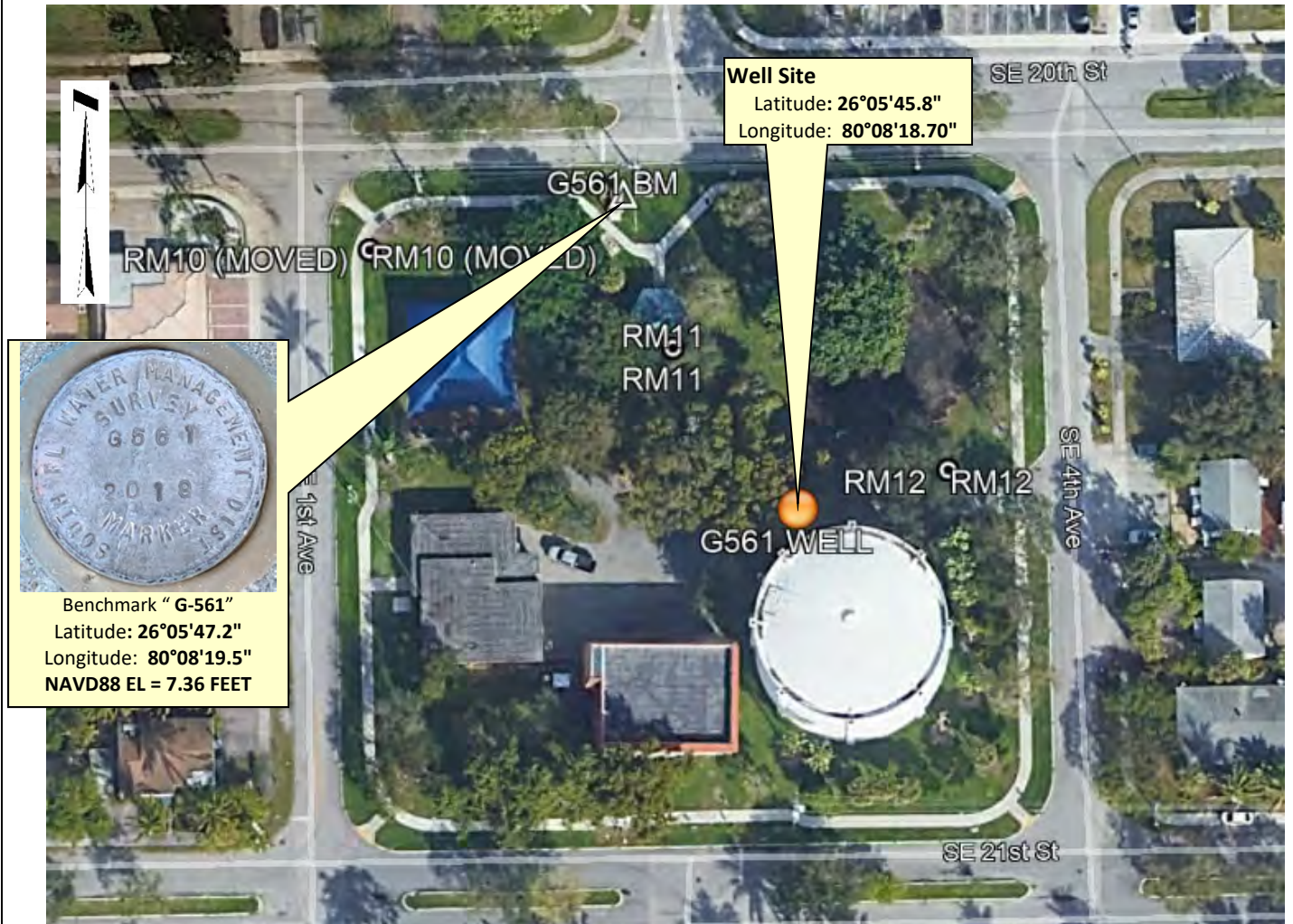
Site Benchmark: G-561	Benchmark Elevation(s) (NAVD88): 7.36 feet	Corpscon 6.0.1 Conversion Factor (NAVD88 to NGVD29) + 1.59 feet	
Well Reference Elevation (NAVD88): 10.32'		Ground Elevation (NAVD88): 7.3'	Pad Elevation (NAVD88): N/A

GEOGRAPHIC DATA

Section 15	Township 50 SOUTH	Range 42 EAST
Well Latitude: 26°05'45.81"N	Well Longitude: 80°08'18.70"W	Location Source: AVERAGED FPRN & TRIMBLE VRSNOW RTK
State Plane Coordinates: Northing (Y) = 641539'		Easting (X) = 938894'

Notes: NAVD88 – North American Vertical Datum of 1988; NGVD29- National Geodetic Vertical Datum of 1929; 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.

PICTURES



Not to scale (GoogleEarth product)



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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Well Site and Well Head





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Well Site and Well Head (Continued)



Well: 6" PVC
Reference Point: black sharpie mark on top of metal base at NW edge

Reference Point El. =
10.32 feet NAVD88

Distance to water =
-9.40 feet from reference point
(09/24/19 at 5:35 PM)

