



SURVEYOR'S REPORT

**Specific Purpose Survey of the
United States Geological Survey
Recorder Well G-2752
in
Broward County, Florida**

Prepared for:

South Florida Water Management District

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Prepared by:

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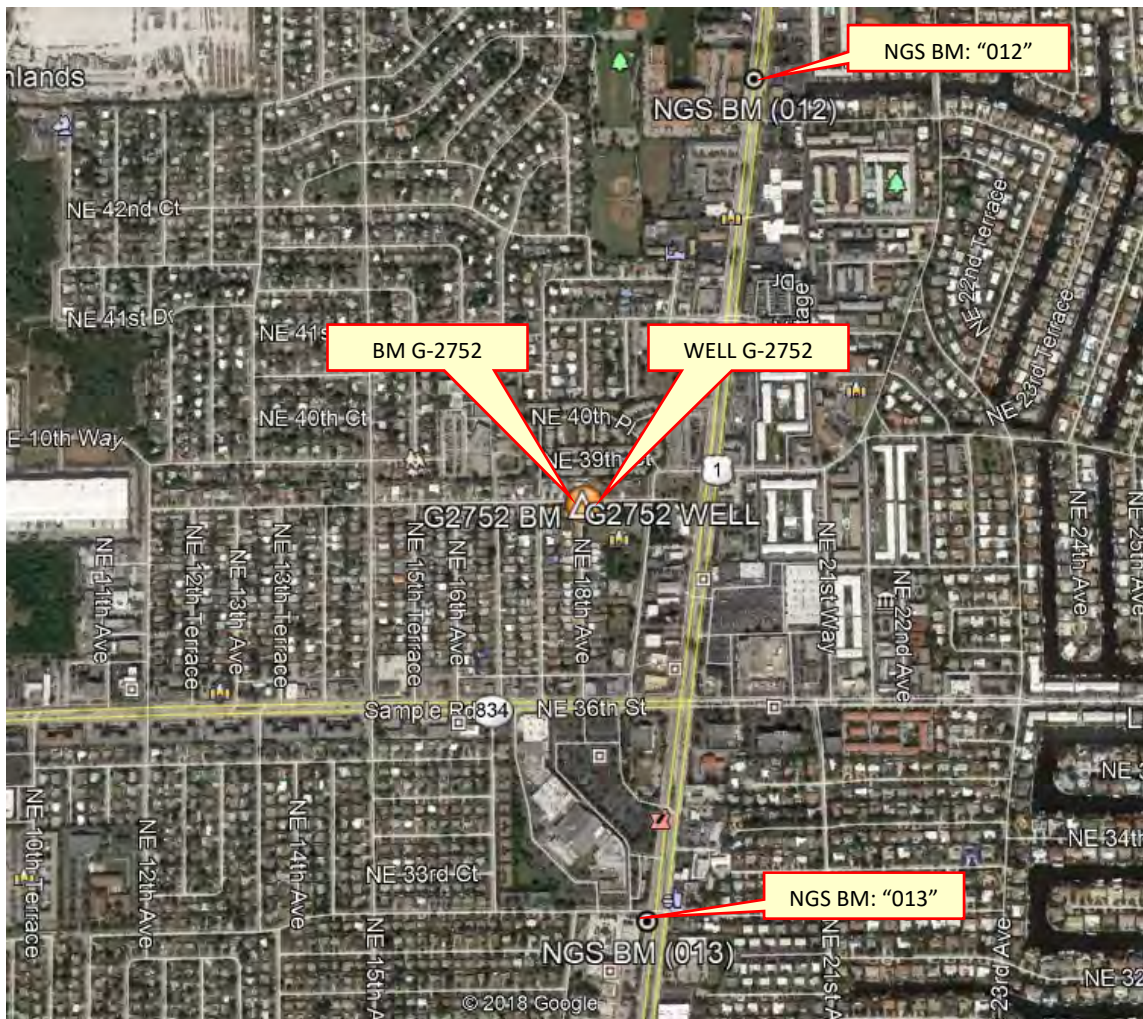
Field Date: September 25, 2019
Report Date: December 2, 2019, 2019
PO NO: 9500008146

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-2752** is located in Section 18, 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-2752 (G2752 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 √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 "012" (DO2651), through the well site benchmark, and to the NGS Benchmark "013" (DO2652). The measurements were collected using a Digital Level and were hand written in Whidden Surveying & Mapping, Inc. Field Book W 203 Page 72, dated September 18, 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-2896 (G2896 2019) were established by observing a 3-minute session of GPS data on September 18, 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-2752 (G2752 2019), through the well monitoring point (west edge of 4" PVC casing at black mark), through the North edge of 6" metal casing, through the ground shot North of plastic well enclosure, through the West edge of 6" metal casing, 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 62-63, dated September 25, 2019. Additional data was manually recorded.

