SURVEY CONTROL REPORT

Martin County/USGS Cooperative Agreement No. G15AC00109
3DEP Program

For:

MARTIN COUNTY, FLORIDA
Martin County Administrative Center
2401 SE Monterey Road
Stuart, FL 34996

BY:
WOOLPERT, INC.
10900 NW 25th Street, Suite 100
Miami, Florida 33172

Phone 305.418.9370 | Fax 305.351.2936
Florida Certificate of Authorization LB #6777

RESPONSIBLE PROFESSIONAL SURVEYOR AND MAPPER:
JOHN A. CESTNICK, PSM #5994

Introduction

Project Purpose: To provide survey ground control and QA/QC control observations to support a Countywide 3D Elevation Program.

The Countywide 3D Elevation Program was to support primary and secondary engineering, surveying, flood plain/risk management, emergency services/response, GIS, conservation land restorations, environmental protection, natural and man-made infrastructure improvement initiatives. Data will be utilized for mapping, planning and design on various current and future local, federal, regional, state and water management regional impact initiatives such as FEMA/Flood Plain Mapping, Water Quality, C44 Everglades & Cypress Creek restoration projects, Indian River Lagoon/St. Lucie Estuary environmental protection, beach re-nourishment, flood resilience and mitigation, urban/rural infrastructure planning and improvements projects.

This task order specifications were based on the ***"U.S. Geological Survey National Geospatial Program Lidar Base Specification Version 1.2."*** These lidar specifications were required baseline specifications for this task order.

The full scope of services can be found within Woolpert Project Number 076001.

Project Area

The project area was defined as the land boundary of Martin County Florida plus additional areas to the south within Palm Beach County (see Appendix A for project area). More specifically, the project mapping limits were outlined and defined within a Google Earth KMZ file named *revised_control_diagram_dec11_2015.kmz*.

Survey Date

All field surveying services were completed in the field between December 15 and 19, 2015.

Methodology

Ground Control Survey

All LiDAR horizontal and vertical control stations were established and surveyed by Woolpert Inc. The field crew utilized Real-Time Kinematic (RTK) GPS surveying utilizing the Trimble VRS Now, Virtual Reference Station system throughout the ground control data collection process. Using RTK GPS techniques, observations were performed on a total of 34 LiDAR data calibration control points, 46 Non-vegetated Vertical Accuracy (NVA) check points and 35 Vegetated Vertical Accuracy (VVA) check points.

The survey was conducted using a 1-second epoch rate, in a fixed solution RTK mode, with each observation lasting between 60 and 180 seconds. Each station was occupied twice to insure the necessary horizontal and vertical accuracies were being met for this LiDAR project.

A listing of all Ground Control Stations as well as information sheets and photos can be found in Appendix B.

Virtual Reference System (VRS)

The "Virtual Reference Station" (VRS) concept is based on having a network (spaced at 50-60 km) of GNSS (GPS or GPS/GLONASS) reference stations permanently connected to the control center via the

Internet. The networked stations collectively and precisely, model ionospheric errors for the individual GNSS rover in the network coverage area. The rover interprets and uses the VRS network-correction data as if it is operating with a single physical base station on a very short baseline which increases the RTK performance. Corrections (vectors) are from the closest base, but because the ionospheric error (which is traditionally baseline dependent) is practically negated, the rover's degradation in accuracy due to baseline length starts when the rover is first initialized (at the work site). Thus, accuracies are increased and more consistent throughout the working region.

Quality Control/Quality Assurance

Existing NGS published bench marks were surveyed to assure that there were no discrepancies in the field observation data. Close examinations of the residuals showed no distortions in orientation or scale. A listing of the closures on the published NGS bench marks along with the NGS data sheets are found in Appendix D.

All ground control and quality control check points were collected in accordance with the project specific instructions and the **"US Geological Survey National Geospatial Program Lidar Base Specification Version 1.2."**

Datums

The horizontal datum for the project is the Florida State Plane Coordinate System (East Zone), referenced to the North American Datum 1983, 2011 readjustment (NAD83/2011) expressed in U.S. survey feet. The vertical datum is the North American Vertical Datum of 1988 (NAVD88), also expressed in U.S. survey feet. Units for both horizontal and vertical datums are expressed to two (2) decimal places.

Deliverables

Deliverables for this task order includes this signed and sealed survey report only.

Survey Map Reference

No hard copy map was created or delivered for this survey.

Surveyor's Notes

1. This survey is not valid without the signature and the original raised seal of a Florida licensed Surveyor and Mapper. Additions or deletions to survey maps or reports by other than the signing party or parties is prohibited without written consent of the signing party or parties.
2. This survey is not valid unless this sheet is accompanied by all sheets referenced here on.
3. This survey has been prepared for the exclusive use of Martin County, and does not extend to any other parties.

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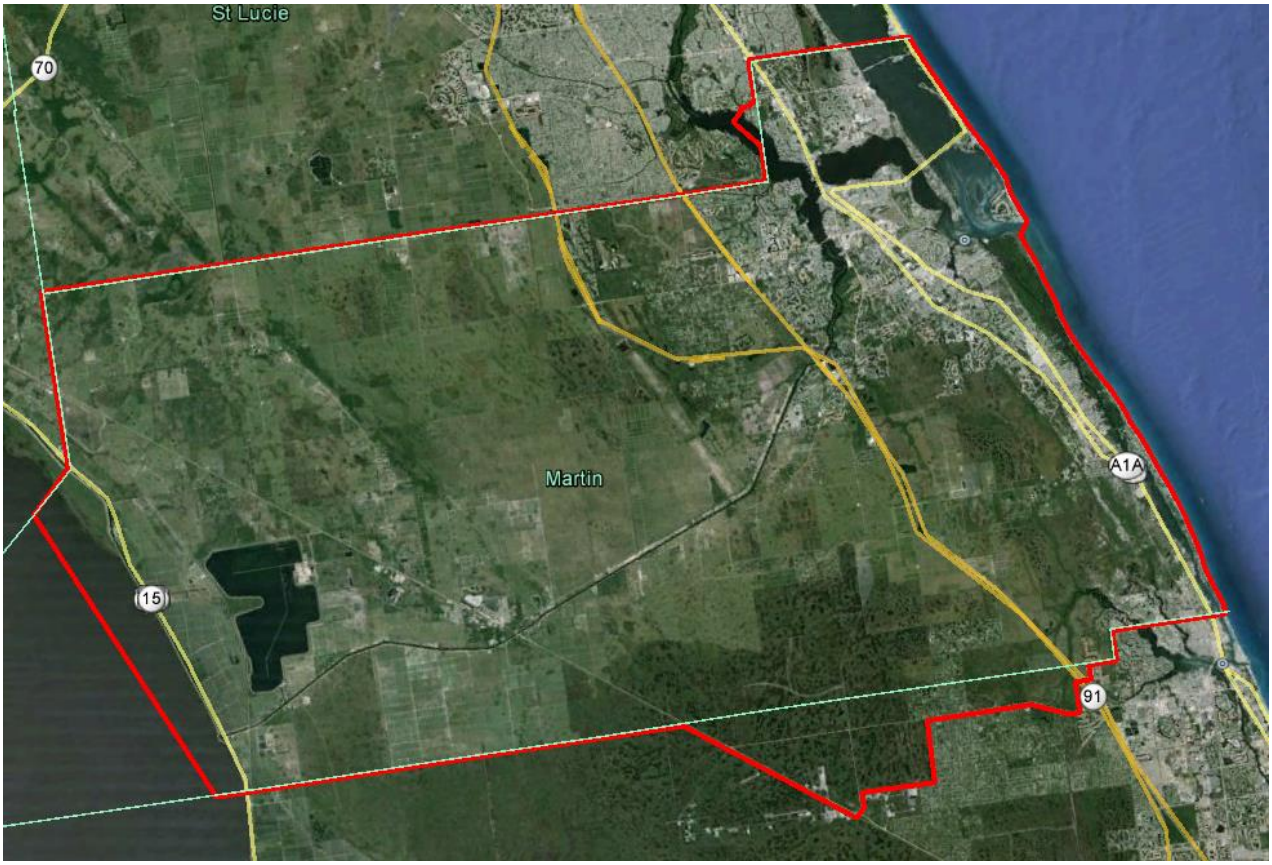
John Cestnick, Florida Professional Surveyor and Mapper No. LS5994
On behalf of: Woolpert, Inc., LB6777

Appendix A | Project Area



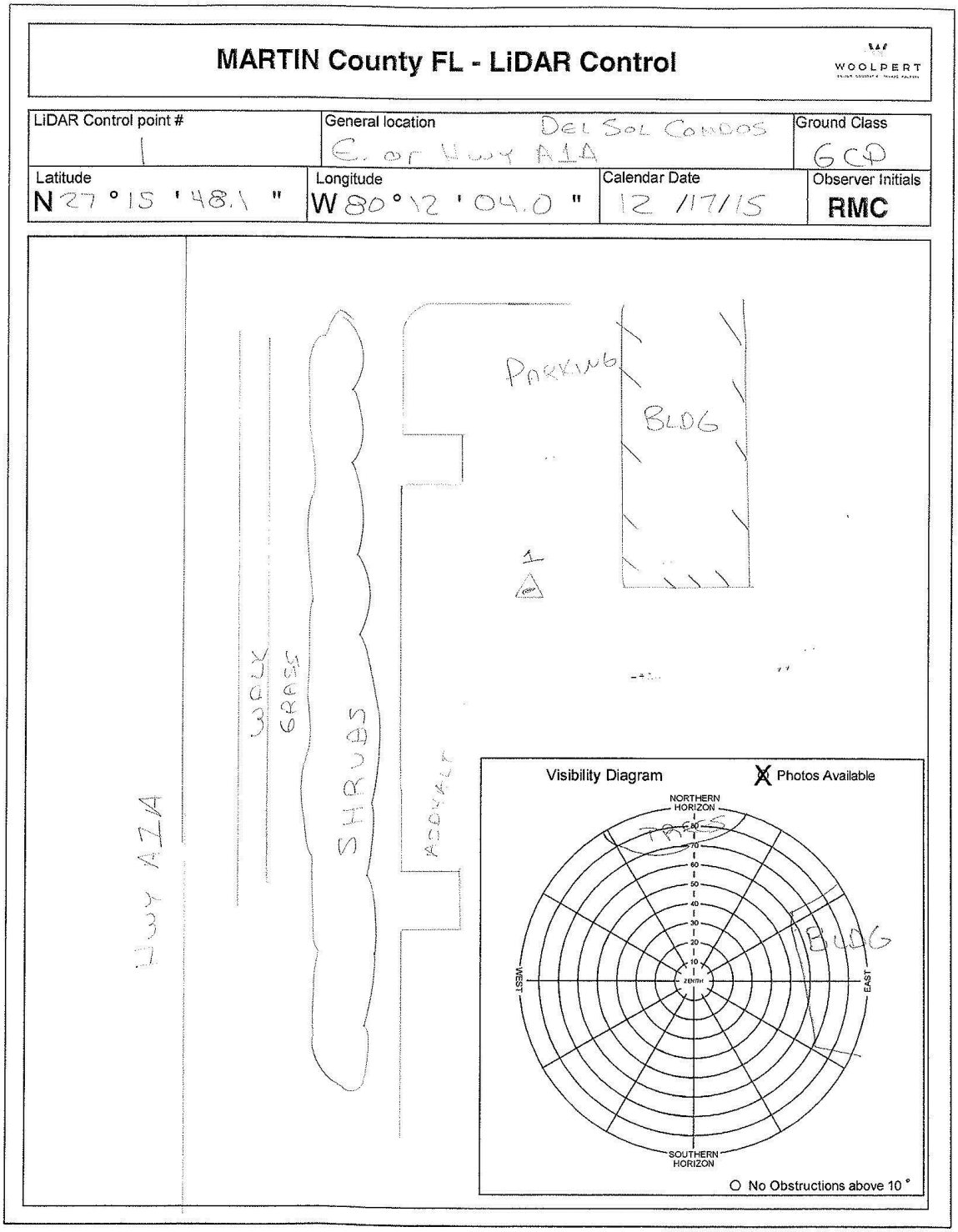
Appendix B | Project Ground Control

Ground Control Points (GCP)

Points	State Plane Florida East Geoid 12A			Description
	Northing (sFT)	Easting (sFT)	Elevation (sFT)	
1	1065735.75	915695.85	5.28	GCP
2	1043586.77	915210.19	11.69	GCP
3	1021926.80	918723.10	7.04	GCP
4	998692.39	938344.41	3.25	GCP
5	994243.58	943831.52	11.91	GCP
6	957597.04	954509.29	4.19	GCP
7	953909.40	906695.79	18.12	GCP
8	980786.81	896107.17	21.23	GCP
9	1010672.79	892123.19	8.01	GCP
10	1041650.99	888590.44	5.11	GCP
11	1057855.70	892457.31	11.90	GCP
12	1046799.11	896112.93	3.88	GCP
13	1043676.86	909489.48	9.96	GCP
14	1045937.29	847004.86	29.90	GCP
15	1028312.85	824640.35	29.09	GCP
16	1023955.77	856541.06	34.37	GCP
17	1012552.16	824776.15	28.71	GCP
18	995067.33	878381.98	28.82	GCP
19	979460.32	848460.48	25.63	GCP
20	961286.51	781704.46	19.09	GCP
21	996642.46	802447.29	33.20	GCP
22	1006981.83	782259.60	27.10	GCP
23	988363.48	772111.10	17.39	GCP
24	1043295.90	760169.03	32.79	GCP
25	1027259.62	758976.81	25.40	GCP
26	1022789.70	805449.80	36.72	GCP
27	1031653.33	795528.46	38.08	GCP
28	974685.06	814021.76	24.39	GCP
29	1032684.80	880677.03	15.43	GCP
30	937703.03	882897.70	23.92	GCP
31	964850.60	845817.76	24.51	GCP
32	949263.61	901512.57	19.81	GCP
33	971600.35	915383.54	16.41	GCP
34	1025821.89	901865.84	11.19	GCP