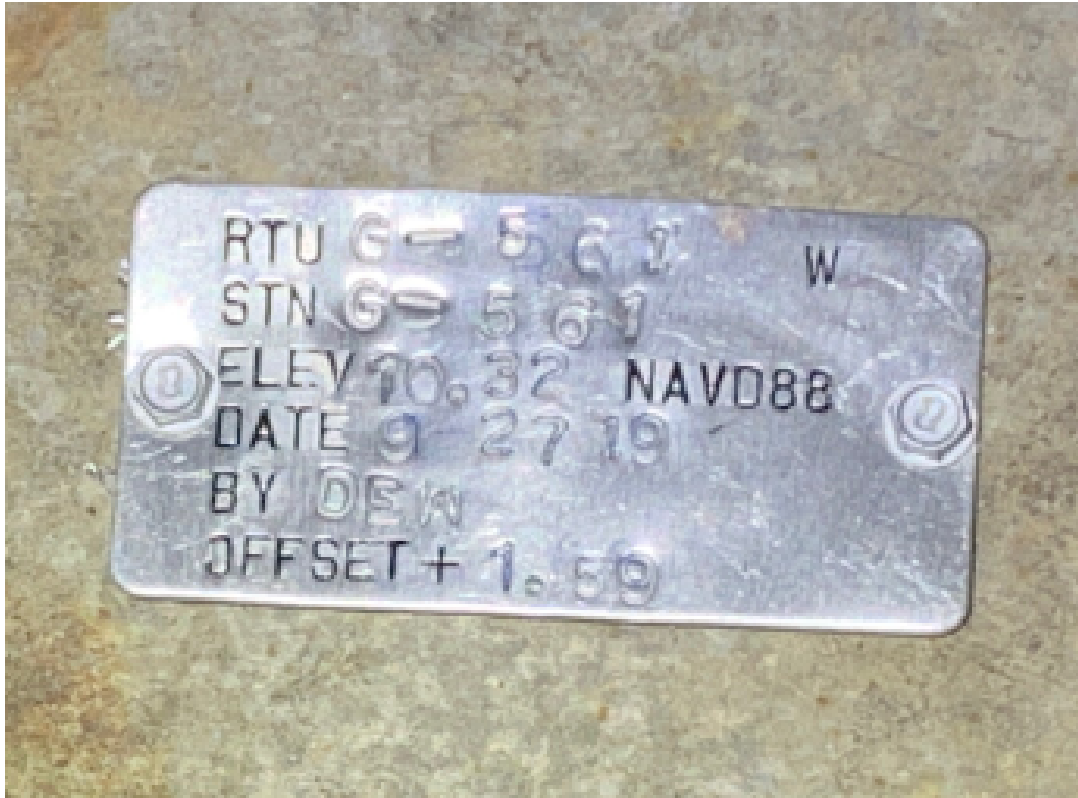




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New Aluminum Tag

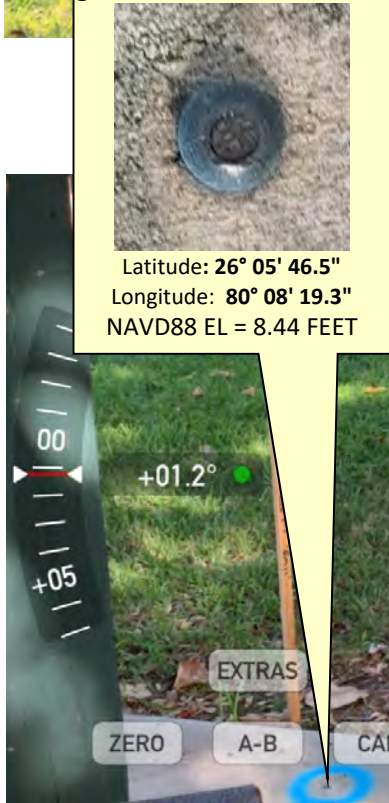
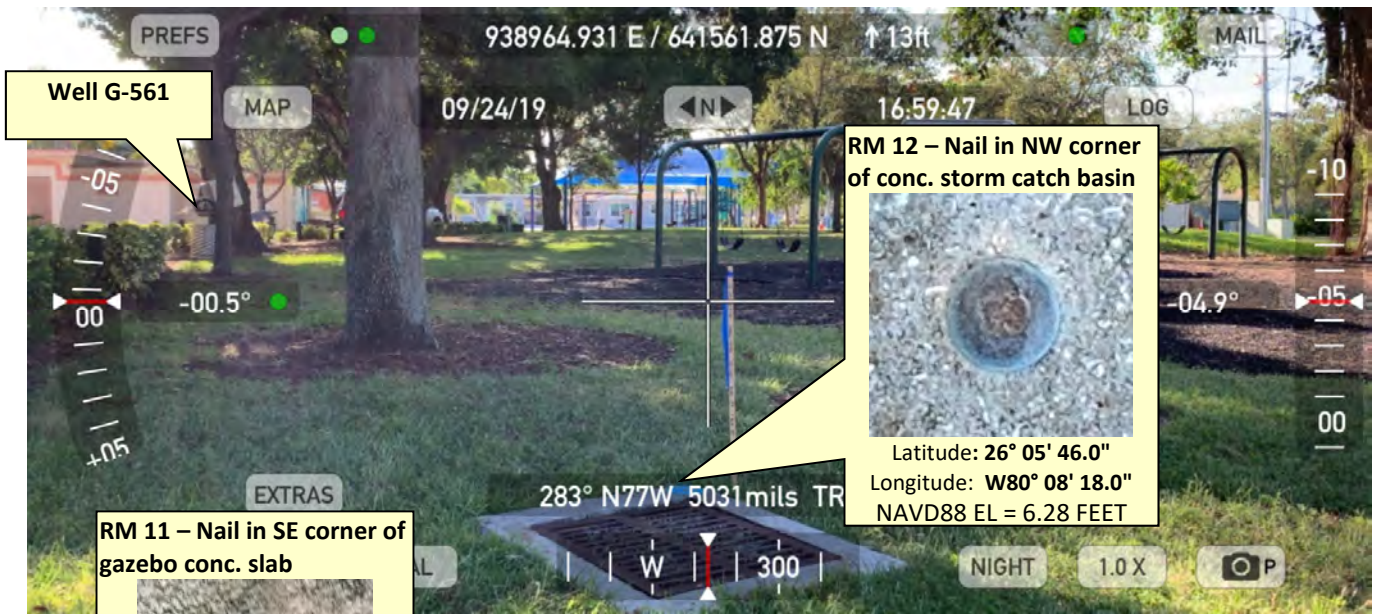




SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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USGS RMs





SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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USGS RMs (Continued)



RM 10 – Nail in corner of concrete slab for trash can (moved from orig. position)



Latitude: 26° 05' 46.9"
 Longitude: 80° 08' 20.7"
 NAVD88 EL = 6.84 FEET

RM 10 – Nail in corner of concrete slab for trash can (moved from orig. position)



Latitude: 26° 05' 46.9"
 Longitude: 80° 08' 20.7"
 NAVD88 EL = 6.84 FEET

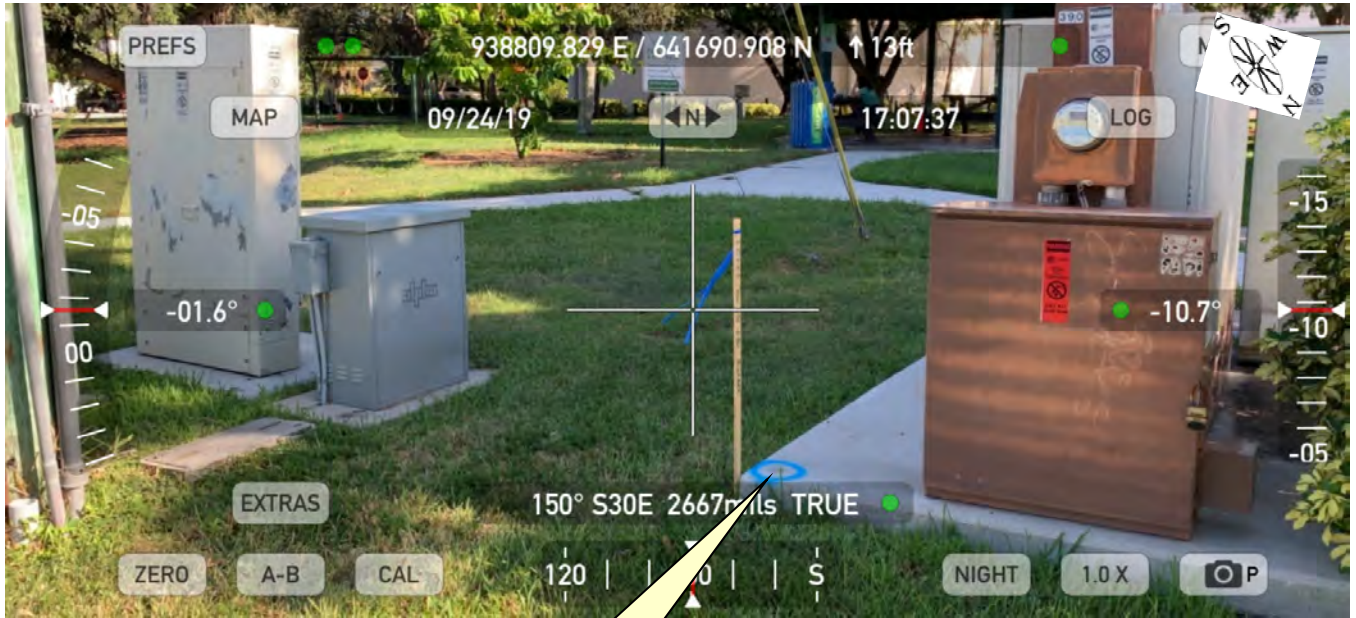




SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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Site Benchmark