GPS METHODS (horizontal position of Well G-2896 monitoring point & USGS Benchmarks)

Latitude and Longitude for Well G-2752 monitoring point (West edge at top of 4" PVC casing at black mark) were established by observing a 3-minute session of GPS data on September 25, 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 "012" (DO2651) | | | | | | |
|--|--------------------|-----------|---|----------|--------|-----------|
| 26° 17' 09.13" (N) | 80° 05' 45.45" (W) | Published | 9.85 ft. | (NAVD88) | 3.00 m | Published |
|  | | | <p>LOCATED 250 FT NORTH OF THE INTERSECTION OF NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1) AND NORTHEAST 44TH STREET, 200 FT NORTH OF THE SOUTH END OF THE BULL NOSE MEDIAN, 85.4 FT SOUTH OF A 12-INCH PALM TREE, 19.2 FT SOUTHWEST OF A DRAINAGE MANHOLE AND 1.0 FT WEST OF A CARSONITE WITNESS POST.</p> <p>NGS BENCHMARK DISK, SET IN GRASS AREA IN MEDIAN OF ROAD</p> <p>STAMPING: CITY OF POMPANO BEACH 012 2011 BENCHMARK</p> | | | |
| | | | | | | |

| NGS Benchmark "013" (DO2652) | | | | | | |
|---|--------------------|-----------|---|----------|--------|-----------|
| 26° 16' 19.30" (N) | 80° 05' 53.24" (W) | Published | 9.51 ft. | (NAVD88) | 2.89 m | Published |
|  | | | <p>LOCATED 68.0 FT WEST OF THE CENTERLINE OF NORTH FEDERAL HIGHWAY, 58.0 FT SOUTH OF THE INTERSECTION OF NORTH FEDERAL HIGHWAY 1 AND NORTHEAST 33RD STREET, 20.4 FT SOUTH OF A CROSS WALK SIGNAL POLE, 10.0 FT SOUTHEAST OF THE SOUTHEAST CORNER OF A CONCRETE PLANTER, 9.7 FT SOUTHEAST OF A WOODEN POWER POLE, 7.0 FT WEST OF A METAL TRAFFIC SIGNAL POLE AND 1.3 FT NORTHEAST OF A CARSONITE WITNESS POST.</p> <p>NGS BENCHMARK DISK, SET IN GRASS AREA OFF SIDEWALK</p> <p>STAMPING: CITY OF POMPANO BEACH 013 2011 BENCHMARK</p> | | | |
| | | | | | | |

SURVEYOR'S REPORT

| | | | | | |
|---|--------------------|---|----------|---------------------|----------------|
| BM: G-2752 (Existing on site benchmark set by Dewberry Engineering, Inc.) | | | | | |
| 26° 16' 43.30" (N) | 80° 05' 57.35" (W) | 9.05 ft. | (NAVD88) | 2.76 m | Level run |
| NAD_83(2011) | | 10.62 ft. | (NGVD29) | 3.24 m | Converted |
|  | | | 1.57 ft. | (conversion factor) | Corpscon 6.0.1 |
| | | STATION IS A S.F.W.M.D. BM STAMPED "G2752 2019" SET IN CONCRETE ON THE NORTH SIDE OF A DRAIN BASIN WEST OF A SIDEWALK LOCATED: SE CORNER OF INTERSECTION NE 18 TH AVE. AND NE 39 TH ST | | | |

Whidden Field Notes (Field Book W203, Page 72)

G2752

| STATION | + | HI | - | SL |
|---------|-------|---------|--------|--------------|
| 01A | | | | 9.85 |
| TP1 | 3.626 | 13.976 | 14.237 | 9.24 |
| TP2 | 5.853 | 14.2143 | 5.872 | 8.37 |
| TP3 | 6.711 | 14.082 | 4.714 | 9.367 |
| TP4 | 4.591 | 13.950 | 4.721 | 9.237 |
| TP5 | 5.217 | 14.454 | | |
| TP6 | 6.162 | 15.843 | 5.523 | 8.271 |
| TP7 | 5.363 | 15.236 | 5.229 | 9.814 |
| TP8 | 5.33 | 15.565 | 5.222 | 10.035 |
| G2752 | | | 4.516 | 9.049 (DESC) |
| TP9 | 6.473 | 15.496 | 5.412 | 10.050 |
| TP10 | 4.923 | 14.976 | 8.221 | 9.749 |
| TP11 | 4.928 | 14.977 | 5.408 | 9.060 |
| TP12 | 4.856 | 13.955 | | |

09/18/14

| STATION | + | HI | - | SL |
|---------|-------|--------|-------|--------------|
| TP12 | | | 5.543 | 8.412 |
| TP13 | 5.992 | 14.324 | 4.499 | 9.695 |
| TP14 | 5.197 | 14.826 | 5.461 | 9.452 |
| TP15 | 6.181 | 15.529 | 5.719 | 9.810 |
| TP16 | 8.22 | 18.977 | | |
| 013 | | | | 9.508 (DESC) |

Dini S/N 735642
 Trimble RB-3 S/N 4615113539
 Trimble RB-4 S/N 0220206502

PROJECT RESULTS

Overall Site



Looking Southeasterly (Oblique not to scale)

SURVEYOR'S REPORT

Tabular Form

| Reference and Ground Elevations: NAVD88 | | | |
|--|------------------|---------------------|--------------------------------|
| Well | Ground Elevation | Reference Elevation | Comments |
| G-2752 | 10.00 ft. | 9.47 ft. | West edge of PVC casing |
| Offset to NGVD29: +1.57' (See Project Vertical Datum Notes in Page: 4) | | | |
| Well diameter | | Casing material | DTW |
| 4" PVC | | Metal | -5.19 ft. (9/25/19 at 7:15 PM) |