Ground Control Point Log Sheets and Photos

GCP 1



1-1-17DEC2015

1-2-17DEC2015

1-3N-17DEC2015

1-3E-17DEC2015

1-3S-17DEC2015

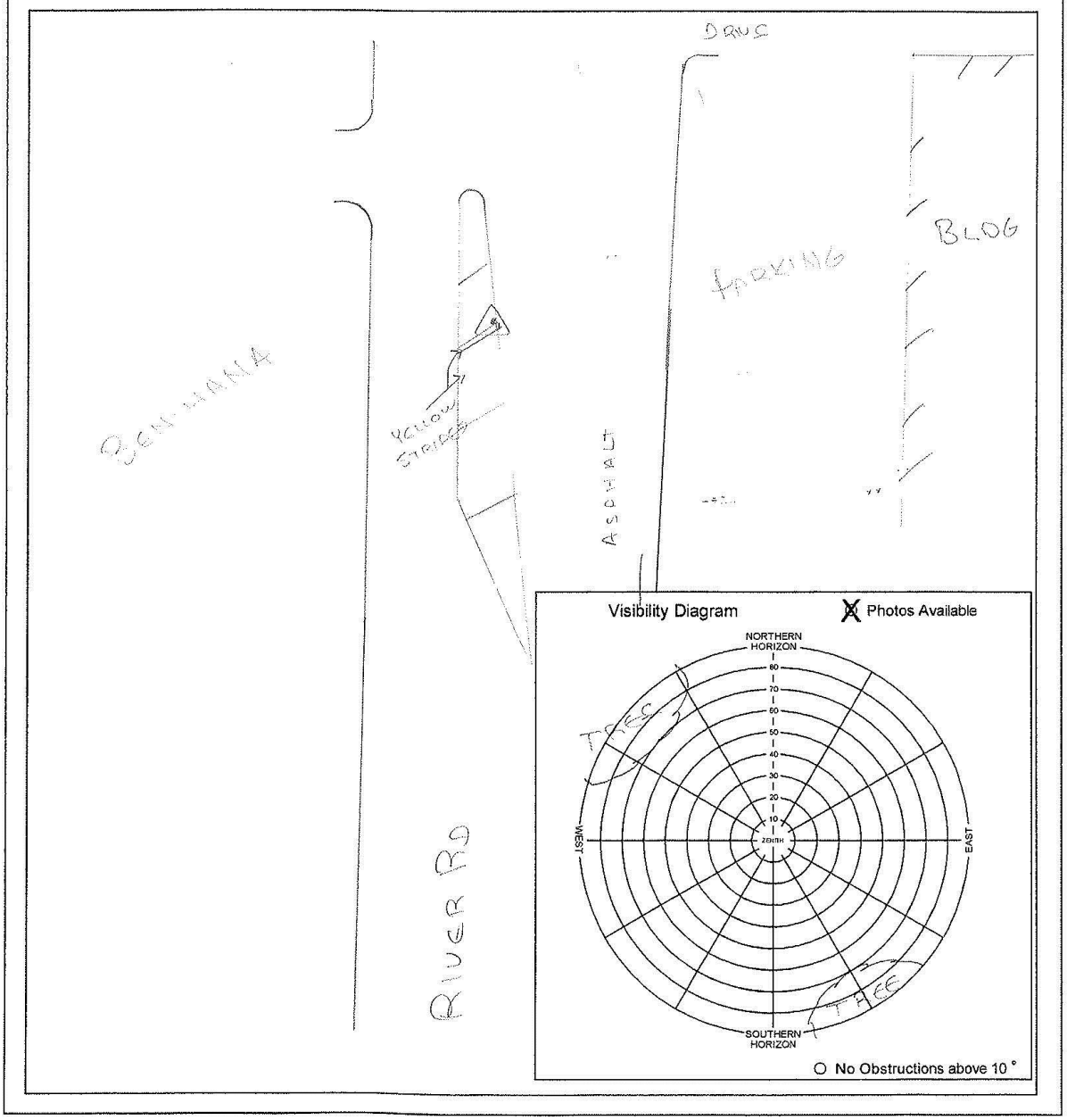
1-3W-17DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
2	SET DK @ INT OF RIVER RD YELLOW STRIPES	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 °12 ' 08.8"	W 80 °12 '10.0 "	12 /17/ 15	RMC



2-1-17DEC2015

2-2-17DEC2015

2-3N-17DEC2015

2-3E-17DEC2015

2-3S-17DEC2015

2-3W-17DEC2015

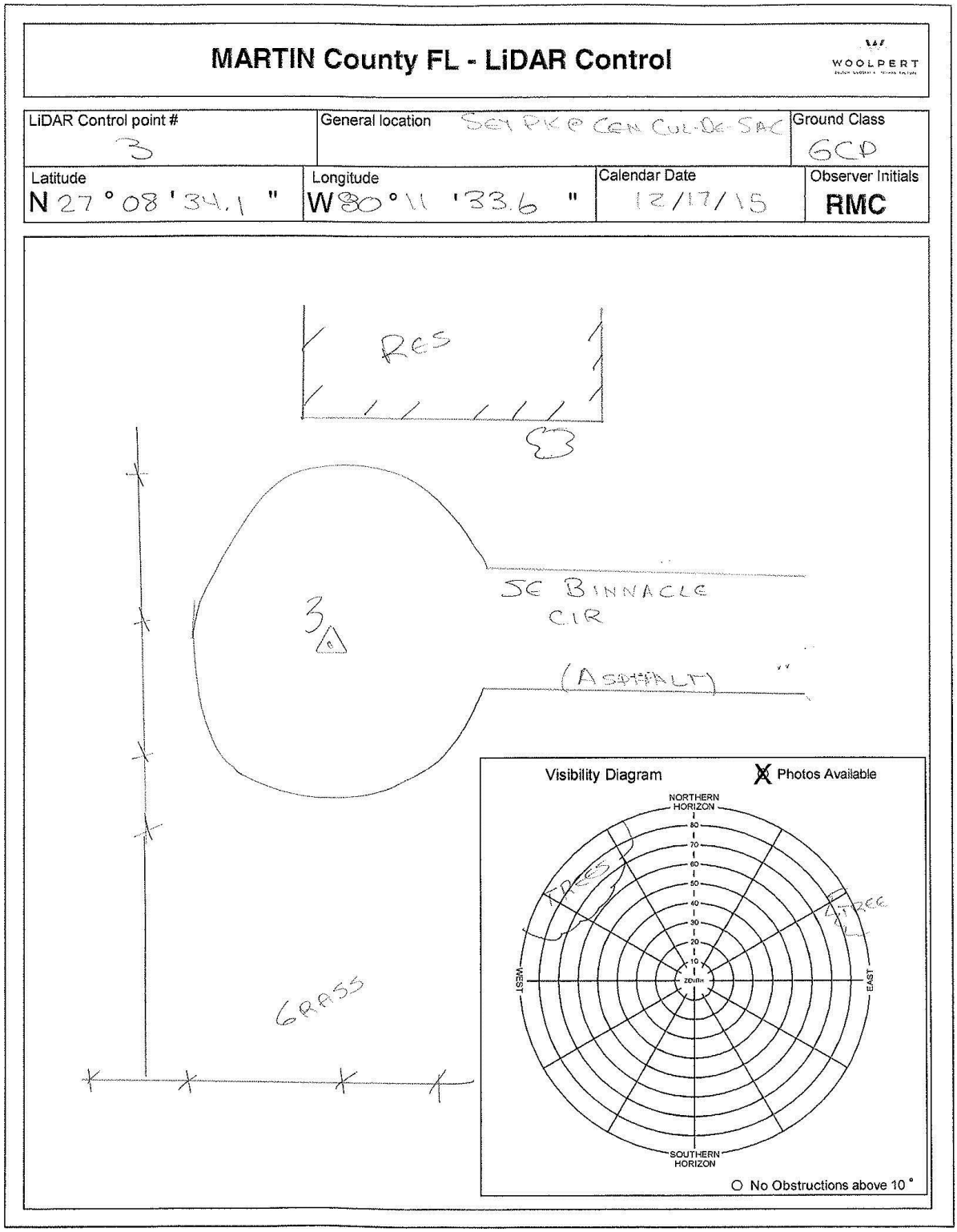
GCP 3

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
3	SE1 PK @ CEN CUL-DE-SAC	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 08 ' 34.1 "	W 80 ° 11 ' 33.6 "	12/17/15	RMC



3-1-17DEC2015

3-2-17DEC2015

3-3N-17DEC2015

3-3E-17DEC2015

3-3S-17DEC2015

3-3W-17DEC2015

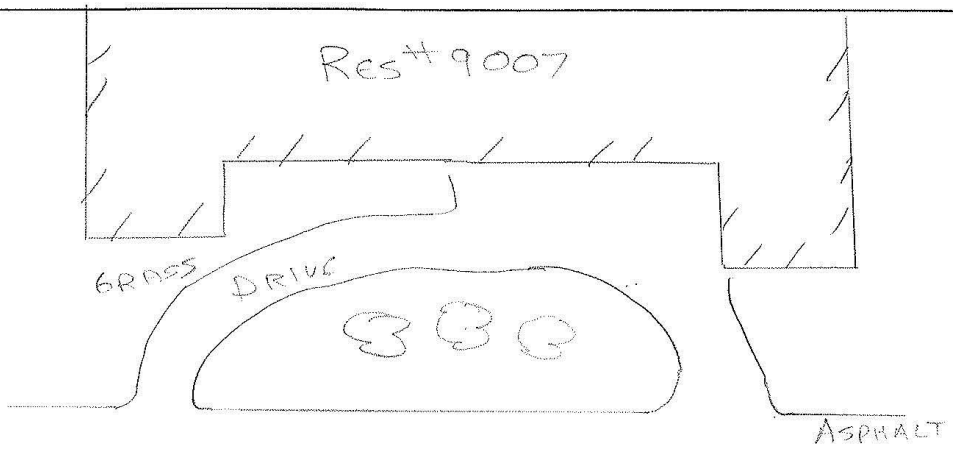
GCP 4

MARTIN County FL - LiDAR Control

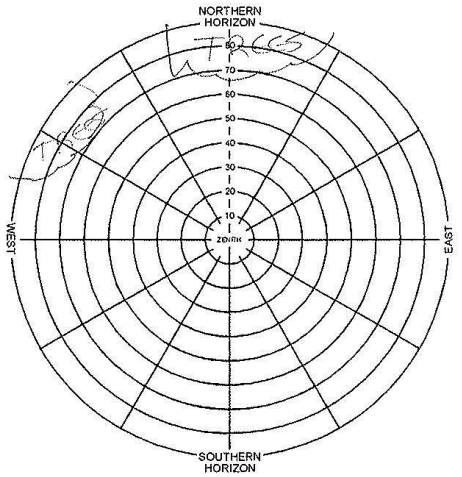
WOOLPERT

LiDAR Control point #	General location	Ground Class
4	SEA PINE CT & STAR ISLAND WAY	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 °04 '42.7 "	W 80 °07 ' 58.2 "	12/17/15	RMC



Visibility Diagram X Photos Available



○ No Obstructions above 10 °

4-1-17DEC2015

4-2-17DEC2015

4-3N-17DEC2015

4-3E-17DEC2015

4-3S-17DEC2015

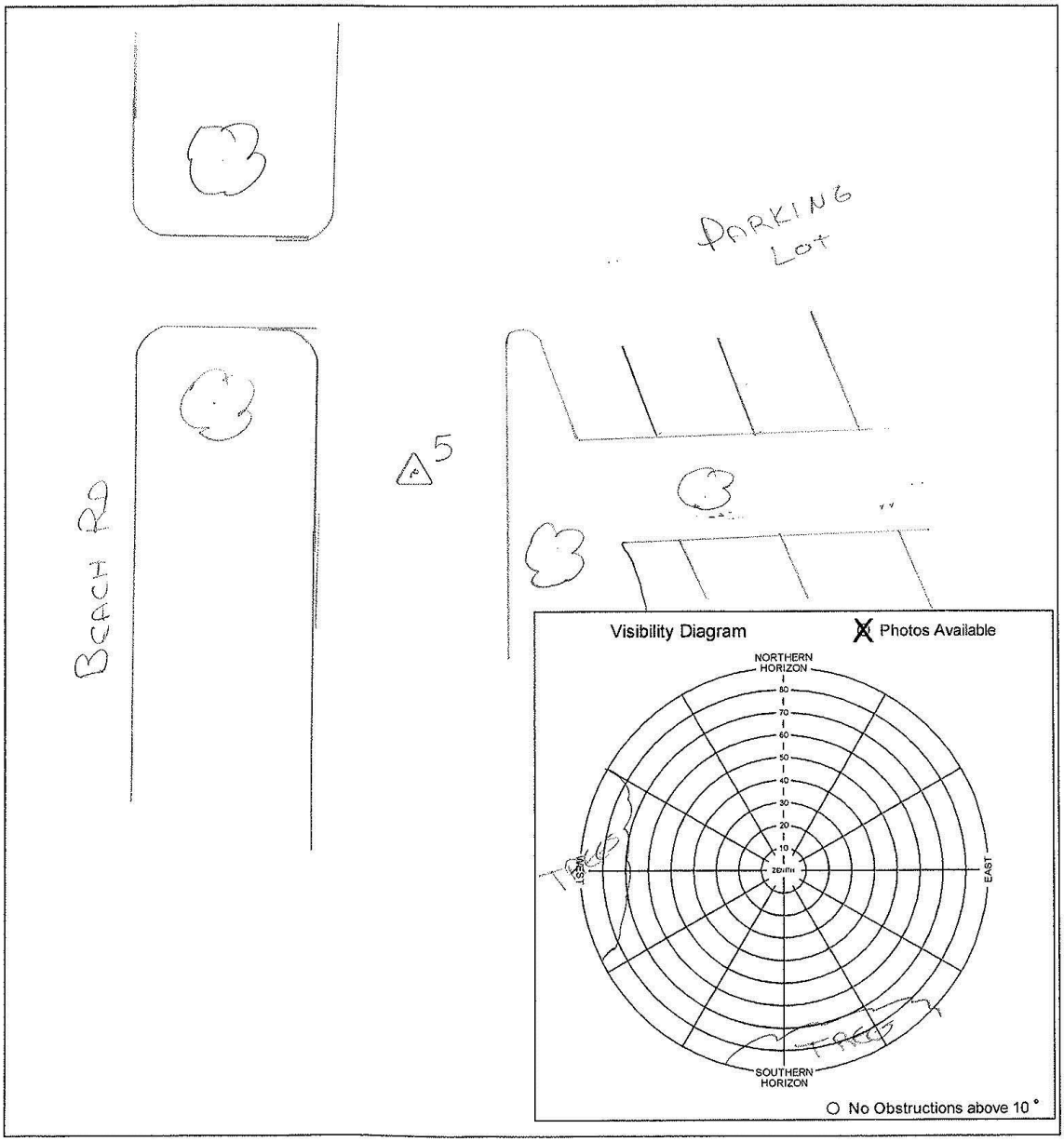
4-3W-17DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
5	PARKING FOR BEACH ACCESS	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 3 ' 58.4 "	W 80 ° 6 ' 57.8 "	12/17/15	RMC



5-1-17DEC2015

5-2-17DEC2015

5-3N-17DEC2015

5-3E-17DEC2015

5-3S-17DEC2015

5-3W-17DEC2015

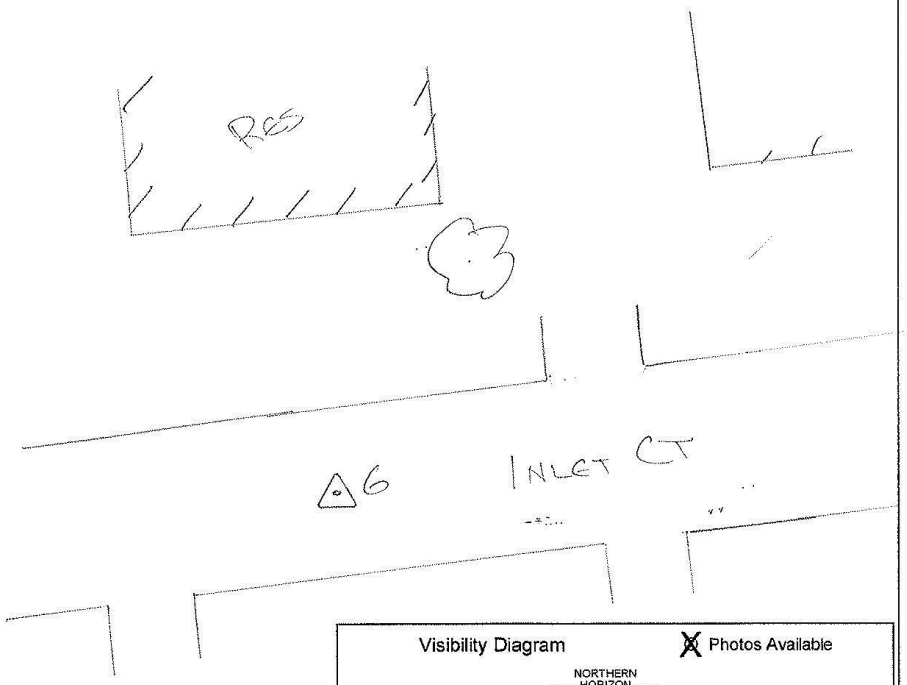
GCP 6

MARTIN County FL - LiDAR Control

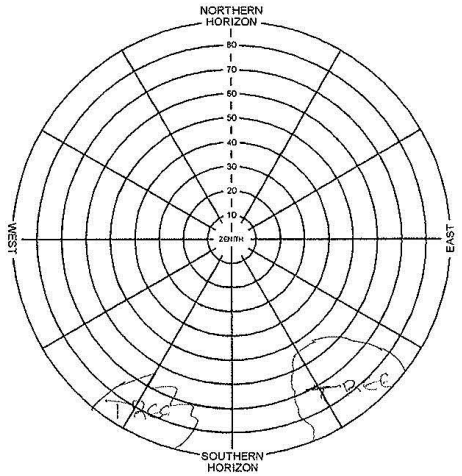
WOOLPERT

LiDAR Control point #	General location	Ground Class
6	INLET CT	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 26 ° 57 ' 54.7 "	W 80 ° 05' 02.7 "	12/17/15	RMC