Site BM: G561



Latitude: 26°05'47.2"
Longitude: 80°08'19.5"
NAVD88 EL = 7.36 FEET





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Source Benchmarks



NGS Benchmark "X 235" (AD2481)



Latitude: 26°05'33.2"
Longitude: 80°08'30.8"
NAVD88 EL = 9.25 FEET



NGS Benchmark "Y 235" (AD2478)



Latitude: 26°05'03.5"
Longitude: 80°08'26.1"
NAVD88 EL = 7.89 FEET



"X 235" Benchmark Datasheet (1 of 5)

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
AD2481 *****
AD2481 DESIGNATION - X 235
AD2481 PID - AD2481
AD2481 STATE/COUNTY- FL/BROWARD
AD2481 COUNTRY - US
AD2481 USGS QUAD - FORT LAUDERDALE SOUT (1994)
AD2481
AD2481 *CURRENT SURVEY CONTROL
AD2481
AD2481* NAD 83(2011) POSITION- 26 05 33.24356(N) 080 08 30.78674(W) ADJUSTED
AD2481* NAD 83(2011) ELLIP HT- -22.839 (meters) (06/27/12) ADJUSTED
AD2481* NAD 83(2011) EPOCH - 2010.00
AD2481* [NAVD 88](#) ORTHO HEIGHT - 2.820 (meters) 9.25 (feet) ADJUSTED
AD2481
AD2481 GEOID HEIGHT - -25.671 (meters) GEOID12B
AD2481 NAD 83(2011) X - 981,335.008 (meters) COMP
AD2481 NAD 83(2011) Y - -5,647,167.410 (meters) COMP
AD2481 NAD 83(2011) Z - 2,788,265.803 (meters) COMP
AD2481 LAPLACE CORR - -3.30 (seconds) DEFLEC12B
AD2481 DYNAMIC HEIGHT - 2.815 (meters) 9.24 (feet) COMP
AD2481 MODELED GRAVITY - 979,056.0 (mgal) NAVD 88
AD2481
AD2481 VERT ORDER - FIRST CLASS II
AD2481
AD2481 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AD2481 Standards:
AD2481 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
AD2481 Horiz Ellip SD_N SD_E SD_h (unitless)
AD2481 -----
AD2481 NETWORK 1.62 2.53 0.64 0.68 1.29 -0.17794612
AD2481 -----
AD2481 Click [here](#) for local accuracies and other accuracy information.
AD2481
AD2481
AD2481.The horizontal coordinates were established by GPS observations
AD2481.and adjusted by the National Geodetic Survey in June 2012.
AD2481
AD2481.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AD2481.been affixed to the stable North American tectonic plate. See
AD2481.[NA2011](#) for more information.
AD2481
AD2481.The horizontal coordinates are valid at the epoch date displayed above
AD2481.which is a decimal equivalence of Year/Month/Day.
AD2481
AD2481.The orthometric height was determined by differential leveling and
AD2481.adjusted by the NATIONAL GEODETIC SURVEY
AD2481.in May 1994.
AD2481
AD2481.WARNING-Repeat measurements at this control monument indicate possible
AD2481.vertical movement.
AD2481
AD2481
AD2481.Significant digits in the geoid height do not necessarily reflect accuracy.
AD2481.GEOID12B height accuracy estimate available [here](#).
AD2481



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"X 235" Benchmark Datasheet (2 of 5)

AD2481. [Photographs](#) are available for this station.

AD2481

AD2481.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AD2481

AD2481.The Laplace correction was computed from DEFLEC12B derived deflections.

AD2481

AD2481.The ellipsoidal height was determined by GPS observations

AD2481.and is referenced to NAD 83.

AD2481

AD2481.The dynamic height is computed by dividing the NAVD 88

AD2481.geopotential number by the normal gravity value computed on the

AD2481.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AD2481.degrees latitude (g = 980.6199 gals.).

AD2481

AD2481.The modeled gravity was interpolated from observed gravity values.

AD2481

AD2481. The following values were computed from the NAD 83(2011) position.

AD2481

AD2481;		North	East	Units	Scale Factor	Converg.
AD2481;SPC FL E	-	195,152.437	285,841.981	MT	1.00003213	+0 22 38.8
AD2481;SPC FL E	-	640,262.62	937,799.90	sFT	1.00003213	+0 22 38.8
AD2481;UTM 17	-	2,886,217.833	585,812.692	MT	0.99969092	+0 22 38.8

AD2481

AD2481| Elev Factor x Scale Factor = Combined Factor

AD2481|SPC FL E - 1.00000359 x 1.00003213 = 1.00003572

AD2481|UTM 17 - 1.00000359 x 0.99969092 = 0.99969451

AD2481

AD2481: Primary Azimuth Mark Grid Az

AD2481:SPC FL E - 190 BCED 267 38 16.7

AD2481:UTM 17 - 190 BCED 267 38 16.7

AD2481

AD2481_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ8581286217(NAD 83)

AD2481

AD2481	PID	Reference Object	Distance	Geod. Az
AD2481				dddmmss.s
AD2481	AD5698	190 BCED	APPROX. 0.5 KM	2680055.5

AD2481

SUPERSEDED SURVEY CONTROL

AD2481

AD2481 NAD 83(2007)- 26 05 33.24363(N) 080 08 30.78735(W) AD(2002.00) 0

AD2481 ELLIP H (02/10/07) -22.819 (m) GP(2002.00)

AD2481 NAD 83(1999)- 26 05 33.24365(N) 080 08 30.78734(W) AD() 1

AD2481 ELLIP H (12/12/02) -22.811 (m) GP() 4 1

AD2481 NAVD 88 2.82 (m) 9.3 (f) LEVELING 3

AD2481 NAVD 88 (06/15/91) 2.814 (m) 9.23 (f) SUPERSEDED 1 2

AD2481 NGVD 29 (??/??/92) 3.303 (m) 10.84 (f) SUPERSEDED 1 2

AD2481 NGVD 29 (09/01/92) 3.303 (m) 10.84 (f) ADJUSTED 1 2

AD2481

AD2481.Superseded values are not recommended for survey control.

AD2481

AD2481.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AD2481.See file [dsdata.pdf](#) to determine how the superseded data were derived.