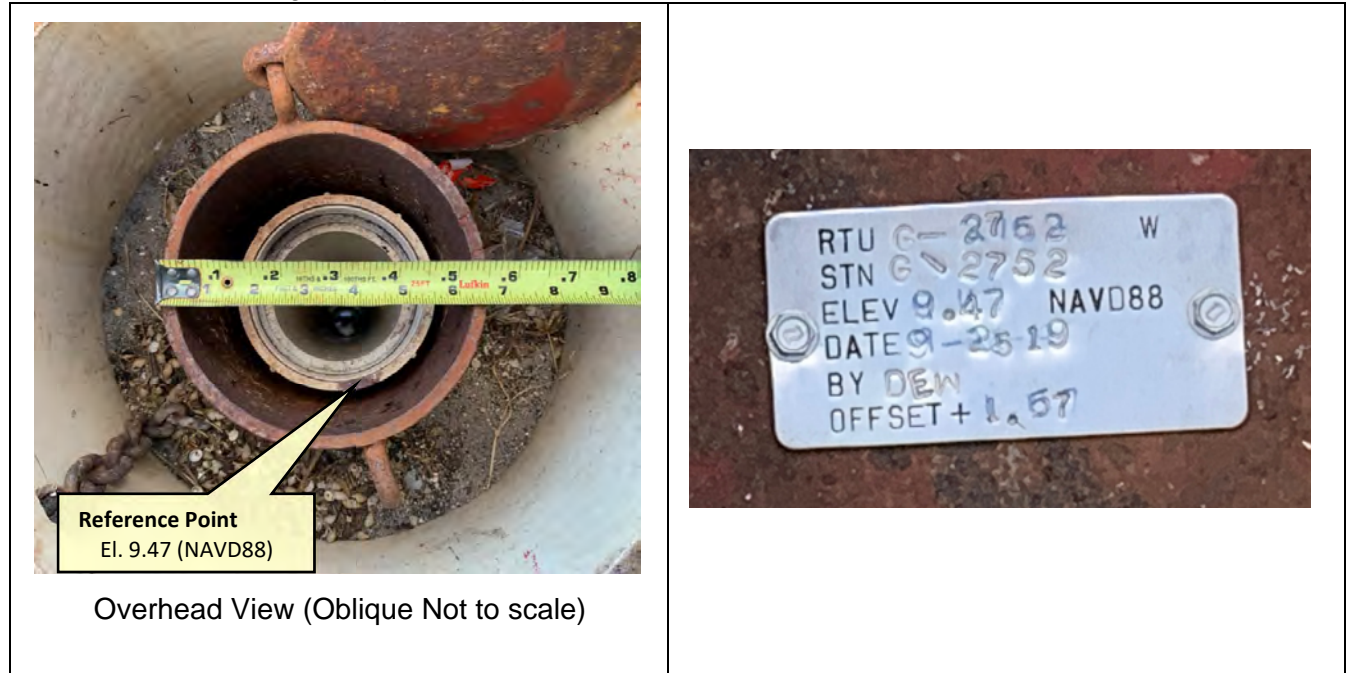
| Source & Site Benchmark | NAVD88 | NGVD29 (Published) | NGVD29 (Corpscon) |
|-------------------------|----------------------|--------------------|-----------------------|
| NGS "012" (DO2651) | 9.85 ft. (Published) | | |
| NGS "013" (DO2652) | 9.51 ft. (Published) | | |
| BM G2752 (SFWMD) | 9.05 ft. (Measured) | | 10.62 ft. (Converted) |
| | | | |
| | | | |
| | | | |

Well Photos and Diagrams (Continued)

| | |
|---|--|
|  |  |
|---|--|

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 1.57 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 25, 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 page 72

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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.

William D. Donley

Last date of Survey
Sept. 25, 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) 354-9826





South Florida Water Management District Benchmark Datasheet

| | | | |
|---|---|----------------------------|----------------------------------|
| Designation: G-2752 | Project Name: USGS Ph 2, BROWARD | Type: V | State Plane Zone: FL East |
| Stamping: G2752 2019 | Field Book Name: W203 | Field Book Page: 72 | |
| Established By: DEWBERRY / WHIDDEN | Recovered By: N/A | Recovery Date: N/A | |
| Surveyor: WILLIAM D. DONLEY | Established Date: 09/18/19 | Status: New | |

GEOGRAPHIC POSITION INFORMATION

| | | |
|--------------------------------------|--|-----------------------------------|
| Section: 18 | 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): 9.05 | NGVD29 Elevation (feet): 10.622 | 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): "013" |
| | | NGS PID(s): DO2652 |
| | | NGS NAVD88 Elev (ft): 9.51 |
| | | NGS NAVD88 Elev (m): 2.898 |
| | | 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 Automated, Virginia Windows based program to convert coordinates and elevations between datum's using version 05.141 and version 05.05 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): 708012.9 | Easting (X) (feet): 951319.4 | Source of Latitude & Longitude: AVERAGED FPRN & TRIMBLE VRSNOW RTK |
| Latitude: 26 16 43.3 | Longitude: 80 5 57.35 | |
| DD° | MM' | SS" |
| Latitude (Decimal Degrees): 26.278694 | Longitude (Decimal Degrees): -80.099264 | |

RECOVERY DATA

How to Reach: **1. FROM US-1/FL-5/N FEDERAL HWY, HEAD WEST ALONG FL-834/NE 36TH ST/SAMPLE RD FOR 0.1 MI**
2. TURN RIGHT ONTO NE 18TH AVENUE, CONTINUE 0.2 MI TO THE INTERSECTION OF NE 39th STREET AND THE MARK ON THE RIGHT