Visibility Diagram X Photos Available



○ No Obstructions above 10 °

6-1-17DEC2015

6-2-17DEC2015

6-3N-17DEC2015

6-3E-17DEC2015

6-3S-17DEC2015

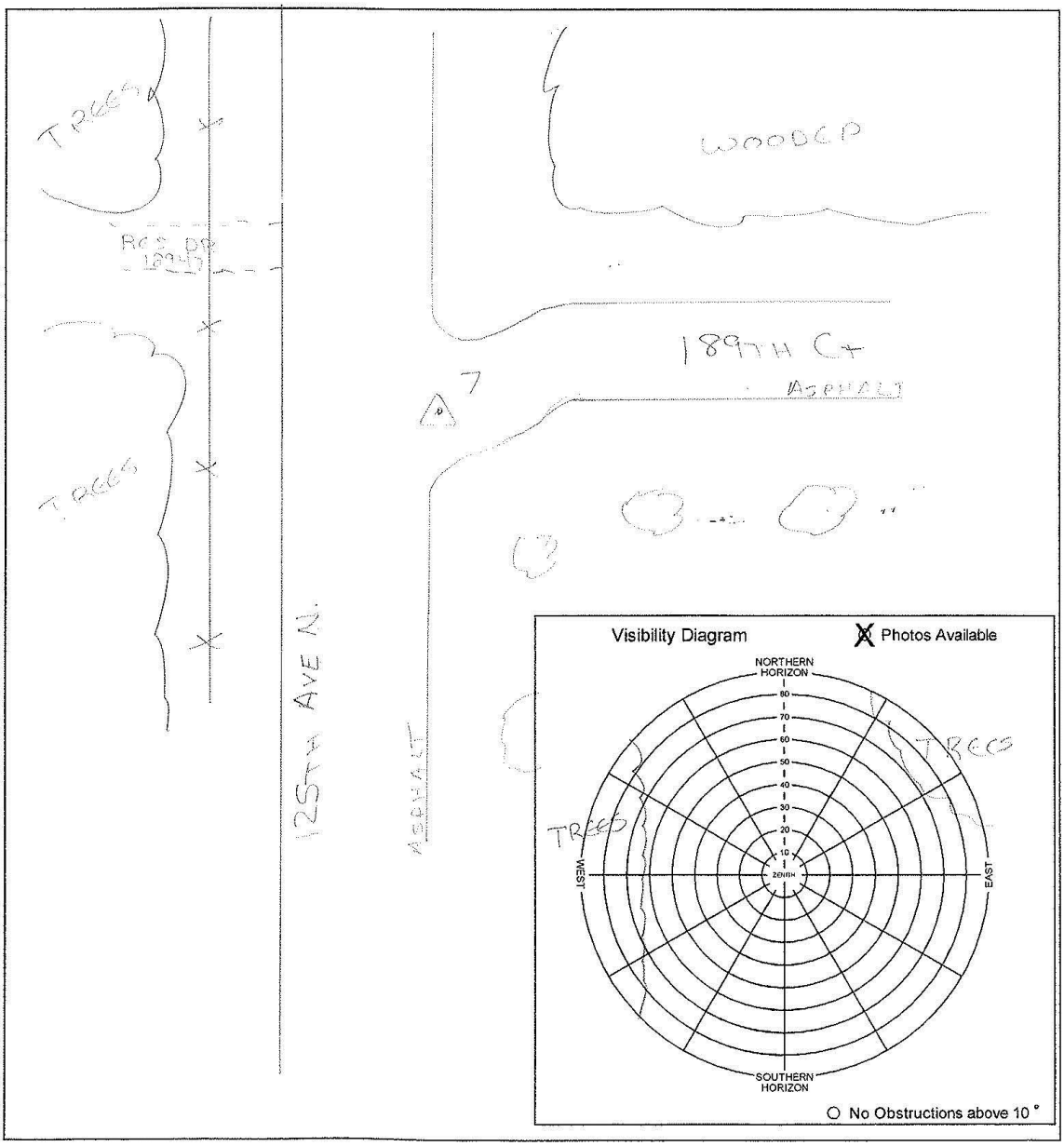
6-3W-17DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
7	SET PK INT OF 125TH AVE N & 189TH CT	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 26 ° 57 ' 21.3 "	W 80 ° 13 ' 51.3 "	12/18/15	RMC



7-1-18DEC2015

7-2-18DEC2015

7-3N-18DEC2015

7-3E-18DEC2015

7-3S-18DEC2015

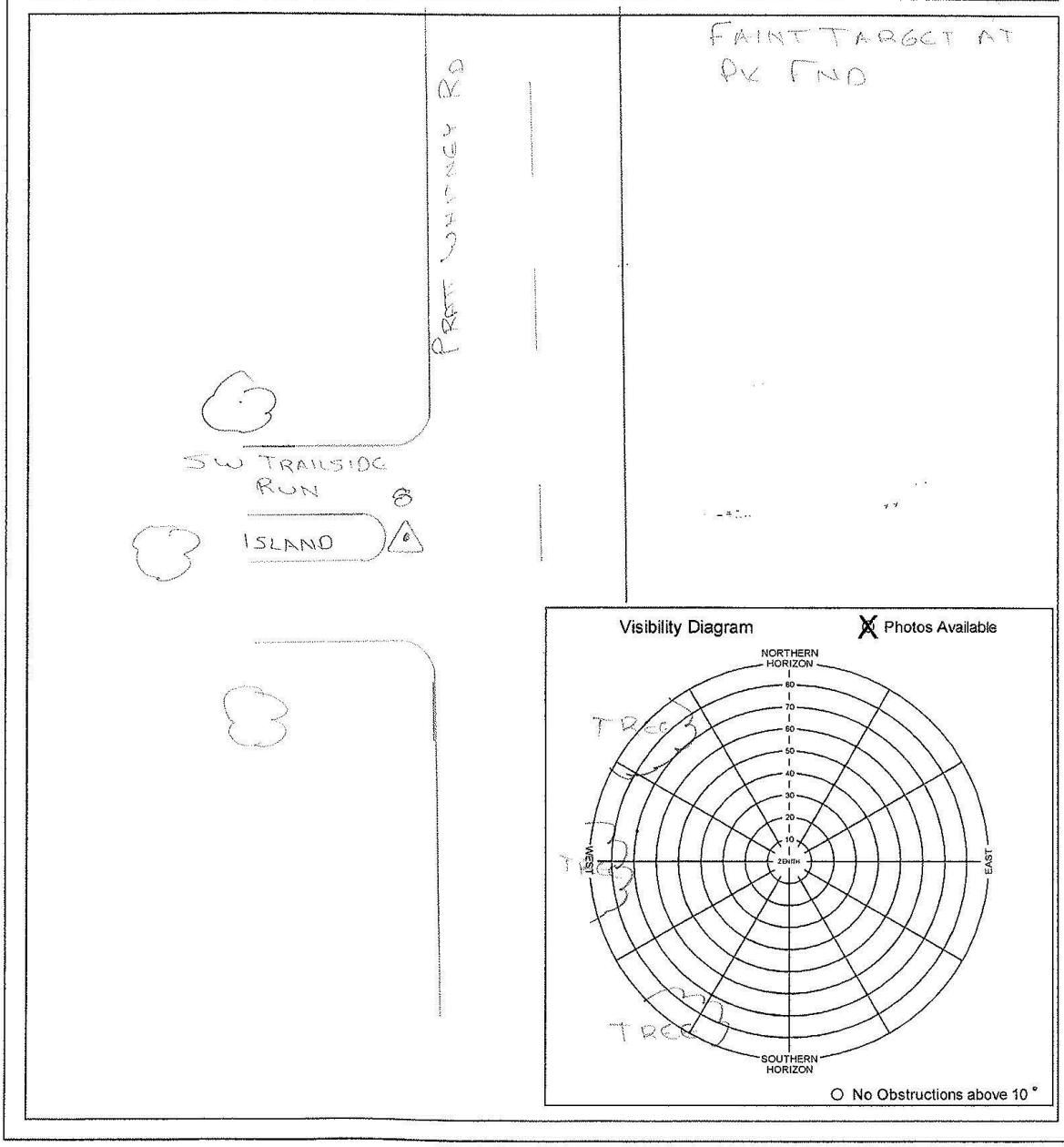
7-3W-18DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
8	FND PK NAIL IN PORT SWITNEY RD & TRAILSIDE RUN	GCD

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 01 ' 48.1 "	W 80 ° 15 ' 46.6 "	12 / 18 / 15	RMC



8-1-18DEC2015

8-2-18DEC2015

8-3N-18DEC2015

8-3E-18DEC2015

8-3S-18DEC2015

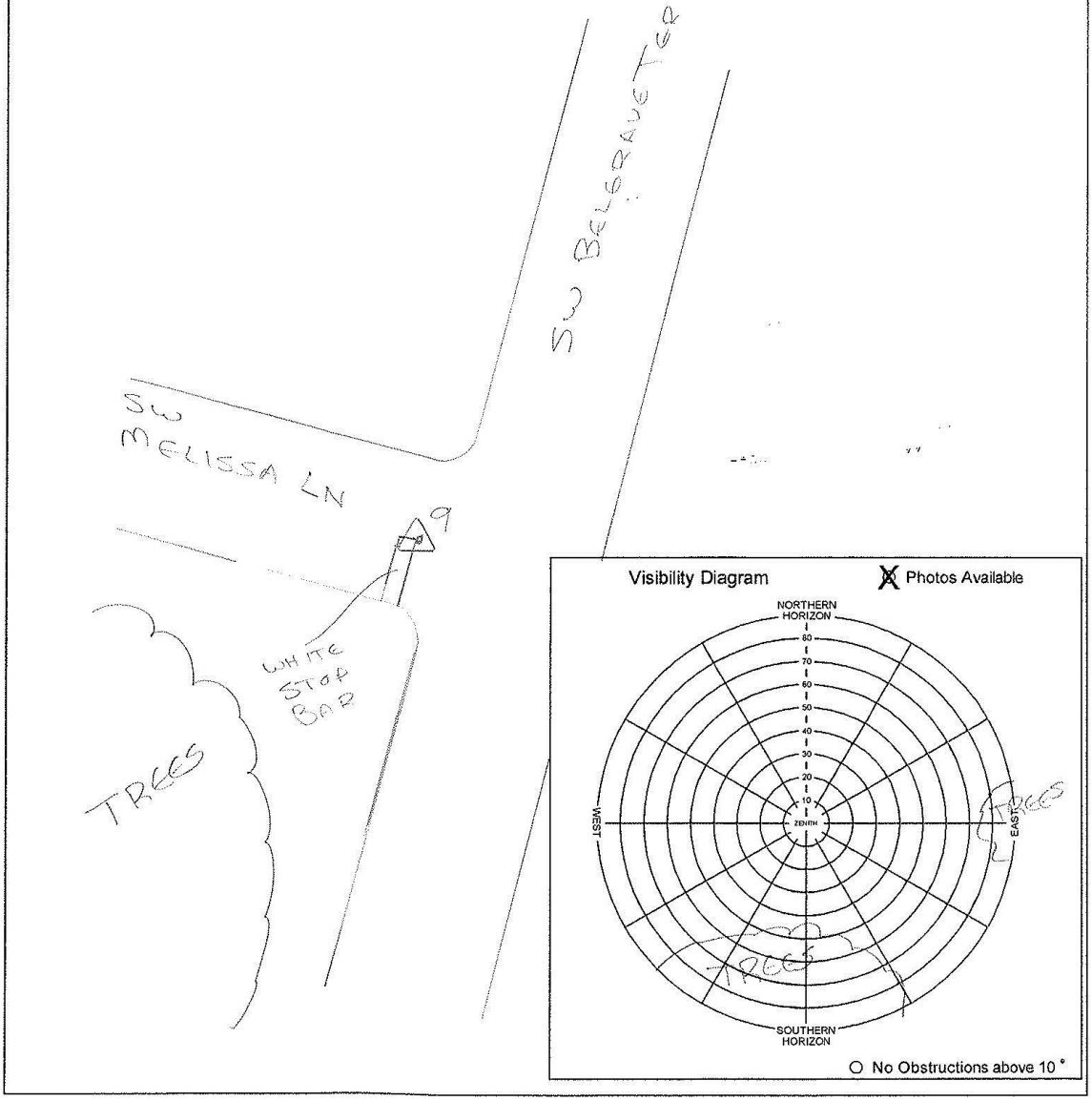
8-3W-18DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
9	SET PK NAIL & WASHER ON NE COR WHITE STOP BAR INT. OF MELISSA LN & BELLGRAVE TER	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27° 06' 44.3"	W 80° 16' 28.7"	12/18/15	RMC