AD2481

AD2481_MARKER: DB = BENCH MARK DISK

AD2481_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

AD2481_STAMPING: X 235 1965

AD2481_MARK LOGO: CGS

AD2481_PROJECTION: FLUSH

AD2481_MAGNETIC: N = NO MAGNETIC MATERIAL

AD2481_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AD2481+STABILITY: SURFACE MOTION

AD2481_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AD2481+SATELLITE: SATELLITE OBSERVATIONS - April 12, 2018



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"X 235" Benchmark Datasheet (3 of 5)

AD2481	HISTORY	- Date	Condition	Report By
AD2481	HISTORY	- 1965	MONUMENTED	CGS
AD2481	HISTORY	- 1973	GOOD	NGS
AD2481	HISTORY	- 1978	GOOD	FL-011
AD2481	HISTORY	- 1981	GOOD	FLDNR
AD2481	HISTORY	- 1982	GOOD	USPSQD
AD2481	HISTORY	- 19901221	GOOD	NGS
AD2481	HISTORY	- 19980927	GOOD	USPSQD
AD2481	HISTORY	- 20011018	GOOD	LDBLS
AD2481	HISTORY	- 20020512	GOOD	MAPTEC
AD2481	HISTORY	- 20070619	GOOD	FLDEP
AD2481	HISTORY	- 20071219	GOOD	INDIV
AD2481	HISTORY	- 20110118	GOOD	FLDT
AD2481	HISTORY	- 20140618	GOOD	GEOCAC
AD2481	HISTORY	- 20180412	GOOD	WANTGP

AD2481

STATION DESCRIPTION

AD2481

AD2481'DESCRIBED BY COAST AND GEODETIC SURVEY 1965

AD2481'0.4 MI S FROM FORT LAUDERDALE.

AD2481'ABOUT 0.35 MILE SOUTH ALONG THE FLORIDA EAST COAST RAILWAY FROM

AD2481'THE STATION AT FORT LAUDERDALE, IN SECTION 22, R 42 E, T 50 S,

AD2481'13 1/2 RAILS SOUTH OF MILEPOST 343, 25.1 FEET EAST OF THE EAST

AD2481'RAIL OF THE NORTHBOUND TRACK, 8.6 FEET SOUTH OF THE SOUTH CURB

AD2481'OF STATE HIGHWAY 84 (SW 24TH STREET), 1.3 FEET SOUTH OF THE

AD2481'SOUTH EDGE OF A CONCRETE SIDEWALK, 2 FEET WEST OF A STEEL RAIL

AD2481'WHICH IS SET IN GROUND AND PROJECTS 3 FEET ABOVE THE LEVEL OF

AD2481'THE GROUND, ABOUT LEVEL WITH THE TRACK AND SET IN THE TOP OF

AD2481'A CONCRETE POST FLUSH WITH THE GROUND.

AD2481

STATION RECOVERY (1973)

AD2481

AD2481'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1973

AD2481'RECOVERED IN GOOD CONDITION.

AD2481

STATION RECOVERY (1978)

AD2481

AD2481'RECOVERY NOTE BY BROWARD COUNTY FLORIDA 1978

AD2481'RECOVERED IN GOOD CONDITION.

AD2481

STATION RECOVERY (1981)

AD2481

AD2481'RECOVERY NOTE BY FL DEPT OF NAT RES 1981

AD2481'RECOVERED IN GOOD CONDITION.

AD2481

STATION RECOVERY (1982)

AD2481

AD2481'RECOVERY NOTE BY US POWER SQUADRON 1982

AD2481'CHANGE DESC: MARKER NOW INSIDE CHAIN LINK FENCE OF LUMBER YARD.

AD2481

STATION RECOVERY (1990)

AD2481

AD2481'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990

AD2481'IN FORT LAUDERDALE, AT THE INTERSECTION OF SOUTHWEST 24TH STREET

AD2481'(STATE HIGHWAY 84) AND THE FLORIDA EAST COAST RAILROAD, 7.7 M (25.3

AD2481'FT) EAST OF AND LEVEL WITH THE NEAR RAIL, 5.3 M (17.4 FT) SOUTH OF

AD2481'THE CENTER OF THE EASTBOUND LANES OF THE STREET, 1.0 M (3.3 FT) EAST

AD2481'OF A WITNESS POST, 0.7 M (2.3 FT) SOUTHEAST OF A CHAIN-LINK FENCE

AD2481'CORNER, AND THE MONUMENT PROJECTS 0.1 M (0.3 FT) ABOVE THE GROUND

AD2481'SURFACE.

AD2481

STATION RECOVERY (1998)

AD2481

AD2481'RECOVERY NOTE BY US POWER SQUADRON 1998



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"X 235" Benchmark Datasheet (4 of 5)

AD2481'RECOVERED IN GOOD CONDITION.

AD2481

AD2481

STATION RECOVERY (2001)

AD2481

AD2481'RECOVERY NOTE BY LD BRADLEY LAND SURVEYORS 2001 (JCH)

AD2481'THE MARK IS ABOUT 0.8 KM (0.47 MI) WEST OF PORT EVERGLADES IN SECTION

AD2481'22,

AD2481'TOWNSHIP 50 SOUTH, RANGE 42 EAST, BROWARD COUNTY, FLORIDA.

AD2481'

AD2481'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE HIGHWAY 75 AND

AD2481'U.S.

AD2481'HIGHWAY 27 (I-75 EXIT 13, NEAR ANDYTOWN) GO EAST ON INTERSTATE HIGHWAY

AD2481'75 8.1

AD2481'KM (5.04 MI) TO THE JUNCTION WITH INTERSTATE HIGHWAY 595 EAST, EXIT

AD2481'RIGHT ONTO

AD2481'INTERSTATE HIGHWAY 595 EAST, AND GO EAST ALONG INTERSTATE HIGHWAY 595

AD2481'16.3 KM

AD2481'(10.13 MI) TO THE JUNCTION WITH STATE ROAD 84, GO EAST ON STATE ROAD

AD2481'84 6.7 KM

AD2481'(4.19 MI) TO THE INTERSECTION WITH THE FLORIDA EAST COAST RAILROAD AND

AD2481'THE

AD2481'MARK ON THE RIGHT. ALSO TO REACH THE MARK FROM THE INTERSECTION OF

AD2481'STATE ROAD

AD2481'84 AND EISENHOWER BOULEVARD IN PORT EVERGLADES, GO WEST ON STATE ROAD

AD2481'84 1.0

AD2481'KM (0.62 MI) TO THE ENTRANCE-EXIT OF PORT EVERGLADES, CONTINUE WEST ON

AD2481'STATE

AD2481'ROAD 84 0.8 KM (0.47 MI) TO THE STATION ON THE INTERSECTION WITH THE

AD2481'FLORIDA

AD2481'EAST COAST RAILROAD AND THE MARK ON THE LEFT.

AD2481'

AD2481'THE MARK IS 16.03 M (52.6 FT) SOUTH OF THE CENTERLINE OF STATE ROAD

AD2481'84, 7.74 M

AD2481'(25.4 FT) EAST OF THE MOST EASTERN RAIL OF RAILROAD TRACTS, 0.61 M

AD2481'(2.0 FT)

AD2481'EAST OF A METAL WITNESS POST, 0.49 M (1.6 FT) SOUTH OF A CHAIN LINK

AD2481'FENCE, AND

AD2481'0.43 M (1.4 FT) EAST OF A CHAIN LINK FENCE. THE MARK IS A DISK SET

AD2481'FLUSH IN

AD2481'THE TOP OF A CONCRETE MONUMENT FLUSH WITH THE LEVEL OF THE GROUND

AD2481'ABOUT THE

AD2481'SAME LEVEL AS THE HIGHWAY.

AD2481'

AD2481

AD2481

STATION RECOVERY (2002)

AD2481

AD2481'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)

AD2481'THE MARK IS ABOUT 0.8 KM (0.47 MI) WEST OF PORT EVERGLADES IN SECTION

AD2481'22,

AD2481'TOWNSHIP 50 SOUTH, RANGE 42 EAST, BROWARD COUNTY, FLORIDA.