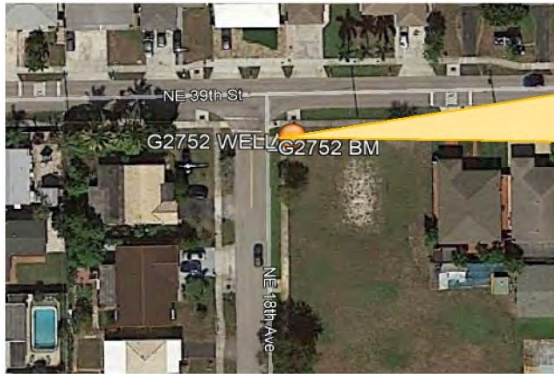
Description/Notes: **2" ALUMINUM SFWMD DISK SET IN CONCRETE SPILLWAY, ON THE NORTH SIDE OF A STORM CATCH BASIN**

Notable Landmarks: **INTERSECTION OF NE 18th AVE AND NE 39th STREET**

Other Source Benchmarks: **NGS BENCHMARK "012" (DO2651)**

PICTURES

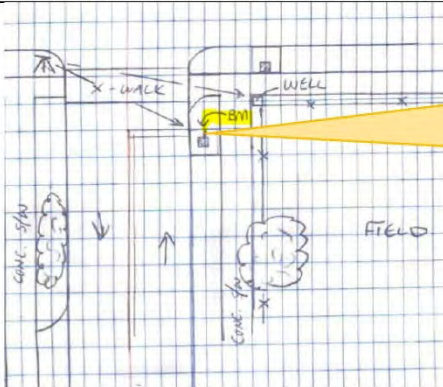
Aerial View of Overall Site



NOT TO SCALE. AERIAL FROM GOOGLE EARTH.