9-1-18DEC2015

9-2-18DEC2015

9-3N-18DEC2015

9-3E-18DEC2015

9-3S-18DEC2015

9-3W-18DEC2015

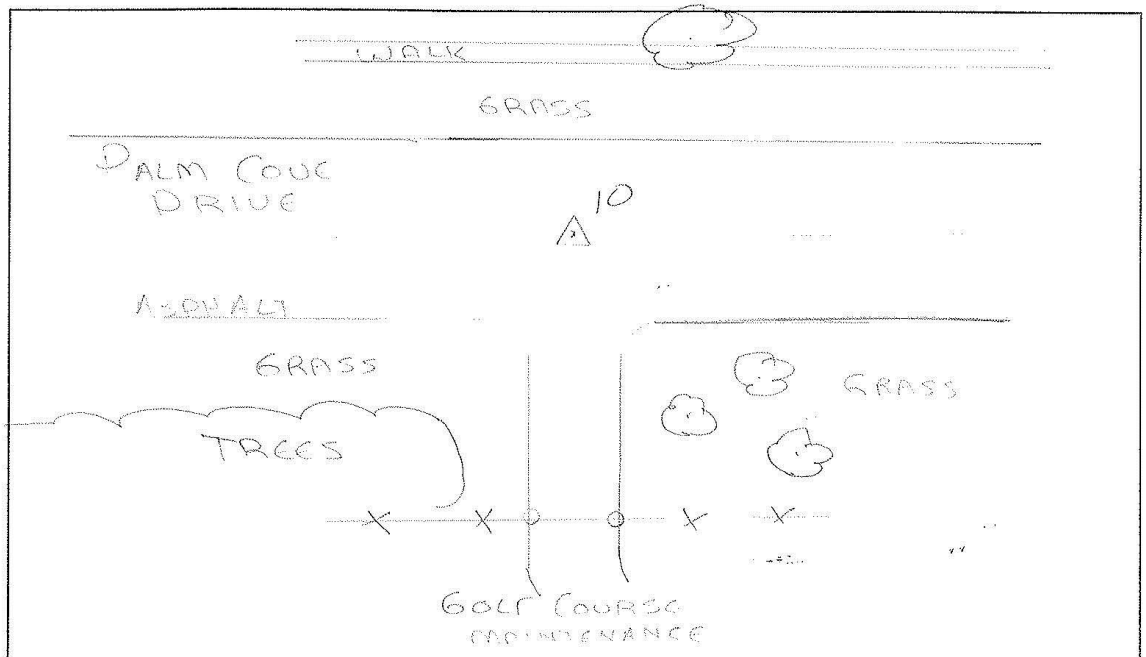
GCP 10

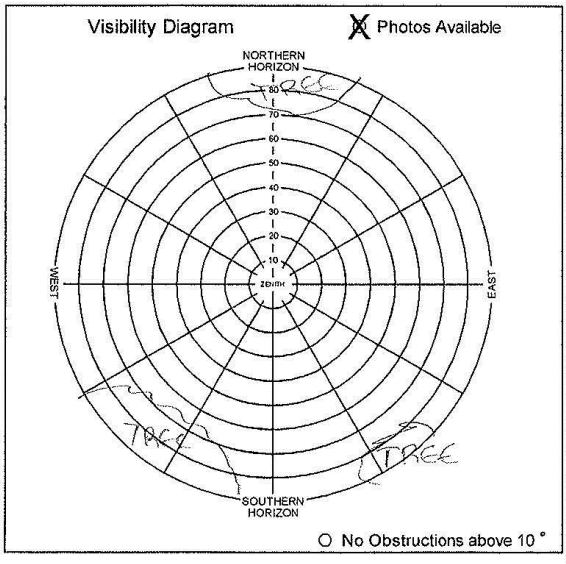
MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
10	Set PK @ ℄ PALM COVE DRIVE	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 11 ' 51.2"	W 80 ° 17 ' 05.9 "	12 /18/ 15	RMC





10-1-18DEC2015

10-2-18DEC2015

10-3N-18DEC2015

10-3E-18DEC2015

10-3S-18DEC2015

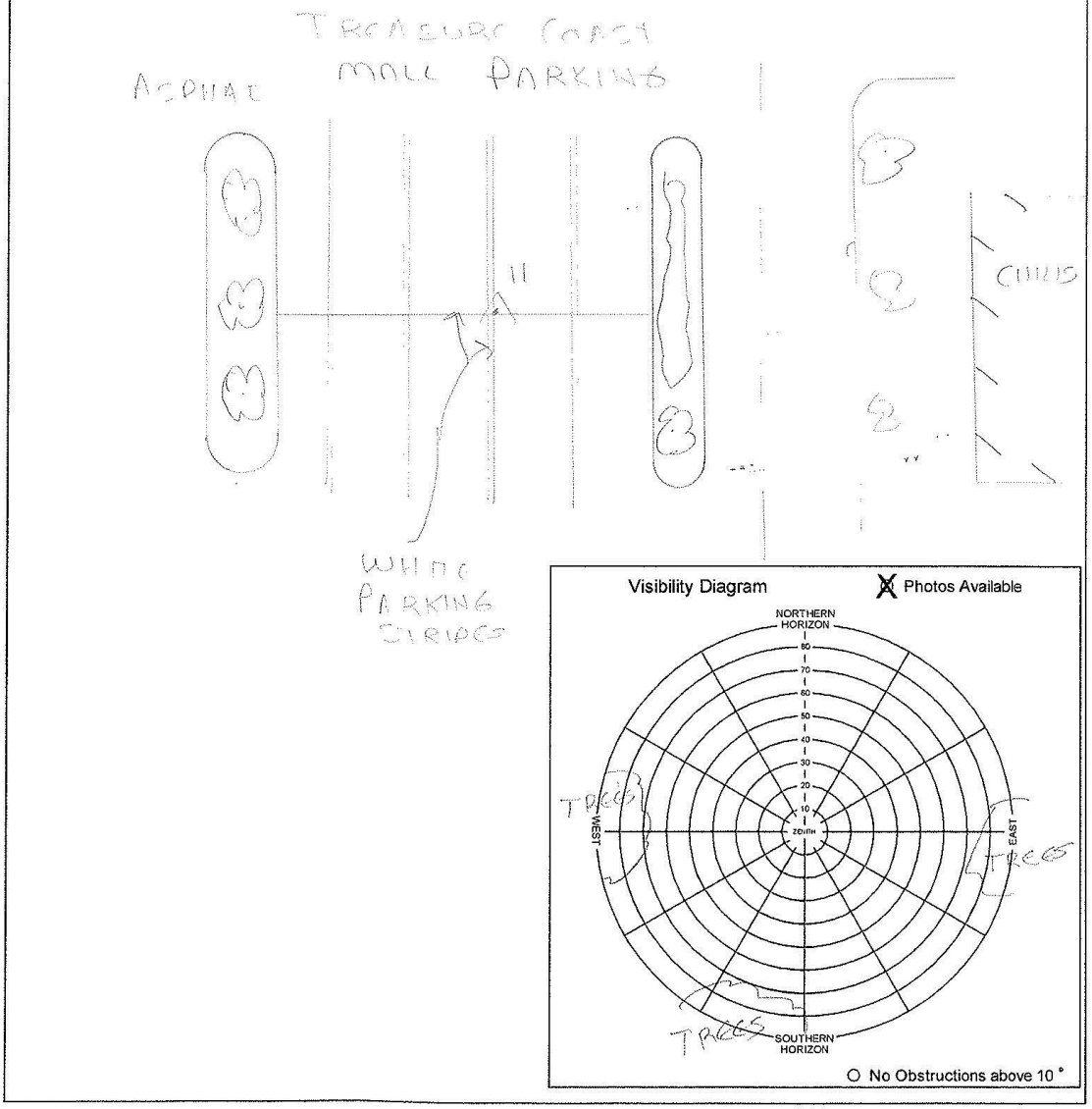
10-3W-18DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
11	SCT PK TREASURE COAST MALL	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27°14'31.5"	W 80°16'22.0"	12/18/15	RMC

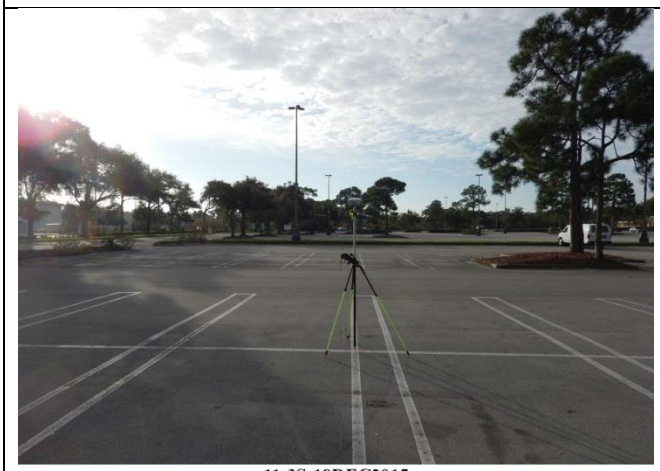


11-1-18DEC2015

11-2-18DEC2015

11-3N-18DEC2015

11-3E-18DEC2015



11-3S-18DEC2015

11-3W-18DEC2015

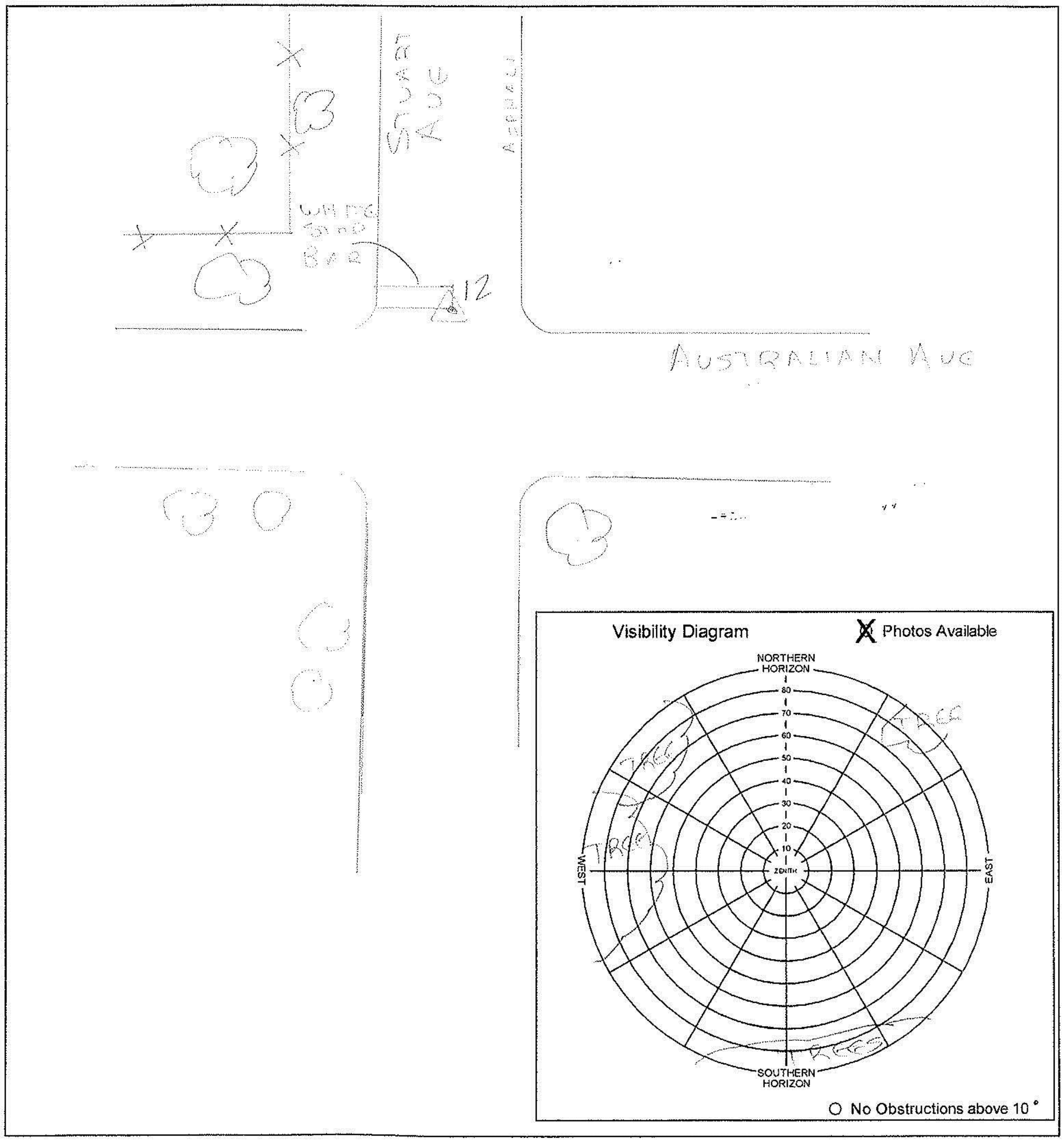
GCP 12

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
12	SCT PK SE COR STOP BAR 1' W OF STUART AVE & AUSTRALIAN AVE	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27°12'41.8"	W 80°15'42.2"	12/18/15	RMC



12-1-18DEC2015

12-2-18DEC2015

12-3N-18DEC2015

12-3E-18DEC2015

12-3S-18DEC2015

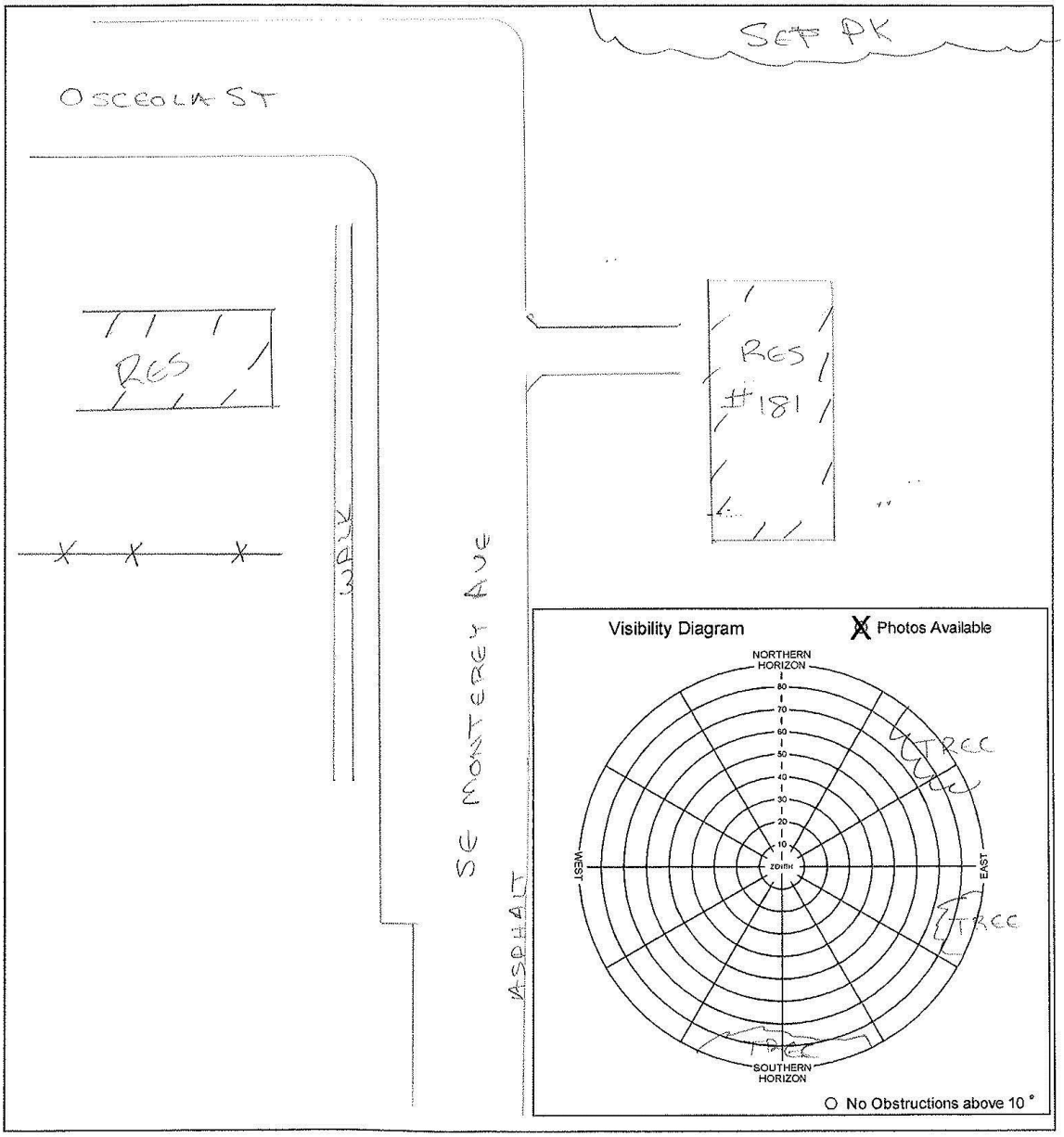
12-3W-18DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
13		GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 °12 '10.1 "	W 80 °13 '14.3 "	12/17/15	RMC