AD2481'

AD2481'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE HIGHWAY 75 AND

AD2481'U.S.

AD2481'HIGHWAY 27 (I-75 EXIT 13, NEAR ANDYTOWN) GO EAST ON INTERSTATE HIGHWAY

AD2481'75 8.1

AD2481'KM (5.04 MI) TO THE JUNCTION WITH INTERSTATE HIGHWAY 595 EAST, EXIT

AD2481'RIGHT ONTO

AD2481'INTERSTATE HIGHWAY 595 EAST, AND GO EAST ALONG INTERSTATE HIGHWAY 595

AD2481'16.3 KM

AD2481'(10.13 MI) TO THE JUNCTION WITH STATE ROAD 84, GO EAST ON STATE ROAD

AD2481'84 6.7 KM

AD2481'(4.19 MI) TO THE INTERSECTION WITH THE FLORIDA EAST COAST RAILROAD AND

AD2481'THE

AD2481'MARK ON THE RIGHT. ALSO TO REACH THE MARK FROM THE INTERSECTION OF

AD2481'STATE ROAD



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"X 235" Benchmark Datasheet (5 of 5)

AD2481'84 AND EISENHOWER BOULEVARD IN PORT EVERGLADES, GO WEST ON STATE ROAD
AD2481'84 1.0
AD2481'KM (0.62 MI) TO THE ENTRANCE-EXIT OF PORT EVERGLADES, CONTINUE WEST ON
AD2481'STATE
AD2481'ROAD 84 0.8 KM (0.47 MI) TO THE STATION ON THE INTERSECTION WITH THE
AD2481'FLORIDA
AD2481'EAST COAST RAILROAD AND THE MARK ON THE LEFT.
AD2481'
AD2481'THE MARK IS 16.03 M (52.6 FT) SOUTH OF THE CENTERLINE OF STATE ROAD
AD2481'84, 7.74 M
AD2481'(25.4 FT) EAST OF THE MOST EASTERN RAIL OF RAILROAD TRACTS, 0.61 M
AD2481'(2.0 FT)
AD2481'EAST OF A METAL WITNESS POST, 0.49 M (1.6 FT) SOUTH OF A CHAIN LINK
AD2481'FENCE, AND
AD2481'0.43 M (1.4 FT) EAST OF A CHAIN LINK FENCE. THE MARK IS A DISK SET
AD2481'FLUSH IN
AD2481'THE TOP OF A CONCRETE MONUMENT FLUSH WITH THE LEVEL OF THE GROUND
AD2481'ABOUT THE
AD2481'SAME LEVEL AS THE HIGHWAY.
AD2481'
AD2481'STATION RECOVERY (2002)
AD2481'RECOVERY NOTE BY MAPTECH, INCORPORATED 2002 (CP)
AD2481'RECOVERED AS DESCRIBED.
AD2481'
AD2481
AD2481 STATION RECOVERY (2007)
AD2481
AD2481'RECOVERY NOTE BY FL DEPT OF ENV PRO 2007 (JRH)
AD2481'RECOVERED AS DESCRIBED.
AD2481
AD2481 STATION RECOVERY (2007)
AD2481
AD2481'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2007 (DF)
AD2481'RECOVERED IN GOOD CONDITION.
AD2481
AD2481 STATION RECOVERY (2011)
AD2481
AD2481'RECOVERY NOTE BY FLORIDA DEPARTMENT OF TRANSPORTATION 2011 (PED)
AD2481'RECOVERED IN GOOD CONDITION.
AD2481
AD2481 STATION RECOVERY (2014)
AD2481
AD2481'RECOVERY NOTE BY GEOCACHING 2014 (KEN)
AD2481'LOCATED IN THE NORTHWEST CORNER OF THE WEST MARINE PARKING LOT.
AD2481
AD2481 STATION RECOVERY (2018)
AD2481
AD2481'RECOVERY NOTE BY WANTMAN GROUP INC 2018 (CG)
AD2481'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:04



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"Y 235" Benchmark Datasheet (1 of 4)

The NGS Data Sheet

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

PROGRAM = datasheet95, VERSION = 8.12.5.4

1 National Geodetic Survey, Retrieval Date = NOVEMBER 15, 2019

AD2478 *****

AD2478 TIDAL BM - This is a Tidal Bench Mark.

AD2478 DESIGNATION - Y 235

AD2478 PID - AD2478

AD2478 STATE/COUNTY- FL/BROWARD

AD2478 COUNTRY - US

AD2478 USGS QUAD - FORT LAUDERDALE SOUT (1994)

AD2478

AD2478 *CURRENT SURVEY CONTROL

AD2478

AD2478*	NAD 83(2011) POSITION-	26 05 03.49050(N) 080 08 26.05196(W)	ADJUSTED
AD2478*	NAD 83(2011) ELLIP HT-	-23.269 (meters) (06/27/12)	ADJUSTED
AD2478*	NAD 83(2011) EPOCH	- 2010.00	
AD2478*	NAVD 88 ORTHO HEIGHT -	2.406 (meters) 7.89 (feet)	ADJUSTED

AD2478

AD2478	GEOID HEIGHT	- -25.671 (meters)	GEOID18
AD2478	NAD 83(2011) X	- 981,533.519 (meters)	COMP
AD2478	NAD 83(2011) Y	- -5,647,541.215 (meters)	COMP
AD2478	NAD 83(2011) Z	- 2,787,443.261 (meters)	COMP
AD2478	LAPLACE CORR	- -3.45 (seconds)	DEFLEC18
AD2478	DYNAMIC HEIGHT	- 2.402 (meters) 7.88 (feet)	COMP
AD2478	MODELED GRAVITY	- 979,055.2 (mgal)	NAVD 88

AD2478

AD2478 VERT ORDER - FIRST CLASS I

AD2478

AD2478 Network accuracy estimates per FGDC Geospatial Positioning Accuracy Standards:

AD2478	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE (unitless)
	Horiz	Ellip	SD_N	SD_E	SD_h	
AD2478	-----	-----	-----	-----	-----	-----
AD2478	NETWORK	2.40 3.72	0.93	1.02	1.90	-0.17010123
AD2478	-----	-----	-----	-----	-----	-----

AD2478 Click [here](#) for local accuracies and other accuracy information.

AD2478

AD2478

AD2478.The horizontal coordinates were established by GPS observations

AD2478.and adjusted by the National Geodetic Survey in June 2012.

AD2478

AD2478.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

AD2478.been affixed to the stable North American tectonic plate. See

AD2478.[NA2011](#) for more information.

AD2478

AD2478.The horizontal coordinates are valid at the epoch date displayed above

AD2478.which is a decimal equivalence of Year/Month/Day.

AD2478

AD2478.The orthometric height was determined by differential leveling and

AD2478.adjusted by the NATIONAL GEODETIC SURVEY

AD2478.in June 1991.

AD2478



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"Y 235" Benchmark Datasheet (2 of 4)

AD2478. Significant digits in the geoid height do not necessarily reflect accuracy.
AD2478. GEOID18 height accuracy estimate available [here](#).

AD2478

AD2478. This Tidal Bench Mark is designated as VM 19064

AD2478. by the [CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES](#).

AD2478

AD2478. Click [here](#) to see if photographs exist for this station.

AD2478

AD2478. The X, Y, and Z were computed from the position and the ellipsoidal ht.