PICTURES

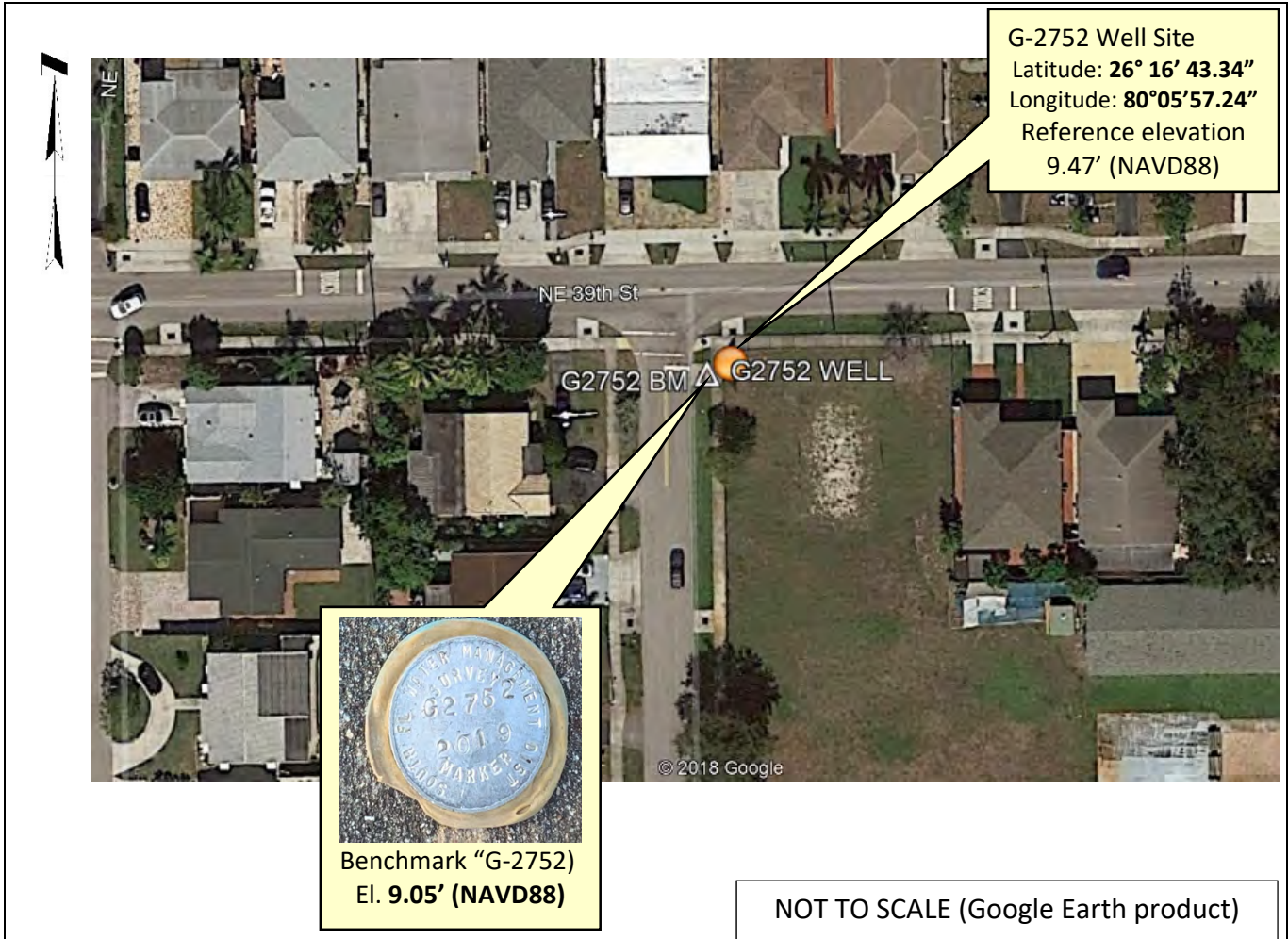
Site Sketch





SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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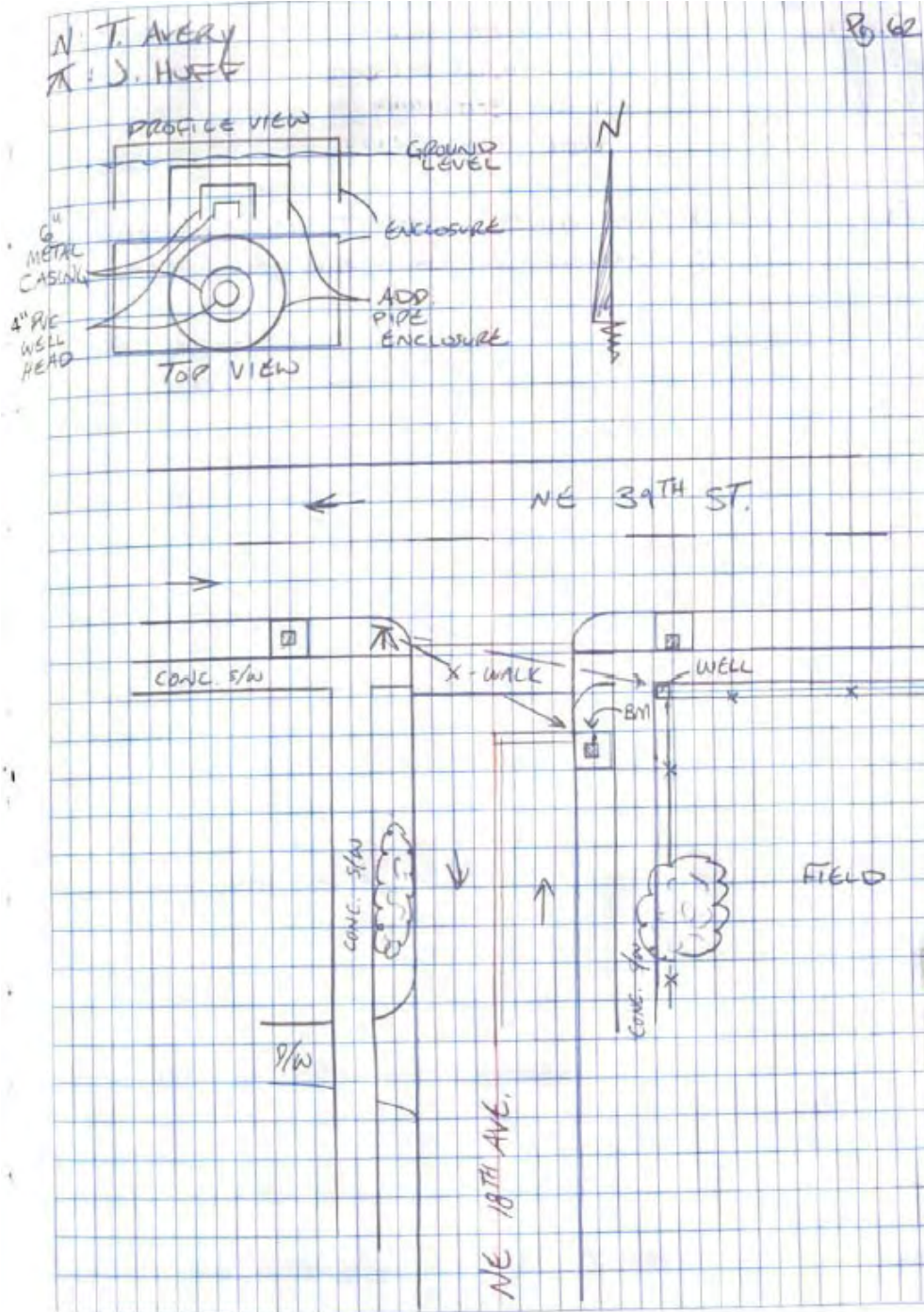




SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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SKETCH



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

Well G-2752

1/2

Northing/Y: 708017.34
Easting/X: 951329.24
Elevation/Z: 9.47
Convergence: 0 23 55.78843
Scale Factor: 1.000041072
Combined Factor: 1.000044677

Latitude: 26 16 43.34467
Longitude: 80 05 57.24289
Elevation/Z: 11.042

BM G-2752

2/2

Northing/Y: 708012.9
Easting/X: 951319.4
Elevation/Z: 9.05
Convergence: 0 23 55.73981
Scale Factor: 1.000041065
Combined Factor: 1.000044690

Latitude: 26 16 43.30138
Longitude: 80 05 57.35132
Elevation/Z: 10.622

Remark:

Corpscon v6.0.1, U.S. Army Corps of Engineers

SPECTRA SR-20 S.F.W.M.D. 09/23/19
 SN: 1165 USGS WELLS E Bms
 TRIMBLE NET JOB# 50097999
 HI: G 562 WELL SITE: G-2152

TASK: ESTABLISH HORIZONTAL LOCATION ON WELL MONITORING POINT & REFERENCE MONUMENT STATION AT SITE

| | PT# | (1) ELEV | (6) ELEV | (2) ELEV | PT# | DESCRIPTION |
|-----|-----|----------|----------|----------|------|---------------------|
| 3/6 | 12 | 0.007 | -0.058 | 0.023 | 5084 | CHK-W @ BM @ G-2152 |

* LOCATED PT #s 12045 & 12046

| | | | | | | |
|-----|----|--------|--------|-------|------|---------------------|
| 3/6 | 12 | -0.015 | -0.034 | 0.003 | 5035 | CHK-OUT BM @ G-2152 |
|-----|----|--------|--------|-------|------|---------------------|