13-1-17DEC2015

13-2-17DEC2015

13-3N-17DEC2015

13-3E-17DEC2015

13-3S-17DEC2015

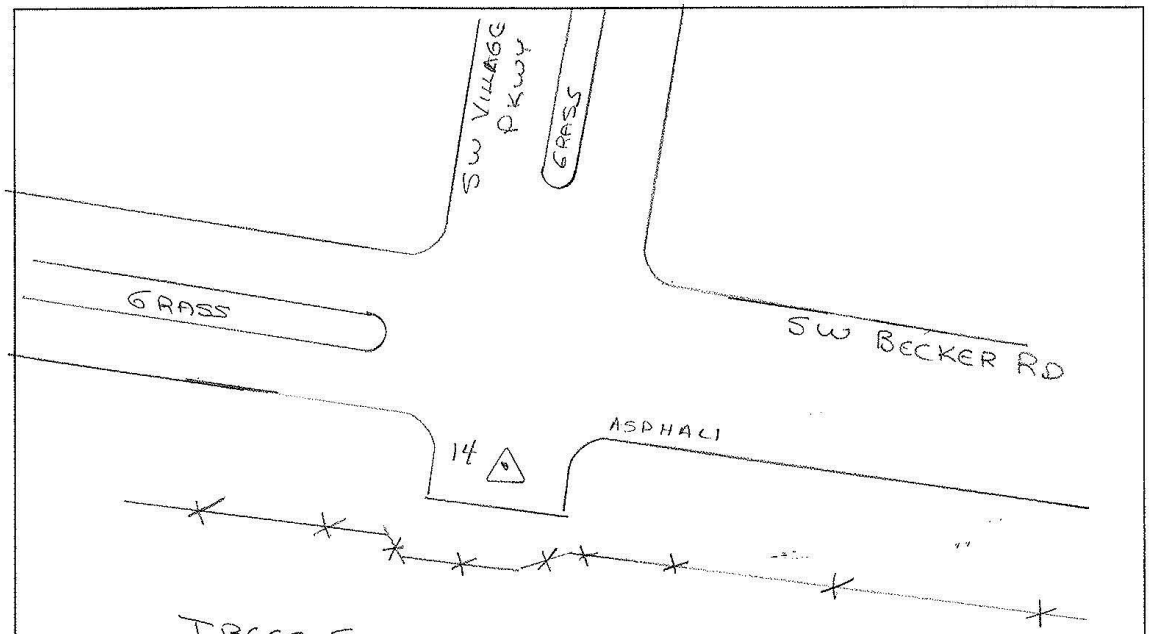
13-3W-17DEC2015

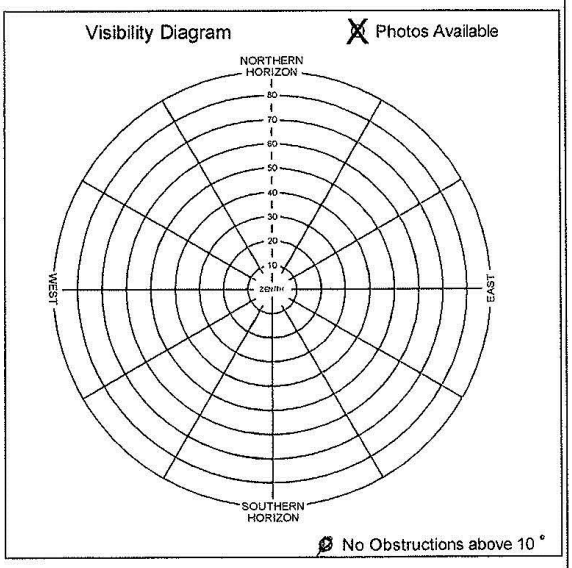
MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
14	INT. SW BECKER RD & SW VILLAGE PKWY	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 °12 '35.8 "	W 80 °24 '46.2 "	12 /15/ 15	RMC





14-2-15DEC2015

14-3N-15DEC2015

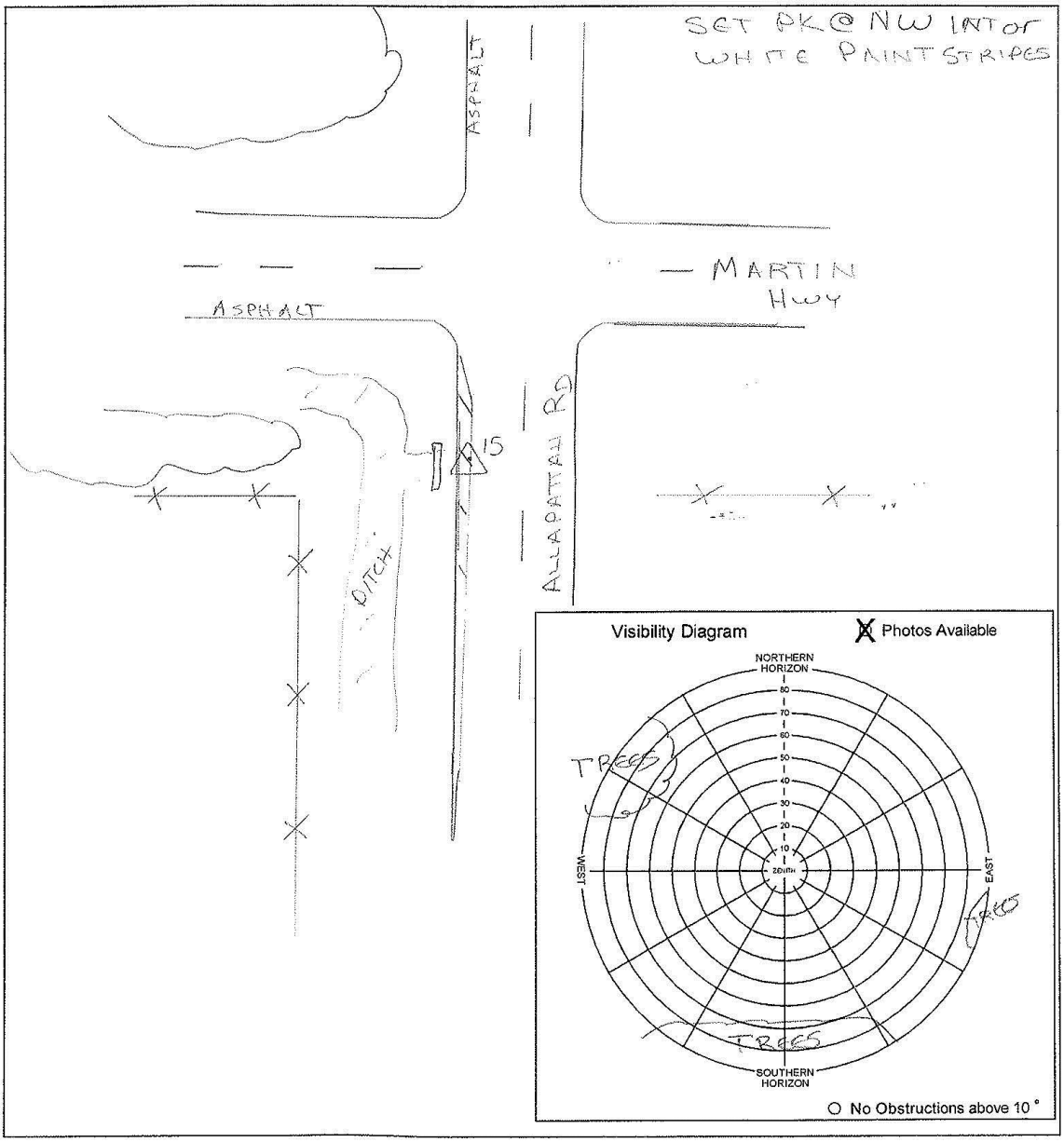
14-3E-15DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
15	INT ALLAPATTAH RD & MARTIN Hwy	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 09 ' 42.3 "	W 80 ° 28 ' 54.7 "	12/15/15	RMC



15-1-15DEC2015

15-2-15DEC2015

15-3N-15DEC2015

15-3E-15DEC2015

15-3S-15DEC2015

15-3W-15DEC2015

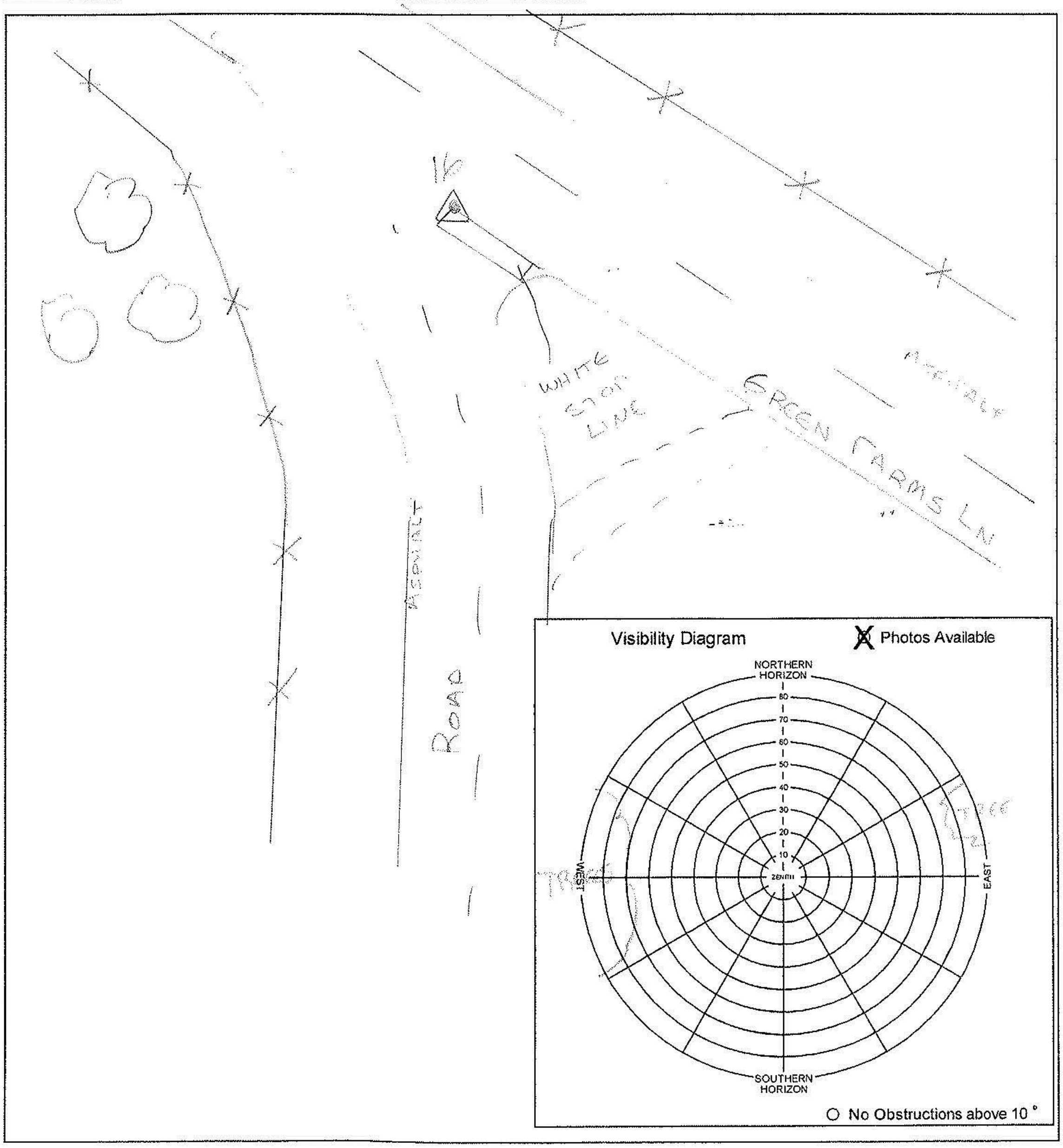
GCP 16

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
16	[illegible] GREEN FARMS [illegible]	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27° 08' 37.7"	W 80° 23' 01.8"	12/15/15	RMC



16-1-15DEC2015

16-2-15DEC2015

16-3N-15DEC2015

16-3E-15DEC2015

16-3S-15DEC2015

16-3W-15DEC2015

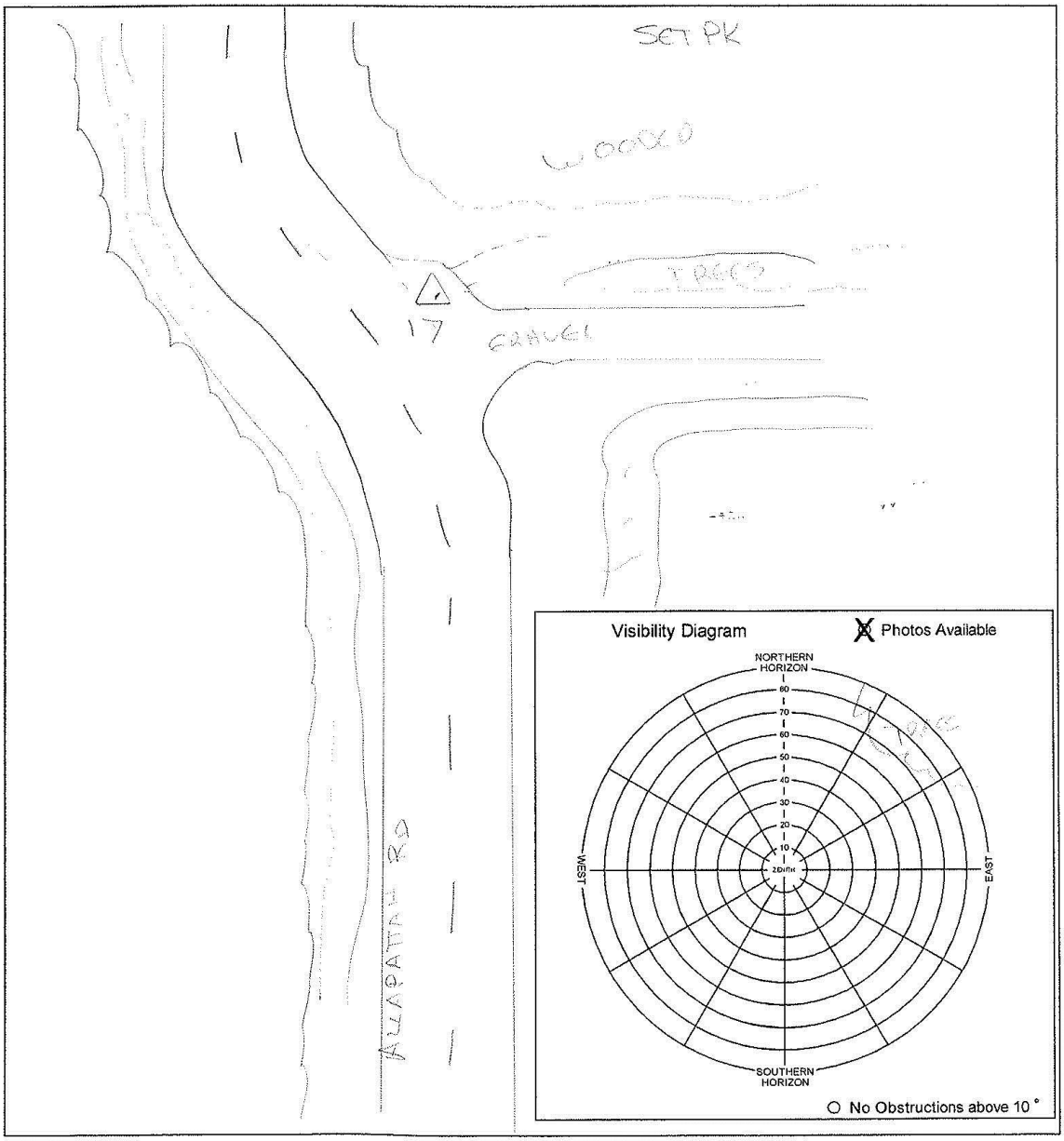
GCP 17

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
17	ALLAPATTAH RD & GRUCL RD E	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 °07 '06.2 "	W 80 °28'53.9 "	12 /15/ 15	RMC