AD2478

AD2478. The Laplace correction was computed from DEFLEC18 derived deflections.

AD2478

AD2478. The ellipsoidal height was determined by GPS observations

AD2478. and is referenced to NAD 83.

AD2478

AD2478. The dynamic height is computed by dividing the NAVD 88

AD2478. geopotential number by the normal gravity value computed on the

AD2478. Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AD2478. degrees latitude (g = 980.6199 gals.).

AD2478

AD2478. The modeled gravity was interpolated from observed gravity values.

AD2478

AD2478. The following values were computed from the NAD 83(2011) position.

AD2478

	North	East	Units	Scale Factor	Converg.
AD2478; SPC FL E	- 194,237.650	285,979.596	MT	1.00003242	+0 22 40.5
AD2478; SPC FL E	- 637,261.36	938,251.39	sFT	1.00003242	+0 22 40.5
AD2478; UTM 17	- 2,885,303.358	585,950.260	MT	0.99969121	+0 22 40.5

AD2478

AD2478! Elev Factor x Scale Factor = Combined Factor

AD2478! SPC FL E - 1.00000366 x 1.00003242 = 1.00003608

AD2478! UTM 17 - 1.00000366 x 0.99969121 = 0.99969486

AD2478

AD2478 _U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ8595085303(NAD 83)

AD2478

SUPERSEDED SURVEY CONTROL

AD2478

AD2478	NAD 83(2007)- 26 05 03.49057(N)	080 08 26.05259(W)	AD(2002.00)	0
AD2478	ELLIP H (02/10/07) -23.250 (m)		GP(2002.00)	
AD2478	NAD 83(1999)- 26 05 03.49059(N)	080 08 26.05258(W)	AD()	1
AD2478	ELLIP H (12/12/02) -23.243 (m)		GP()	4 1
AD2478	NAVD 88 2.41 (m)		7.9 (f) LEVELING	3
AD2478	NGVD 29 (??/??/92) 2.896 (m)		9.50 (f) SUPERSEDED	1 1
AD2478	NGVD 29 (09/01/92) 2.896 (m)		9.50 (f) ADJUSTED	1 1

AD2478

AD2478. Superseded values are not recommended for survey control.

AD2478

AD2478. NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AD2478. See file [dsdata.pdf](#) to determine how the superseded data were derived.

AD2478

AD2478_MARKER: DB = BENCH MARK DISK

AD2478_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

AD2478_STAMPING: Y 235 1965

AD2478_MARK LOGO: CGS

AD2478_PROJECTION: FLUSH

AD2478_MAGNETIC: N = NO MAGNETIC MATERIAL

AD2478_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AD2478+STABILITY: SURFACE MOTION

AD2478_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AD2478+SATELLITE: SATELLITE OBSERVATIONS - August 16, 2018



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"Y 235" Benchmark Datasheet (3 of 4)

AD2478	HISTORY	- Date	Condition	Report By
AD2478	HISTORY	- 1965	MONUMENTED	CGS
AD2478	HISTORY	- 1973	GOOD	NGS
AD2478	HISTORY	- 1978	GOOD	FL-011
AD2478	HISTORY	- 1982	GOOD	USPSQD
AD2478	HISTORY	- 1988	MARK NOT FOUND	USPSQD
AD2478	HISTORY	- 19901221	GOOD	NGS
AD2478	HISTORY	- 19980927	GOOD	USPSQD
AD2478	HISTORY	- 20020521	GOOD	MAPTEC
AD2478	HISTORY	- 20070619	GOOD	FLDEP
AD2478	HISTORY	- 20091221	GOOD	INDIV
AD2478	HISTORY	- 20101006	GOOD	FLDT
AD2478	HISTORY	- 20120904	GOOD	AMEC
AD2478	HISTORY	- 20140701	GOOD	INDIV
AD2478	HISTORY	- 20170413	GOOD	WANTGP
AD2478	HISTORY	- 20180816	GOOD	LOCSUR

AD2478

STATION DESCRIPTION

AD2478

AD2478'DESCRIBED BY COAST AND GEODETIC SURVEY 1965

AD2478'1 MI S FROM FORT LAUDERDALE.

AD2478'ABOUT 0.95 MILE SOUTH ALONG THE FLORIDA EAST COAST RAILWAY FROM

AD2478'THE STATION AT FORT LAUDERDALE, IN SECTION 22, R 42 E, T 50 S,

AD2478'0.3 MILE NORTH OF MILEPOST 344, 285 FEET NORTH OF THE NORTH LANE

AD2478'OF SW 33RD STREET, 93.4 FEET WEST OF AND ACROSS SIDE TRACK AND SW

AD2478'1ST TERRACE FROM THE WEST RAIL OF THE SOUTHBOUND TRACK, 3.2 FEET

AD2478'NORTH OF THE SOUTHEAST CORNER OF A CYCLONE FENCE AROUND A TRUCK

AD2478'SALES PLANT, 1 FOOT EAST OF THE EAST SIDE OF FENCE, 30 FEET WEST

AD2478'OF THE CENTER LINE OF SW 1ST TERRACE, 4 FEET NORTHWEST OF A POWER

AD2478'LINE POLE, 1.3 FEET SOUTH OF A METAL WITNESS POST, 1 1/2 FEET

AD2478'BELOW THE LEVEL OF THE TRACK AND SET IN THE TOP OF A CONCRETE

AD2478'POST PROJECTING 2 INCHES ABOVE THE LEVEL OF THE GROUND.

AD2478

STATION RECOVERY (1973)

AD2478

AD2478'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1973

AD2478'RECOVERED IN GOOD CONDITION.

AD2478

STATION RECOVERY (1978)

AD2478

AD2478'RECOVERY NOTE BY BROWARD COUNTY FLORIDA 1978

AD2478'RECOVERED IN GOOD CONDITION.

AD2478

STATION RECOVERY (1982)

AD2478

AD2478'RECOVERY NOTE BY US POWER SQUADRON 1982

AD2478'CHANGE DESC: EXCEPT NOT TRUCK SALES--NOW RYDER RENTAL TRUCK STORAGE.

AD2478

STATION RECOVERY (1988)

AD2478

AD2478'RECOVERY NOTE BY US POWER SQUADRON 1988 (JHH)

AD2478'MARK NOT FOUND.

AD2478

STATION RECOVERY (1990)

AD2478

AD2478'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990

AD2478'IN FORT LAUDERDALE, AT 111 SOUTHWEST 33RD STREET, 28.2 M (92.5 FT)

AD2478'WEST OF THE NEAR RAIL OF THE FLORIDA EAST COAST RAILROAD, 8.8 M (28.9

AD2478'FT) WEST OF AND LEVEL WITH THE CENTER OF SOUTHWEST 1ST TERRACE, 8.6 M



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"Y 235" Benchmark Datasheet (4 of 4)

AD2478' (28.2 FT) NORTH OF THE NORTHEAST CORNER OF THE DME OFFICE AT 111
AD2478' SOUTHWEST 33RD STREET, 1.1 M (3.6 FT) NORTHWEST OF UTILITY LIGHT POLE
AD2478' NUMBER 3261, 0.7 M (2.3 FT) NORTH OF THE SOUTHEAST CORNER OF A
AD2478' CHAIN-LINK FENCE, 0.4 M (1.3 FT) EAST OF THE FENCE, 0.4 M (1.3 FT)
AD2478' SOUTH OF A WITNESS POST, AND THE MONUMENT IS FLUSH WITH THE GROUND
AD2478' SURFACE.