PT#s DESCRIPTION

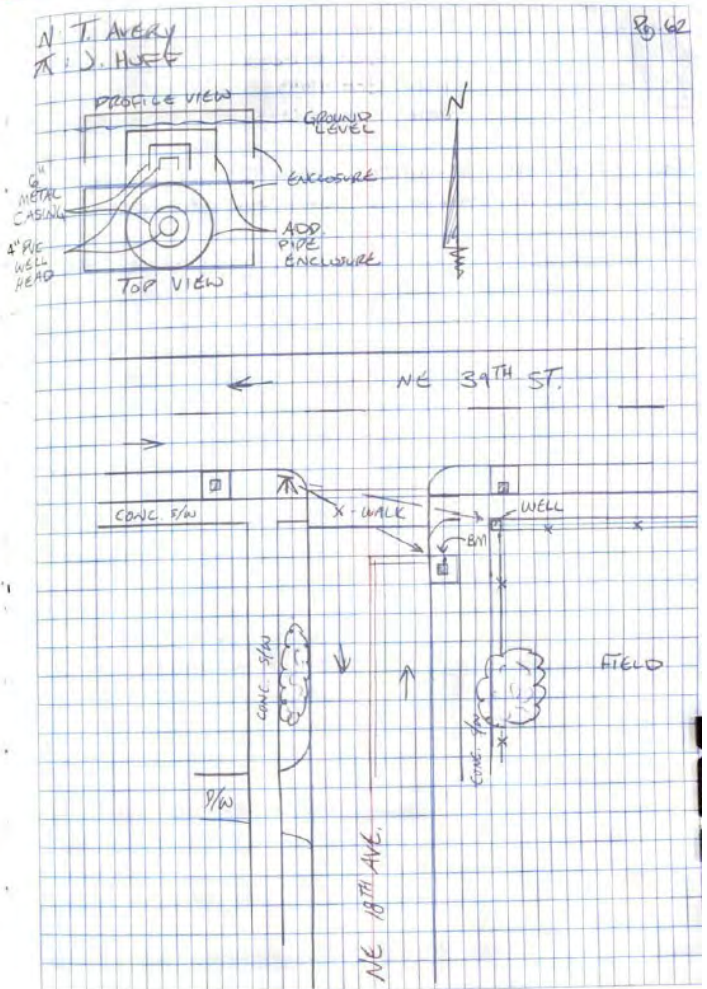
12045 N. EDGE @ TOP OF METAL CASING (6")
 12046 W. EDGE @ TOP OF 4" PVC CASING @ BLACK MARK

TASK: MEASURE & RECORD DISTANCE FROM MONITORING POINT TO WATERLINE

MEASUREMENT: 5.19'; FROM WEST EDGE OF 4" PVC CASING @ BLACK MARK

TIME: 7:15 PM

THIS WELL IS LOCATED IN THE GROUND, IN A PLASTIC ENCLOSURE, & WAS FOUND 'DUMMY' LOCKED. THE WELL IS MORE APPROXIMATELY LOCATED JUST OFF THE EASTERLY R/W OF NE 18TH AVE, & JUST OFF THE SOUTHERLY R/W OF NE 39TH ST. BEHIND THE SIDEWALK & IN FRONT OF A 6' CHAIN LINK FENCE.



TOPOID SFWM MID 09/25/19
 AFGZ USGS WGS 84 BMS
 S/N: 1488 JOB# 5009-9949
 WELL SITE: G-2752

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

| BACKSIGHT (+) | | X | | FORESIGHT (-) | | ASMP. ADJ. | |
|---------------|-------------|--------|--------------------|---------------|--------|---------------------|--------|
| STA ID | RDS | MEAN | FLEV | RDS | MEAN | FLEV | FLEV |
| | 5.93 | | | 5.55 | | | |
| BM | 5.705 | 5.7067 | 105.7067 | 5.29 | 5.2882 | 105.7067 | 9.4684 |
| | 5.985 | | 14.7567 | 5.025 | | | |
| | 99.5'/99.6' | | | 52.5'/97' | | | |
| | | | | 5.29 | | | |
| " | " | " | " | 5.03 | 5.0283 | 105.7067 | 9.7284 |
| | | | | 4.765 | | | |
| | | | | 52.5'/97' | | | |
| | | | | 5.02 | | | |
| " | " | " | " | 4.76 | 4.76 | 105.7067 | 9.9167 |
| | | | | 4.50 | | | |
| | | | | 52.5'/96.5' | | | |
| | | | | 5.285 | | | |
| " | " | " | " | 5.025 | 5.0250 | 105.7067 | 9.7317 |
| | | | | 4.765 | | | |
| | | | | 52.5'/96.5' | | | |
| *BREAK SETUP | | | | | | | |
| | 5.455 | | | 6.10 | | | |
| W. EDGE MC | 5.20 | 5.1983 | 105.880 | 5.880 | 5.8800 | 105.880 | 9.0500 |
| | 4.44 | | 14.73 | 5.660 | | | |
| | 51.5'/148' | | | 44'/192' | | | |

NI: TAVERY
 X: J. HUFF

ELEVATIONS: ~~100.00~~ 9.05
 DESCRIPTION: REC. ALUMINUM DISC IN CONCRETE SPILLWAY FOR STORM CATCH BASIN MARKER G-2752 2019 ON EAST R/W OF NE 18TH AVE & S. R/W OF NE 39TH ST.