17-1-15DEC2015

17-2-15DEC2015

17-3N-15DEC2015

17-3E-15DEC2015

17-3S-15DEC2015

17-3W-15DEC2015

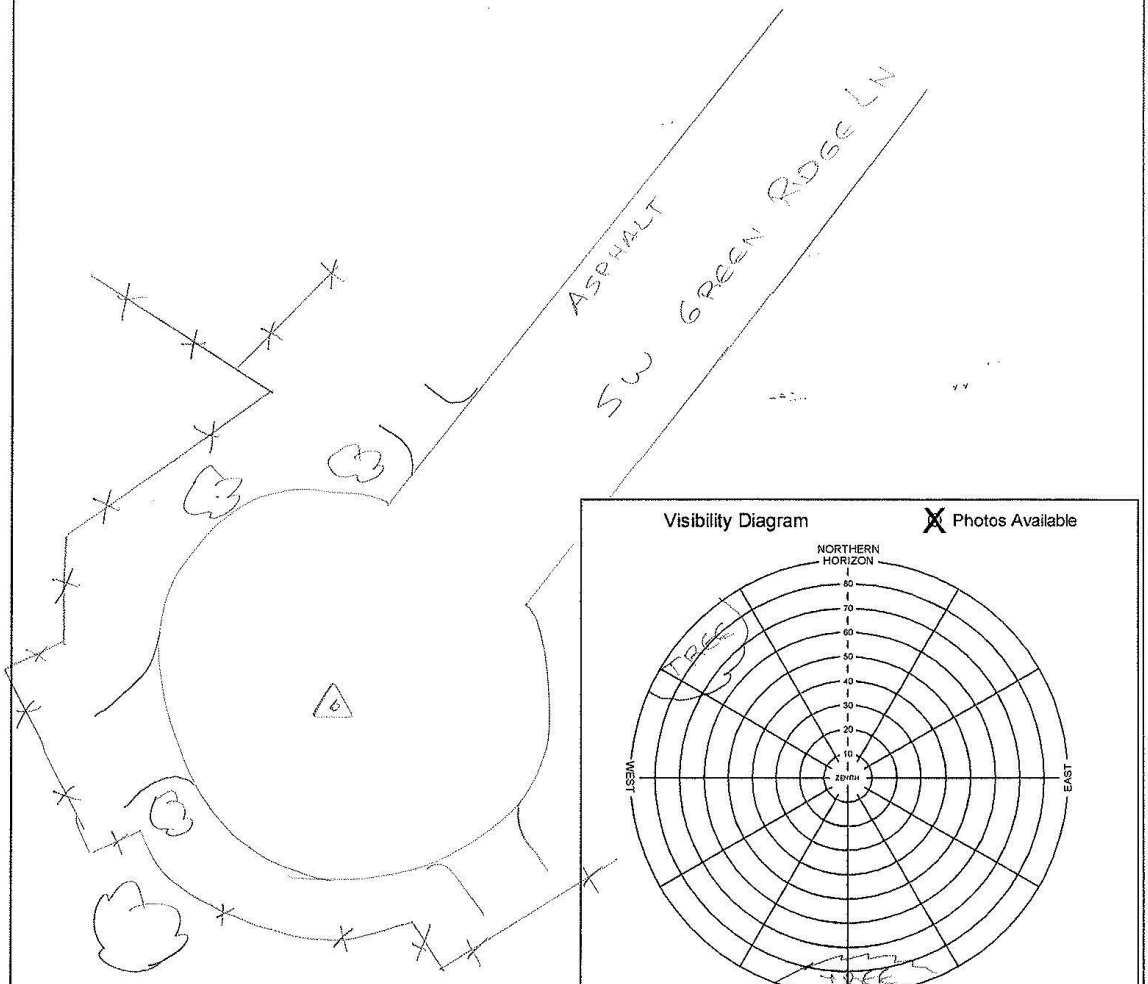
GCP 18

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
18	SET PK IN CENTER CUL-DE-SAC	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 04 ' 10.5 "	W 80 ° 19 ' 01.7 "	12/18/15	RMC



18-1-18DEC2015

18-2-18DEC2015

18-3N-18DEC2015

18-3E-18DEC2015

18-3S-18DEC2015

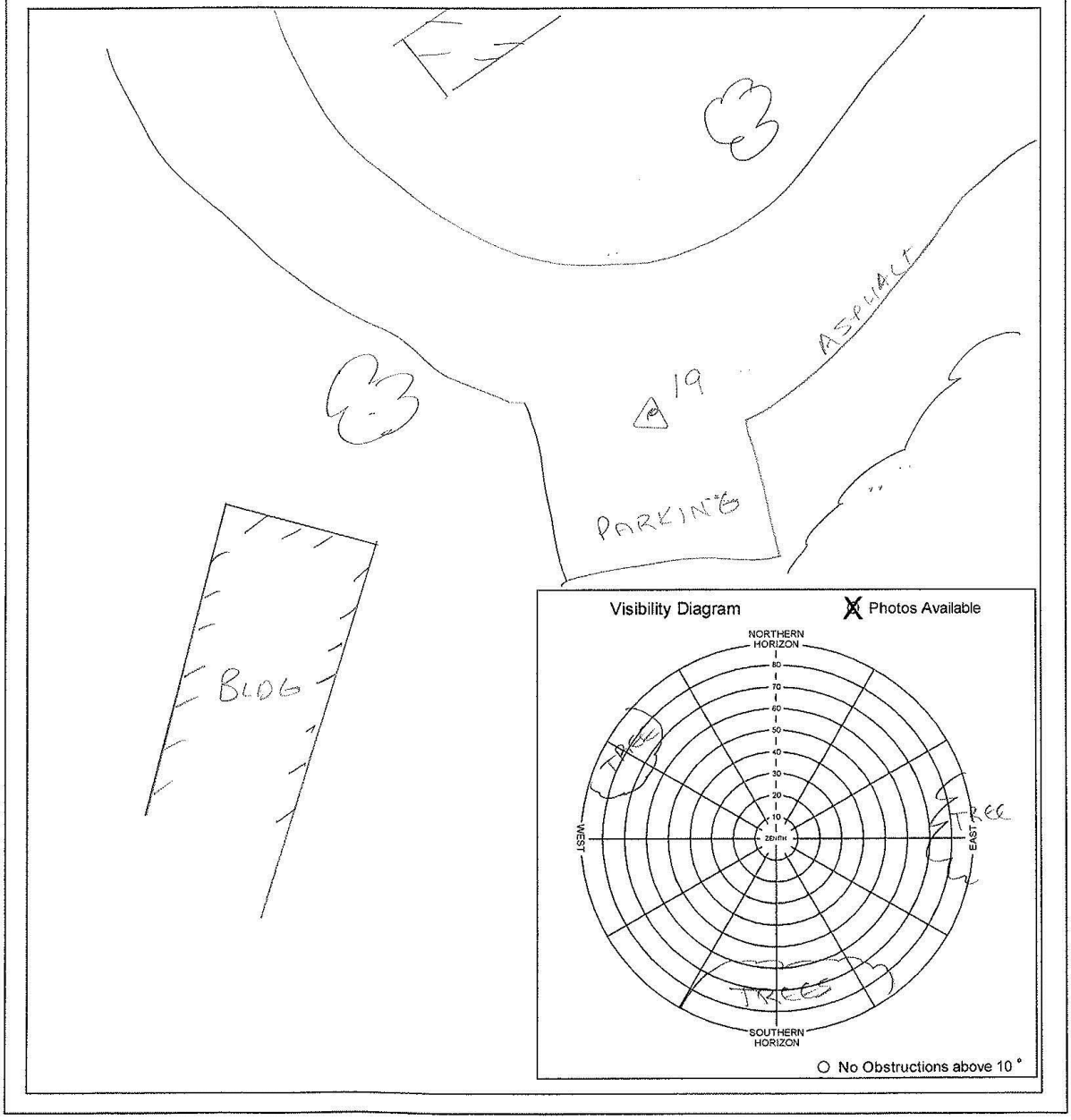
18-3W-18DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
19	MOBILE HOME PARK	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 01 ' 37.4 "	W80 ° 24 ' 33.5 "	12 /16/15	RMC



19-1-16DEC2015

19-2-16DEC2015

19-3N-16DEC2015

19-3E-16DEC2015

19-3S-16DEC2015

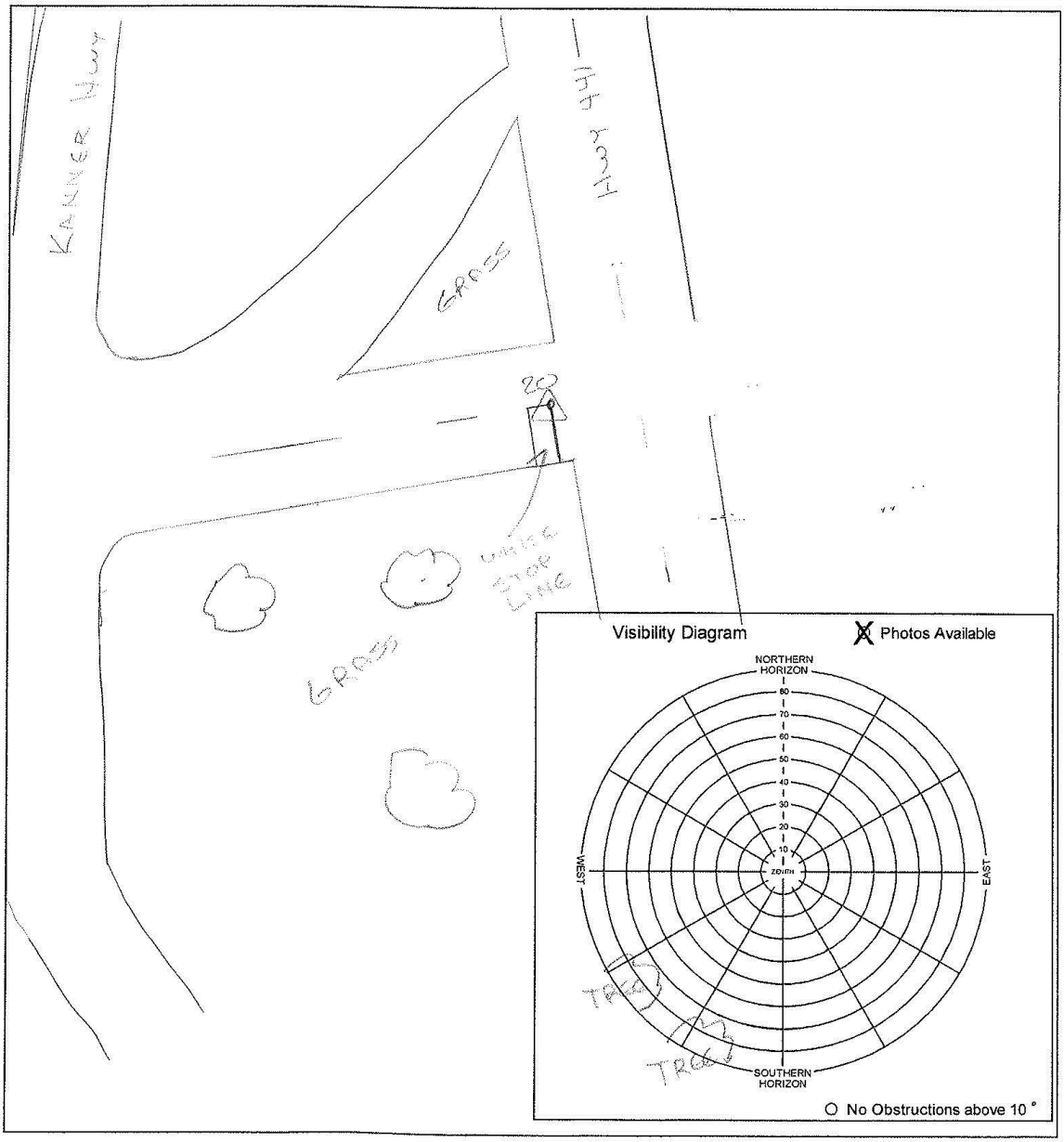
19-3W-16DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
20	PK NE Cor WHITE STOP BAR INT KANNER HWY & HWY 441	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 26 ° 58 ' 40.2 "	W 80 ° 36 ' 52.5 "	12 /16/ 15	RMC



20-1-16DEC2015

20-2-16DEC2015

20-3N-16DEC2015

20-3E-16DEC2015

20-3S-16DEC2015

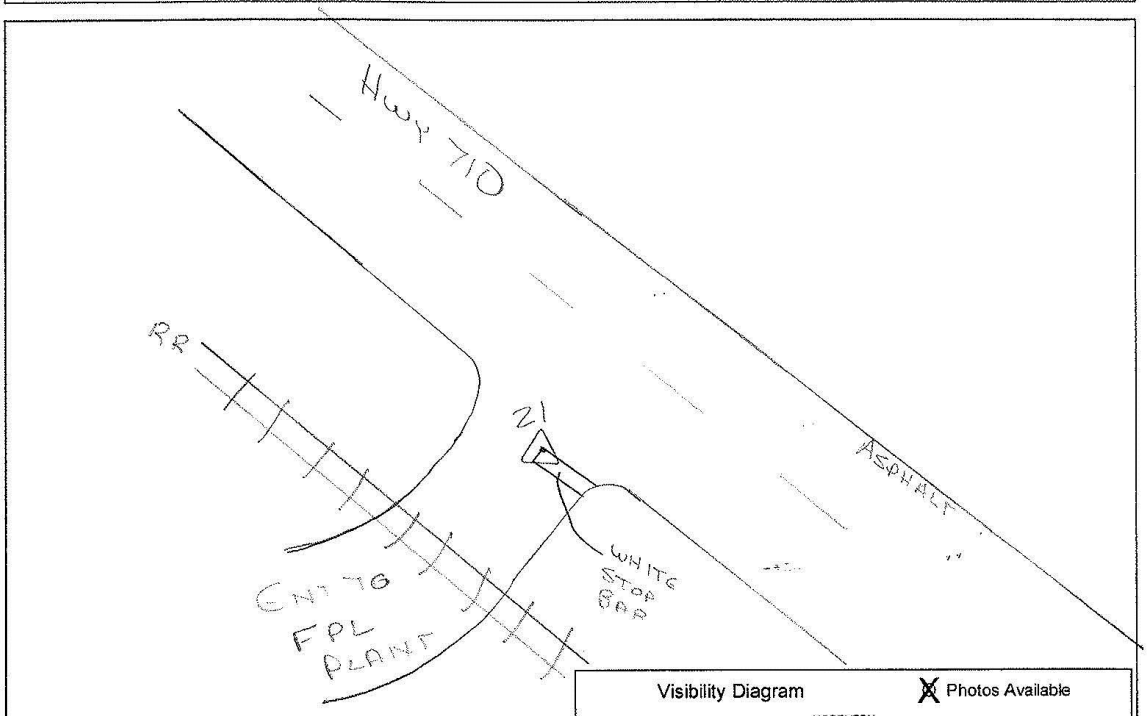
20-3W-16DEC2015

MARTIN County FL - LiDAR Control

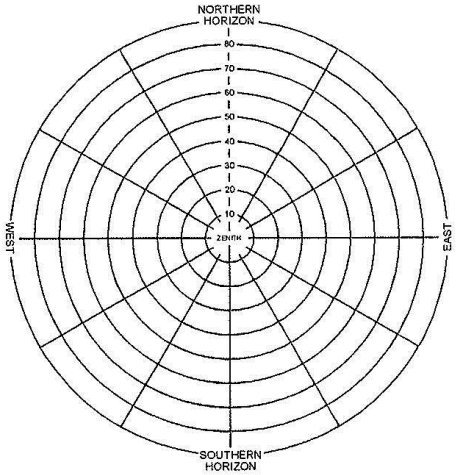
WOOLPERT

LiDAR Control point #	General location	Ground Class
21	PK NW COR WHITE STOP BAR HWY 710 & ENT TO FPL RD	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 04 ' 29.5 "	W 80 ° 33 ' 01.7 "	12/16/15	RMC