AD2478

AD2478

STATION RECOVERY (1998)

AD2478

AD2478' RECOVERY NOTE BY US POWER SQUADRON 1998

AD2478' RECOVERED IN GOOD CONDITION.

AD2478

AD2478

STATION RECOVERY (2002)

AD2478

AD2478' RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)

AD2478' RECOVERED AS DESCRIBED,

AD2478'

AD2478

AD2478

STATION RECOVERY (2007)

AD2478

AD2478' RECOVERY NOTE BY FL DEPT OF ENV PRO 2007 (JRH)

AD2478' RECOVERED AS DESCRIBED.

AD2478

AD2478

STATION RECOVERY (2009)

AD2478

AD2478' RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2009 (ED)

AD2478' RECOVERED IN GOOD CONDITION.

AD2478

AD2478

STATION RECOVERY (2010)

AD2478

AD2478' RECOVERY NOTE BY FLORIDA DEPARTMENT OF TRANSPORTATION 2010 (PED)

AD2478' RECOVERED AS DESCRIBED

AD2478

AD2478

STATION RECOVERY (2012)

AD2478

AD2478' RECOVERY NOTE BY AMEC EARTH & ENVIRONMENTAL 2012 (RLE)

AD2478' RECOVERED IN GOOD CONDITION.

AD2478

AD2478

STATION RECOVERY (2014)

AD2478

AD2478' RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2014 (PED)

AD2478' RECOVERED

AD2478

AD2478

STATION RECOVERY (2017)

AD2478

AD2478' RECOVERY NOTE BY WANTMAN GROUP INC 2017 (JKA)

AD2478' RECOVERED IN GOOD CONDITION.

AD2478

AD2478

STATION RECOVERY (2018)

AD2478

AD2478' RECOVERY NOTE BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 2018 (ATP)

AD2478' RECOVERED IN GOOD CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:04



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Dewberry Field Notes (1 of 4)

SPECTRA S-20 S.F.W.M.D. 09/24/19
 Rover S/N: USGS WELLS E BMS 09/27/19
 Trimble NET Job# 50099949
 Tower Ht: 6.502 Well Site: G-561

TASK: OBTAIN HORIZONTAL LOCATIONS ON ALL REF
 ANNULUS STATION & MEASURING POINT

SKETCH AS

(9/27/19) PT#	(*) ERR	(E) ERR	(Z) ERR	PT#	DESCRIPTION
S/G	2	0.025	-0.067	F 0.059	S052 CHK IN RM @ G561
* LOCATED PT #'S 12074-12079					
S/O	2	0.096	-0.030	F 0.095	S053 CHK OUT RM @ G561

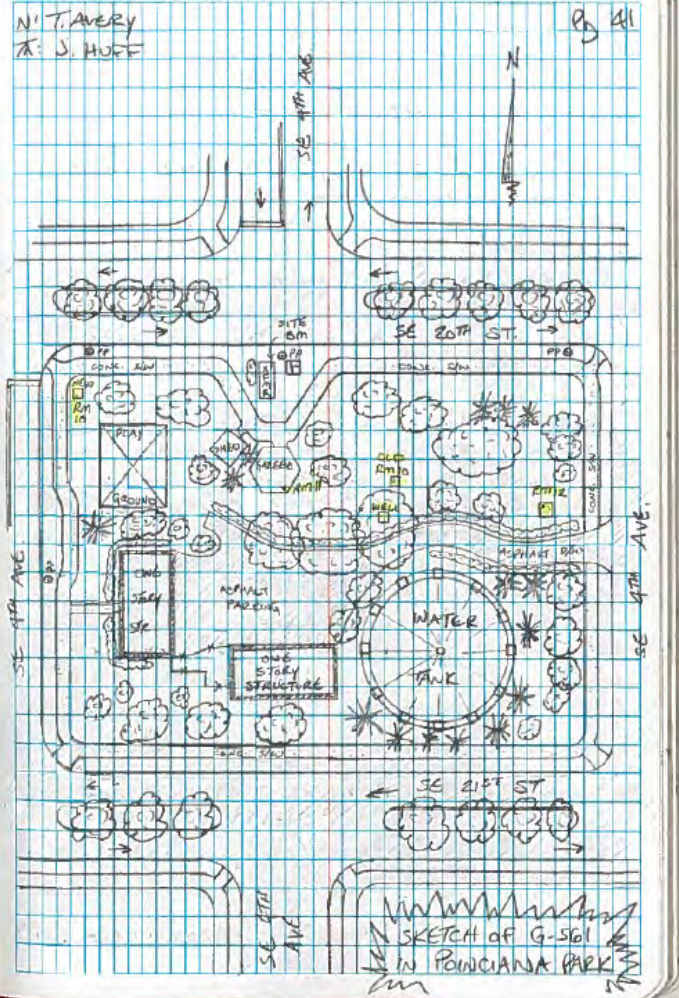
* IT SHOULD BE NOTED THAT DUE TO LIVE OAK
 TREE CANOPY AT THE WELL LOCATION, HORIZONTAL
 COORDINATES COULD NOT BE OBTAINED DIRECTLY THE
 COORDINATES WILL NEED TO BE CALCULATED FROM
 OFFSET SHOTS USING A BEARING/ARITHMETIC & DISTANCE.
 SEE PG. 44 FOR FURTHER DETAILS.

PT#S DESCRIPTION

- 12074 RM 10 - REC. LEAD NAIL IN CONC. PAD *
- 12075 RM 12 - REC. LEAD NAIL IN CONC. CATCH BASIN
- 12076 OFFSET SHOT A-G561 (O/S DISTANCE = 32.85')
- 12077 " " B-G561
- 12078 OFFSET SHOT A-RM 11 (O/S DISTANCE = 22.55')
- 12079 " " B-RM 11

TASK: MEASURE DISTANCE FROM WATER LINE TO MEASURING
 POINT (BLACK SHARPIE MARK ON TOP OF METAL BASE
 @ N/W EDGE) MATERIAL: 6" PVC WELL HEAD, 17" CONC.
 BASE IN CMP (CORRUGATED METAL PIPING) 29" x 26" BOX

Time: 5:35 PM MEASUREMENT: 9.40'





SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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Dewberry Field Notes (2 of 4)

Tolson S.F.W.M.D. 02/24/10
 AT-62 USGS WEIG & Bms
 S/N 1489 Job #: S0099999
 WELL SITE: G-501

TASK: ELEVATE MONITORING POINT @ NNW EDGE OF WELL BASE ENCLOSURE, GROUND AROUND ENCLOSURE & ANY REFERENCE MONUMENTATION

ELEVATION		DESCRIPTION		
BEGIN @	100	ALUMINUM DISC IN TOP OF CONC. SLAB FOR WELL. SLAB IS BASE FOR		
	7.36			
	(WHIDDEN)			
	(NAVD 88)			
BACKSIGHT (V)		FORESIGHT (-)		Adj.
STA ID	RDS	MEAN ELEV.	RDS	MEAN ELEV.
	6.09		7.000	
Bm	S.51	5.5700	4.525	6.405
	S.05	12.93	6.050	
	109/169'		95/199'	
		4.685		
Bm		12.93	4.495	8.435
		4.305		
		38/142'		
		6.860		
Bm		12.93	6.000	6.930
		5.140		
		172/276'		
		5.890		
Bm		12.93	5.630	7.300
		5.370		
		52/156'		

N: TAVERY
 T: J HUFF

3 42

SLAB IS NORTH END OF PARK (N. OF ENCLOSURE TRANSFORMER)

FORESIGHT (-)
 DESCRIPTION

Bm 12 - REC LEAD NAIL IN NW CORNER OF CONCRETE 'STORM' CATCH BASIN, EAST OF WELL ENCLOSURE

Bm 11 - REC LEAD NAIL IN SE CORNER OF CONC. SLAB FOR GAZBO.