FORESIGHT (-)
 DESCRIPTION:

W. EDGE OF 4" PVC CASING @ BLACK SHARPE MARK
 *NOTE: THE ELEVATION WAS THE EXACT SAME @ THE W. EDGE OF 4" PVC CASING

W. EDGE OF 6" METAL CASING AROUND 4" PVC CASING

GROUND SHOT, N. OF PLASTIC WELL ENCLOSURE

W. EDGE OF 6" METAL CASING AROUND 4" PVC CASING (W. EDGE MC)

CHECK IN = 0.00'

BACK @ STARTING POINT (SITE BM)

*END LEVEL LOOP

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

DO2651 *****

DO2651 DESIGNATION - 012

DO2651 PID - DO2651

DO2651 STATE/COUNTY- FL/BROWARD

DO2651 COUNTRY - US

DO2651 USGS QUAD - BOCA RATON (1983)

DO2651

DO2651 *CURRENT SURVEY CONTROL

DO2651

DO2651* NAD 83(1986) POSITION- 26 17 09. (N) 080 05 45. (W) SCALED

DO2651* [NAVD 88](#) ORTHO HEIGHT - 3.001 (meters) 9.85 (feet) ADJUSTED

DO2651

DO2651 GEOID HEIGHT - -25.907 (meters) GEOID128

DO2651 DYNAMIC HEIGHT - 2.997 (meters) 9.83 (feet) COMP

DO2651 MODELED GRAVITY - 979,075.5 (mgal) NAVD 88

DO2651

DO2651 VERT ORDER - SECOND CLASS II

DO2651

DO2651.The horizontal coordinates were scaled from a topographic map and have
DO2651.an estimated accuracy of +/- 6 seconds.

DO2651.

DO2651.The orthometric height was determined by differential leveling and

DO2651.adjusted by the NATIONAL GEODETIC SURVEY

DO2651.in December 2012.

DO2651

DO2651.Significant digits in the geoid height do not necessarily reflect accuracy.

DO2651.GEOID128 height accuracy estimate available [here](#).

DO2651

DO2651.[Photographs](#) are available for this station.

DO2651

DO2651.The dynamic height is computed by dividing the NAVD 88

DO2651.geopotential number by the normal gravity value computed on the

DO2651.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

DO2651.degrees latitude (g = 980.6199 gals.).

DO2651

DO2651.The modeled gravity was interpolated from observed gravity values.

DO2651

DO2651; North East Units Estimated Accuracy

DO2651;SPC FL E - 216,600. 290,300. MT (+/- 180 meters Scaled)

DO2651

DO2651_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK902076(NAD 83)

DO2651

DO2651 SUPERSEDED SURVEY CONTROL

DO2651

DO2651.No superseded survey control is available for this station.

DO2651

DO2651_MARKER: DB = BENCH MARK DISK

DO2651_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

DO2651_STAMPING: 012 2011

DO2651_MARK LOGO: FL2570

DO2651_PROJECTION: RECESSED 5 CENTIMETERS

DO2651_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT

DO2651_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

DO2651+STABILITY: SURFACE MOTION

"012" NGS Benchmark Datasheet (2 of 2)

D02651_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
D02651+SATELLITE: SATELLITE OBSERVATIONS - December 22, 2011

D02651

| D02651 | HISTORY | - Date | Condition | Report By |
|--------|---------|------------|------------|-----------|
| D02651 | HISTORY | - 20111222 | MONUMENTED | STONER |

D02651

STATION DESCRIPTION

D02651

D02651'DESCRIBED BY STONER AND ASSOCIATES INC 2011 (DWS)

D02651'THE MARK IS ABOUT 6.9 MI (11.1 KM) EAST-SOUTHEAST OF WEST DIXIE BEND,

D02651'5.1 MI (8.2 KM) SOUTH OF BOCA RATON, 3.8 MI (6.1 KM) NORTH-NORTHEAST

D02651'OF POMPANO BEACH, IN SECTION 18, TOWNSHIP 48 SOUTH, RANGE 43 EAST.

D02651'OWNERSHIP IS THE FLORIDA DEPARTMENT OF TRANSPORTATION.

D02651'

D02651'TO REACH THE MARK FROM THE INTERSECTION OF WEST ATLANTIC BOULEVARD AND

D02651'NORTH DIXIE HIGHWAY IN POMPANO BEACH, GO EAST ON EAST ATLANTIC

D02651'BOULEVARD FOR 1.5 MI (2.4 KM) TO THE INTERSECTION OF FEDERAL HIGHWAY

D02651'(U.S. HIGHWAY 1). TURN LEFT ON NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1)

D02651'AND GO NORTH FOR 3.8 MI (6.1 KM) TO THE MARK ON THE LEFT, SET IN THE

D02651'TOP OF A 10-INCH (25 CM) ROUND CONCRETE MONUMENT RECESSED 0.2 FT (6

D02651'CM) BELOW THE LEVEL OF THE GROUND AND 0.3 FT (9 CM) ABOVE THE LEVEL OF

D02651'NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1).

D02651'

D02651'LOCATED 250.0 FT (76.2 M) NORTH OF THE INTERSECTION OF NORTH FEDERAL

D02651'HIGHWAY (U.S. HIGHWAY 1) AND NORTHEAST 44TH STREET, 200.0 FT (61.0 M)

D02651'NORTH OF THE SOUTH END OF THE BULL NOSE MEDIAN, 85.4 FT (26.0 M) SOUTH

D02651'OF A 12-INCH (30 CM) PALM TREE, 19.2 FT (5.9 M) SOUTHWEST OF A

D02651'DRAINAGE MANHOLE AND 1.0 FT (0.3 M) WEST OF A CARSONITE WITNESS POST.