Visibility Diagram — Photos Available



No Obstructions above 10 °

21-1-16DEC2015

21-2-16DEC2015

21-3N-16DEC2015

21-3E-16DEC2015

21-3S-16DEC2015

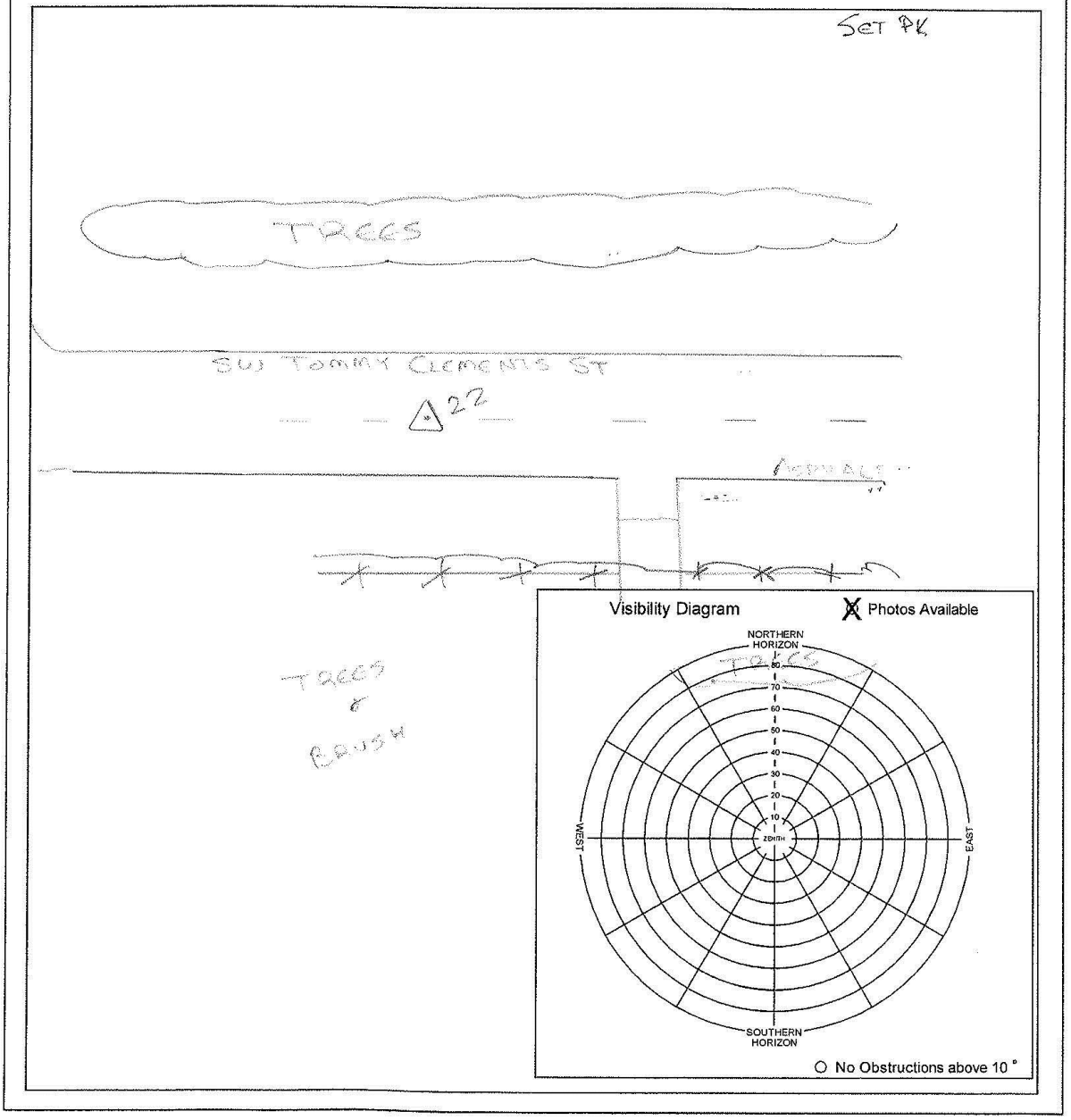
21-3W-16DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
22	SW Tommy Clements ST	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 06 ' 12.5 "	W 80 ° 36 ' 44.7 "	12/16/15	RMC



22-1-16DEC2015

22-2-16DEC2015

22-3N-16DEC2015

22-3E-16DEC2015

22-3S-16DEC2015

22-3W-16DEC2015

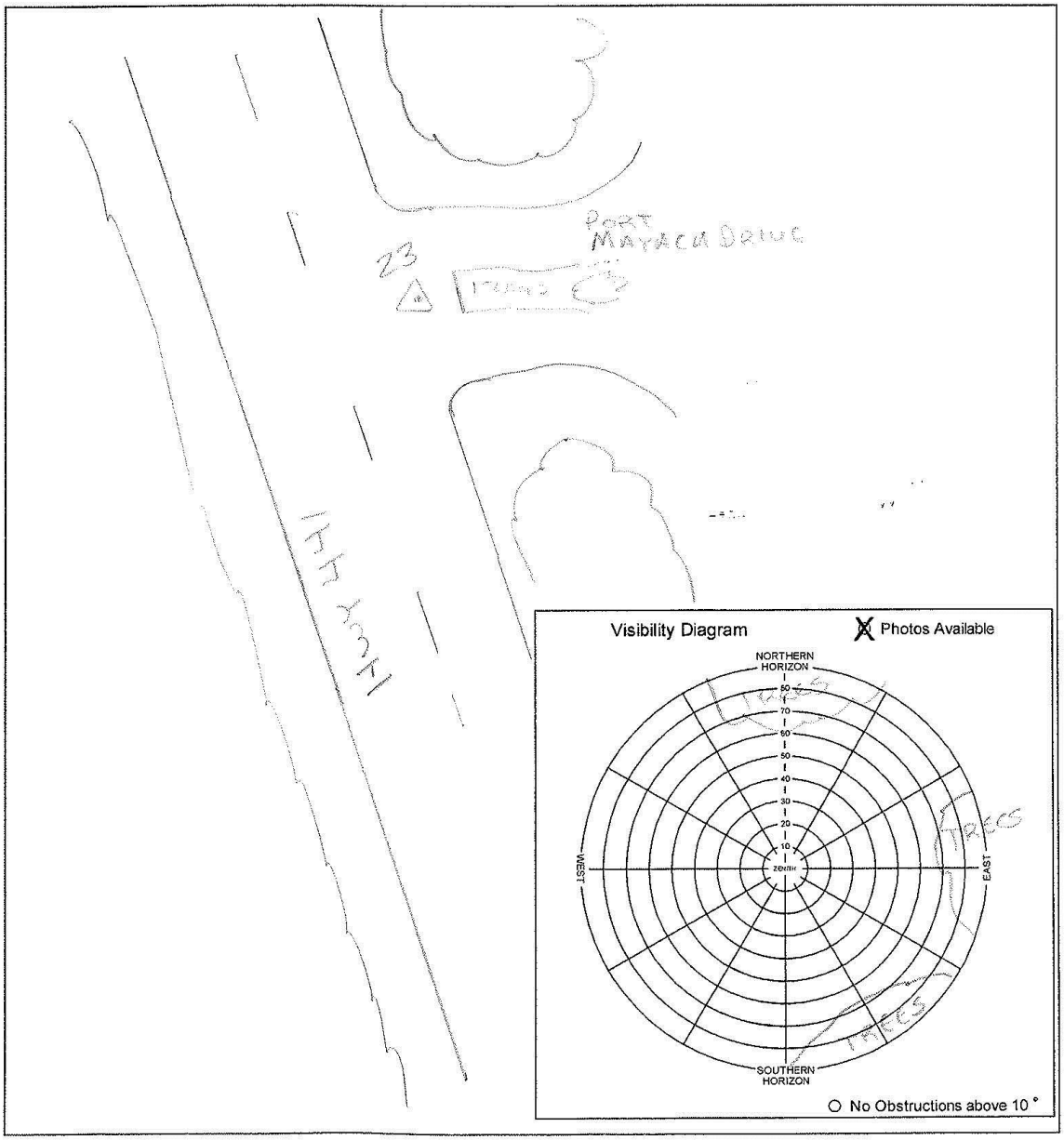
GCP 23

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
23	Hwy 441 & Port Mayaca Dr	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 03 ' 08.4 "	W 80 ° 38 ' 37 S "	12 /16/ 15	RMC



23-1-16DEC2015

23-2-16DEC2015

23-3N-16DEC2015

23-3E-16DEC2015

23-3S-16DEC2015

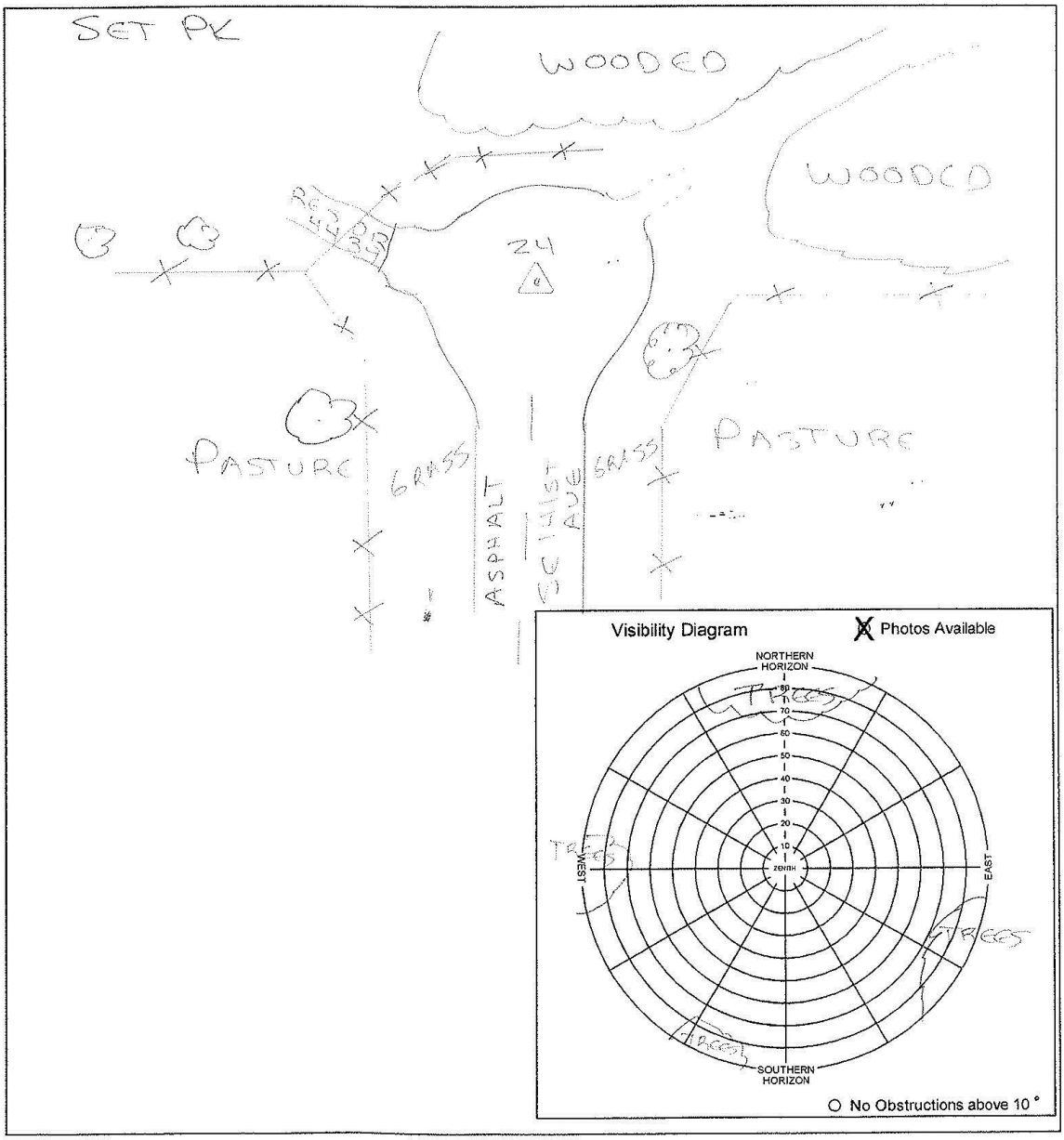
23-3W-16DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
24	CUL-DE-SAC SE 141ST AVE	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 12 ' 12.8 "	W 80 ° 40 ' 48.1 "	12 /15/15	RMC



24-1-15DEC2015

24-2-15DEC2015

24-3N-15DEC2015

24-3E-15DEC2015

24-3S-15DEC2015

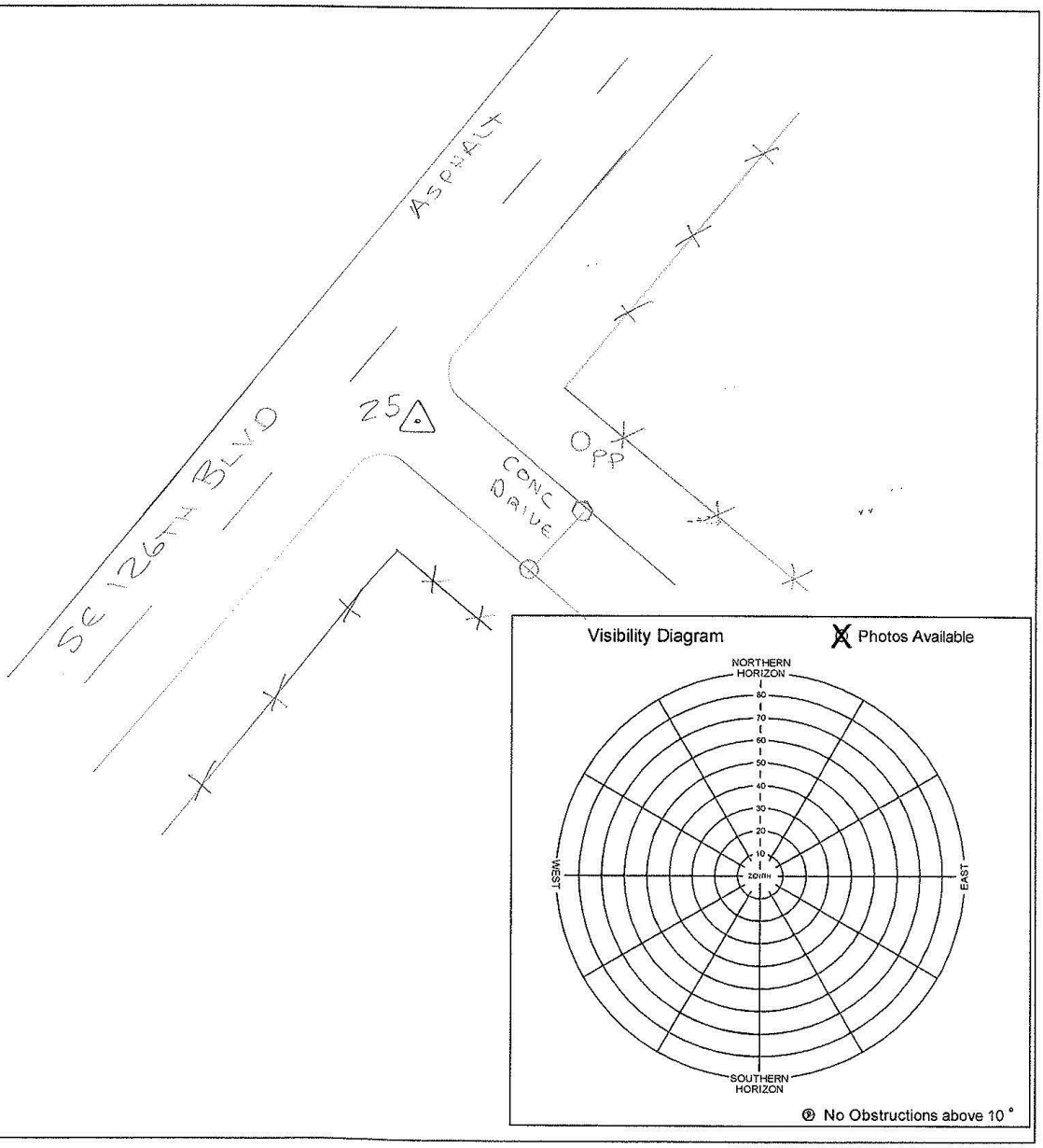
24-3W-15DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
25	SE 126TH BLVD & E CONC DRIVE	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 09 ' 39.0 "	W 80 ° 41 ' 01.7 "	12/15/15	RMC