Bm 10 - REC LEAD NAIL IN CONCRETE SLAB FOR TRASH CAN, @ NNW EDGE OF PAVICIANA PARK IT IS BELIEVED THAT THIS CONC SLAB HAS BEEN MOVED FROM ITS ORIGINAL POSITION. BARE SET ON GROUND WHERE PREVIOUS DESCRIPTION CALLS IT OUT IS SAME SHAPE AS SLAB.

G5 N. OF WELL ENCL.



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Dewberry Field Notes (3 of 4)

Tolson		S.F.W.M.D		09/24/19	
ATCR		USGS WELLS & B.M.s			
S/N: 1429		JOB#: 5009999A			
		WELL SITE: G-S61			
TASK: CONTINUE ELEVATING POINTS OF INTEREST					
BACKSIGHT (+)		FORESIGHT (-)		ADJ	
STA ID	RDS	MEAN ELEV.	RDS	MEAN ELEV.	ELEV
BM		105.5700	2.615	2.6150	102.9550 10.515
		12.93	2.36		
			51' / 155'		
* BREAK SET-UP					
	3.925			6.23	
MP	2.90	2.90	105.5700	5.85	5.8533 100.0077 7.3077
			17.215	5.48	
	79' / 284'			75' / 309'	
* END LEVEL LOOP					

N: TAVELY
K: J. HOEF

P. 43

FORESIGHT (-)
DESCRIPTION

① MEASURING POINT (BLACK SHARPIE MARK AND BASE ENCLOSURE @ N.W. EDGE)

BACK @ STARTING POINT (SITE BM)

Check Io = 0.0017



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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Dewberry Field Notes (4 of 4)

S.F.W.M.D. 09/22/19
USGS WELLS & BMS
SITE: G-561

SPECTRA SL-36
RANGE 4/1163
TEMPERATURE

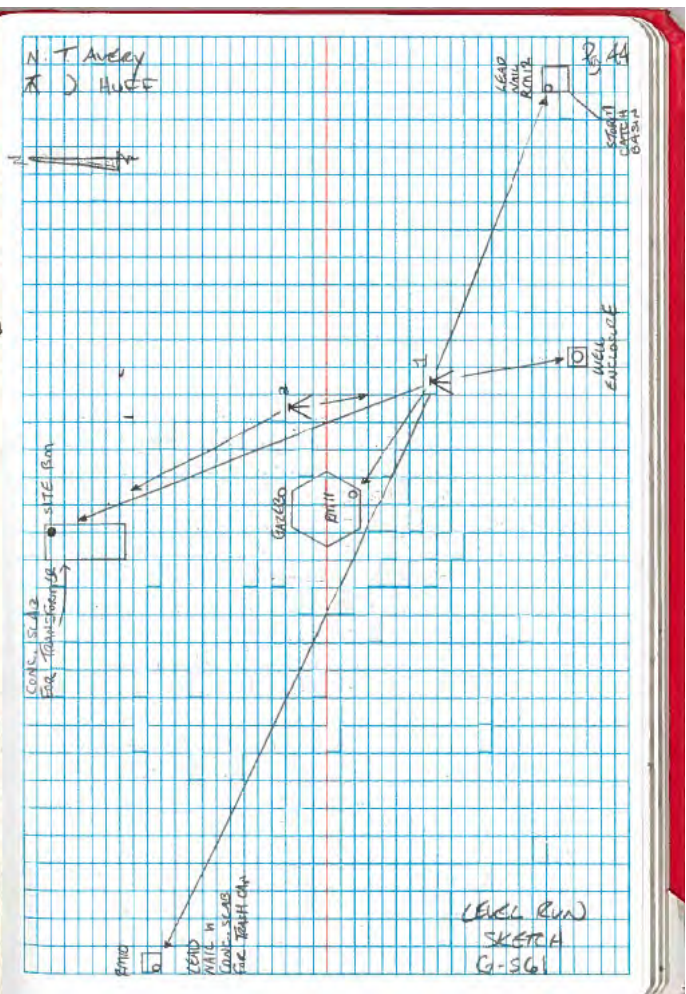
COGO PT # 50001; N = 641608.10616; E = 938839.640388
GZ1600
22.55' (1st 0/S) (PT # 12078)
21.62'
45.10' (2nd 0/S) (PT # 12076)
AZ 12079 → 12078
270° 53' 36"

MEASURING POINT
WELL ENCLOSURE
COGO PT # 50000
N = 641514.880783
E = 938846.316894

UNABLE TO OBTAIN A DIRECT READING ON RHT11 DUE TO LOW CIRCING HEIGHT ON GAZEBO & TESSA CHERRY.

UNABLE TO OBTAIN DIRECT GPS READING ON MEASURING POINT FOR WELL ENCLOSURE DUE TO TESSA CHERRY.

* IN ORDER TO OBTAIN A HORIZONTAL LOCATION ON THESE OBJECTS, AN OBJECT (PT) WAS GIVEN, E THEN DUBLED, IN LINE WITH THE POINT OF INTEREST, SIMPLY HOLD THE DISTANCE 2X UNDER GEMECN (E) PT # 5, B A LATITUDE E DISTANCE CAN BE CALCULATED FROM RHT16 F → 12078
63.1341 → 12078
59.85
51.85 (1st 0/S) (PT # 12076)
145.70 (2nd 0/S) (PT # 12071)





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Whidden Field Notes (1 of 2)

8561				
STA	F	H I	-	EL
X235				9.85
	4.57	11.80		
FP 1			0.605	9.865
	4.196	14.811		
FP 2			-0.591	9.814
	5.108	14.819		
FP 3			-2.460	6.954
	5.798	12.652		
FP 4			0.827	7.681
	5.456	12.127		
FP 5			-0.326	7.455
	4.501	12.836		
FP 6			0.088	7.543
	4.449	11.942		
FP 7			+1.020	6.514
	5.276	11.790		
FP 8			0.832	7.366 (0.35C)
	4.804	12.200		
FP 9			-2.610	6.756
	8.783	12.539		
FP 10			-0.607	7.342
	5.563	12.426		
FP 11			0.316	7.679
	4.642	12.87		

8561				
STA	F	H I	-	EL
FP 12			-0.622	6.856
	7.588	14.444		
FP 13			2.127	8.983
	5.615	13.144		
FP 14			-0.166	8.821
	6.545	13.366		
FP 15			0.446	9.237 (X235)



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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Whidden Field Notes (2 of 2)

GSGI 111919

R/W DATE @ 4235' em/d "4235" (2.28m)

X235CU @ X235' em/d "X235" (0.21)

H. 0.029
V. 0.008

11-15-19

W/212/59