D02651'

D02651'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

DO2652 *****

DO2652 DESIGNATION - 013
DO2652 PID - DO2652
DO2652 STATE/COUNTY- FL/BROWARD
DO2652 COUNTRY - US
DO2652 USGS QUAD - BOCA RATON (1983)

DO2652
DO2652 *CURRENT SURVEY CONTROL

DO2652* NAD 83(1986) POSITION- 26 16 19. (N) 080 05 53. (W) SCALED
DO2652* [NAVD 88](#) ORTHO HEIGHT - 2.898 (meters) 9.51 (feet) ADJUSTED

DO2652
DO2652 GEOID HEIGHT - -25.893 (meters) GEOID12B
DO2652 DYNAMIC HEIGHT - 2.894 (meters) 9.49 (feet) COMP
DO2652 MODELED GRAVITY - 979,074.2 (mgal) NAVD 88

DO2652 VERT ORDER - SECOND CLASS II

DO2652
DO2652.The horizontal coordinates were scaled from a topographic map and have
DO2652.an estimated accuracy of +/- 6 seconds.

DO2652.
DO2652.The orthometric height was determined by differential leveling and
DO2652.adjusted by the NATIONAL GEODETIC SURVEY
DO2652.in December 2012.

DO2652
DO2652.Significant digits in the geoid height do not necessarily reflect accuracy.
DO2652.GEOID12B height accuracy estimate available [here](#).

DO2652
DO2652.[Photographs](#) are available for this station.

DO2652
DO2652.The dynamic height is computed by dividing the NAVD 88
DO2652.geopotential number by the normal gravity value computed on the
DO2652.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DO2652.degrees latitude (g = 980.6199 gals.).

DO2652
DO2652.The modeled gravity was interpolated from observed gravity values.

DO2652
DO2652;
DO2652;SPC FL E - North East Units Estimated Accuracy
215,060. 290,090. MT (+/- 180 meters Scaled)

DO2652
DO2652_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK900061(NAD 83)

DO2652
DO2652
DO2652 SUPERSEDED SURVEY CONTROL

DO2652
DO2652.No superseded survey control is available for this station.

DO2652
DO2652_MARKER: DB = BENCH MARK DISK
DO2652_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
DO2652_STAMPING: 013 2011
DO2652_MARK LOGO: FL2570
DO2652_PROJECTION: RECESSED 5 CENTIMETERS
DO2652_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT
DO2652_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DO2652+STABILITY: SURFACE MOTION

"013" NGS Benchmark Datasheet (2 of 2)

DO2652_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DO2652+SATELLITE: SATELLITE OBSERVATIONS - December 22, 2011

DO2652

| DO2652 | HISTORY | - Date | Condition | Report By |
|--------|---------|------------|------------|-----------|
| DO2652 | HISTORY | - 20111222 | MONUMENTED | STONER |

DO2652

DO2652 STATION DESCRIPTION

DO2652

DO2652'DESCRIBED BY STONER AND ASSOCIATES INC 2011 (DWS)

DO2652'THE MARK IS ABOUT 7.1 MI (11.4 KM) EAST-SOUTHEAST OF WEST DIXIE BEND,
DO2652'6.0 MI (9.7 KM) SOUTH OF BOCA RATON, 2.9 MI (4.7 KM) NORTHEAST OF
DO2652'POMPANO BEACH, IN SECTION 19, TOWNSHIP 48 SOUTH, RANGE 43 EAST.
DO2652'OWNERSHIP IS THE FLORIDA DEPARTMENT OF TRANSPORTATION.

DO2652'

DO2652'TO REACH THE MARK FROM THE INTERSECTION OF WEST ATLANTIC BOULEVARD AND
DO2652'NORTH DIXIE HIGHWAY IN POMPANO BEACH, GO EAST ON EAST ATLANTIC
DO2652'BOULEVARD FOR 1.5 MI (2.4 KM) TO THE INTERSECTION OF FEDERAL HIGHWAY
DO2652'(U.S. HIGHWAY 1). TURN LEFT ON NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1)
DO2652'AND GO NORTH FOR 2.8 MI (4.5 KM) TO THE MARK ON THE LEFT, SET IN THE
DO2652'TOP OF A 10-INCH (25 CM) ROUND CONCRETE MONUMENT RECESSED 0.2 FT (6
DO2652'CM) BELOW THE LEVEL OF THE GROUND AND 0.5 FT (15 CM) ABOVE THE LEVEL
DO2652'OF NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1).

DO2652'

DO2652'LOCATED 68.0 FT (20.7 M) WEST OF THE CENTERLINE OF NORTH FEDERAL
DO2652'HIGHWAY (U.S. HIGHWAY 1), 58.0 FT (17.7 M) SOUTH OF THE INTERSECTION
DO2652'OF NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1) AND NORTHEAST 33RD STREET,
DO2652'20.4 FT (6.2 M) SOUTH OF A CROSS WALK SIGNAL POLE, 10.0 FT (3.0 M)
DO2652'SOUTHEAST OF THE SOUTHEAST CORNER OF A CONCRETE PLANTER, 9.7 FT (3.0
DO2652'M) SOUTHEAST OF A WOODEN POWER POLE, 7.0 FT (2.1 M) WEST OF A METAL
DO2652'TRAFFIC SIGNAL POLE AND 1.3 FT (0.4 M) NORTHEAST OF A CARSONITE
DO2652'WITNESS POST.

DO2652'

DO2652'NOTE REBAR ROD IS IMBEDDED IN THE MONUMENT.

*** retrieval complete.

Elapsed Time = 00:00:03