25-1-15DEC2015

25-2-15DEC2015

25-3N-15DEC2015

25-3E-15DEC2015

25-3S-15DEC2015

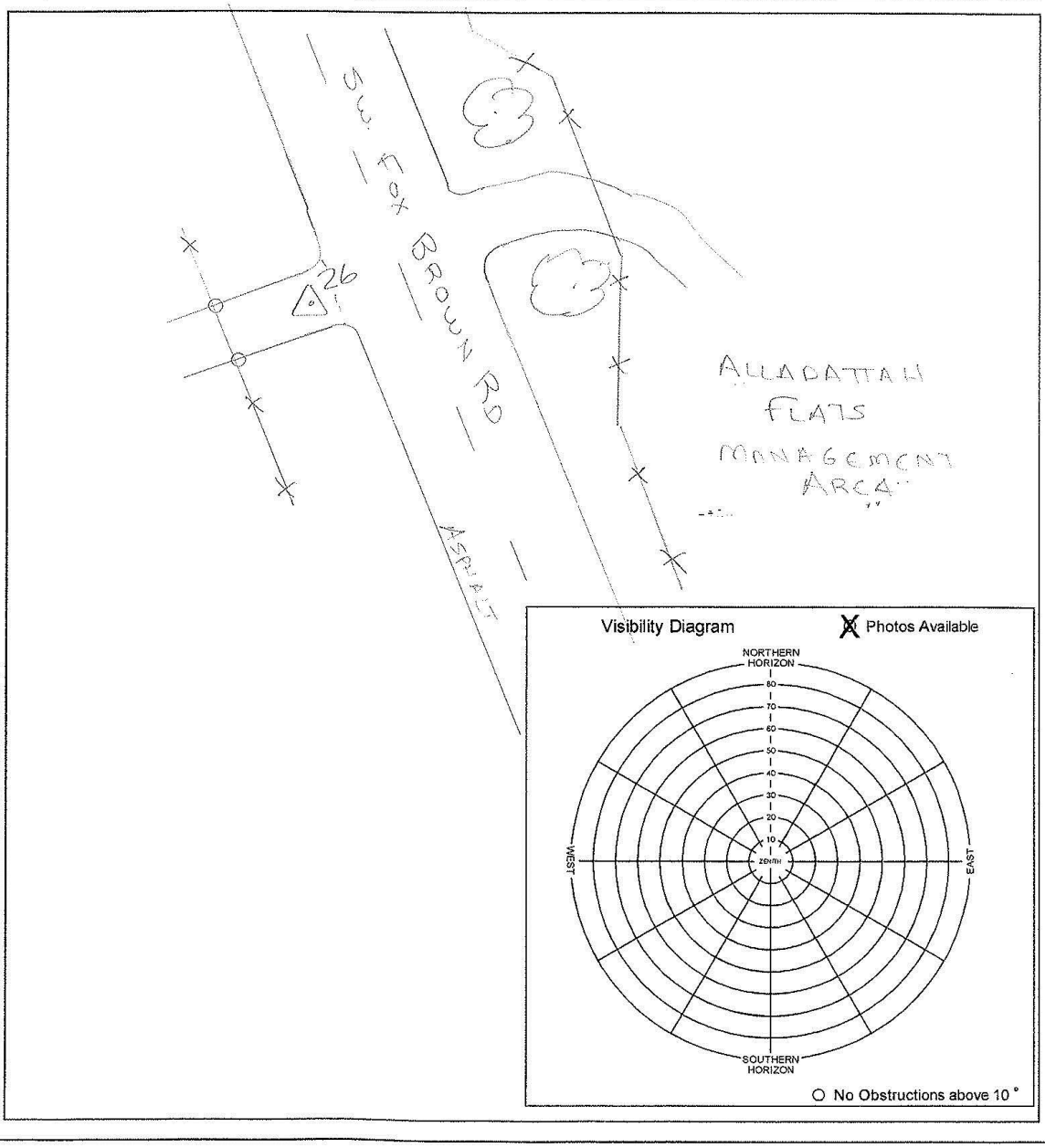
25-3W-15DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
26	SW. Fox Brown RD	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 08 ' 48.3 "	W 80 ° 32 ' 27.4 "	12 /15/15	RMC



26-1-15DEC2015

26-2-15DEC2015

26-3N-15DEC2015

26-3E-15DEC2015

26-3S-15DEC2015

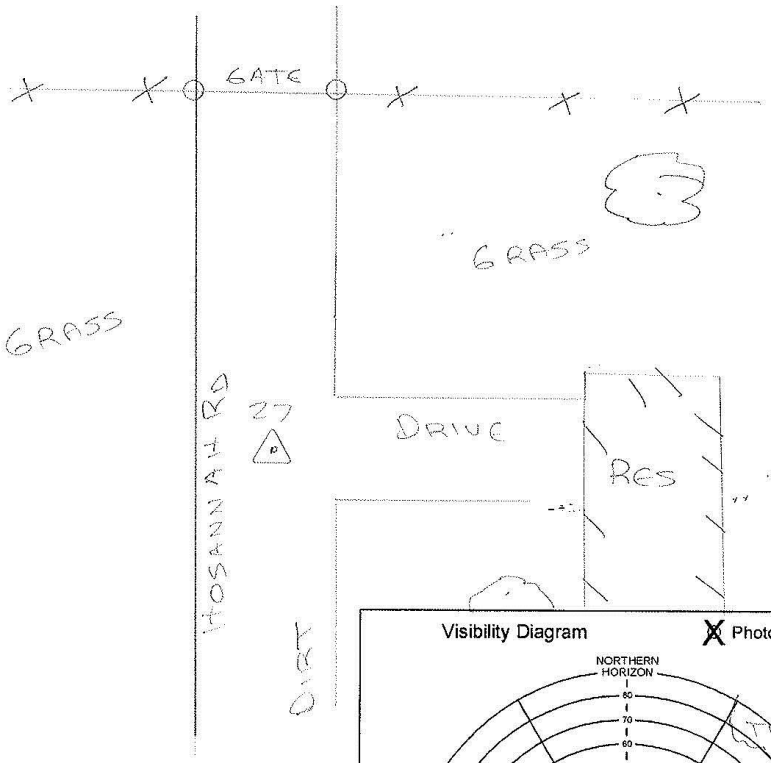
26-3W-15DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
27	N. END OF HOSANNAH RD	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27° 10 ' 16.4 "	W 80 °34 ' 16.9 "	12 /15/ 15	RMC



27-1-15DEC2015

27-2-15DEC2015

27-3N-15DEC2015

27-3E-15DEC2015

27-3S-15DEC2015

27-3W-15DEC2015

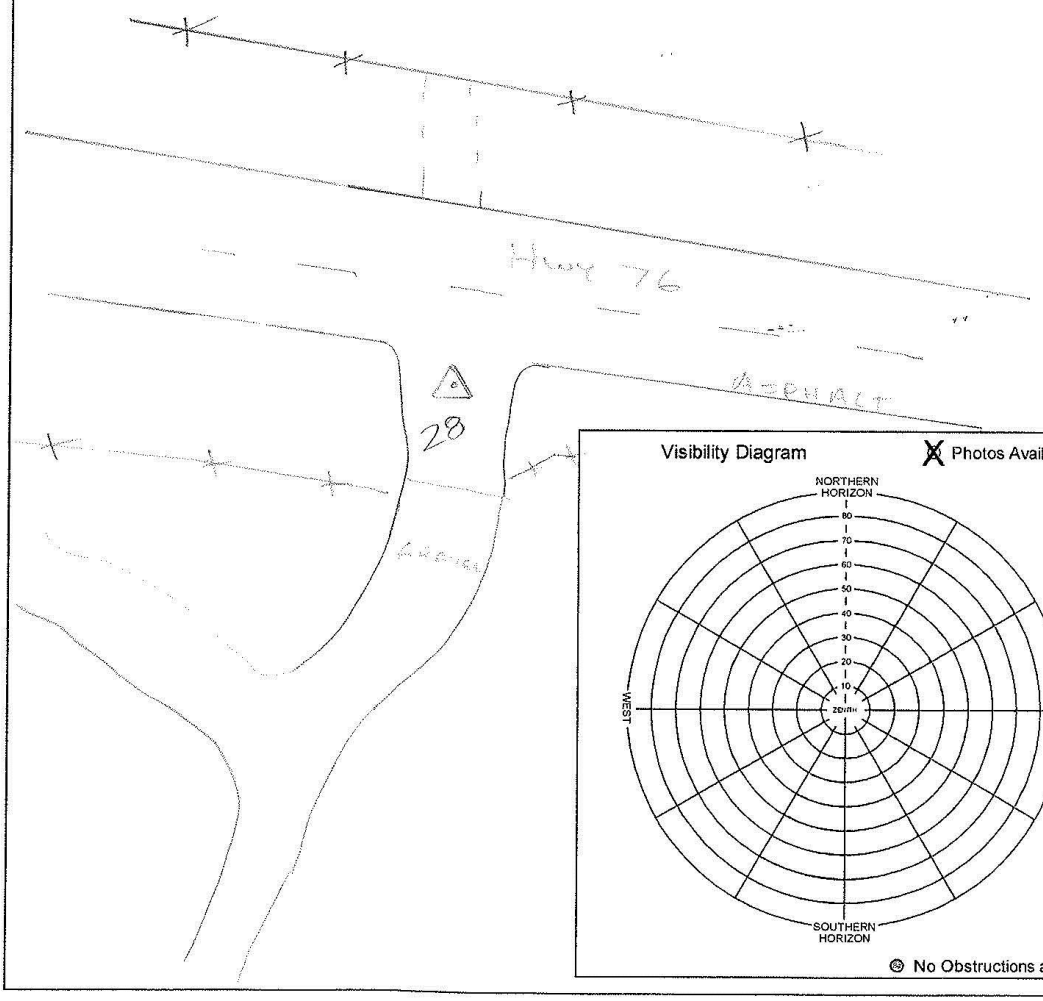
MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
28	Hwy 76 & TC-020 from 29	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 °00 ' 51.6 "	W 80 °30 ' 54.6 "	12 /16/ 15	RMC

Set PK



28-1-16DEC2015

28-2-16DEC2015

28-3N-16DEC2015

28-3E-16DEC2015

28-3W-16DEC2015

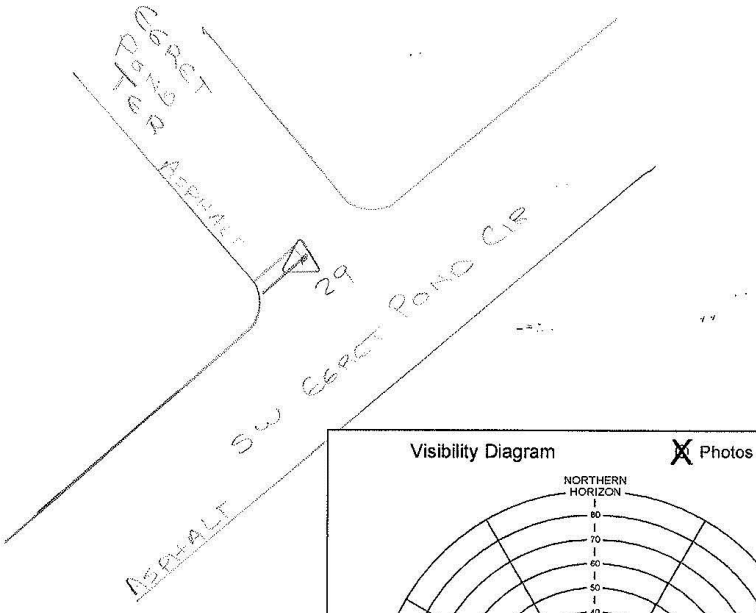
28-3S-16DEC2015

MARTIN County FL - LiDAR Control

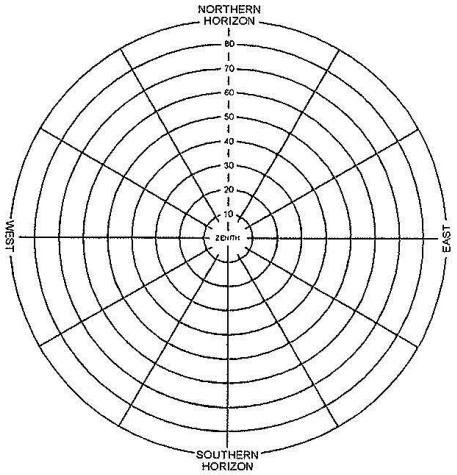
WOOLPERT

LiDAR Control point #	General location	Ground Class
29	INT- SW EGRET POND TER & SW EGRET POND CIR	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 10 ' 22.9 "	W 80 ° 18 ' 29.1 "	12 /15/15	RMC



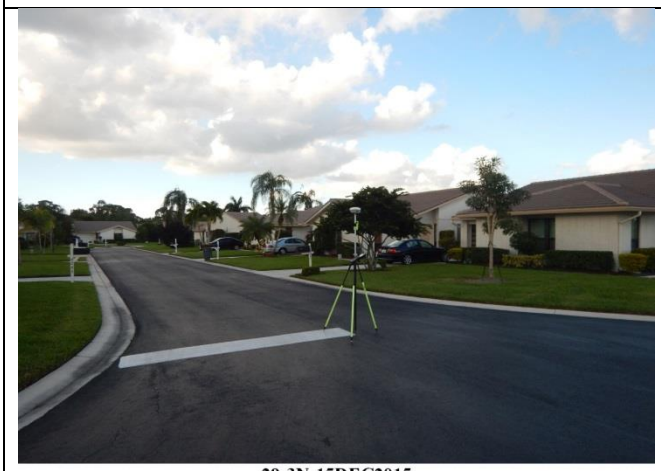
Visibility Diagram X Photos Available



No Obstructions above 10 °

29-1-15DEC2015

29-2-15DEC2015



29-3N-15DEC2015

29-3E-15DEC2015

29-3S-15DEC2015

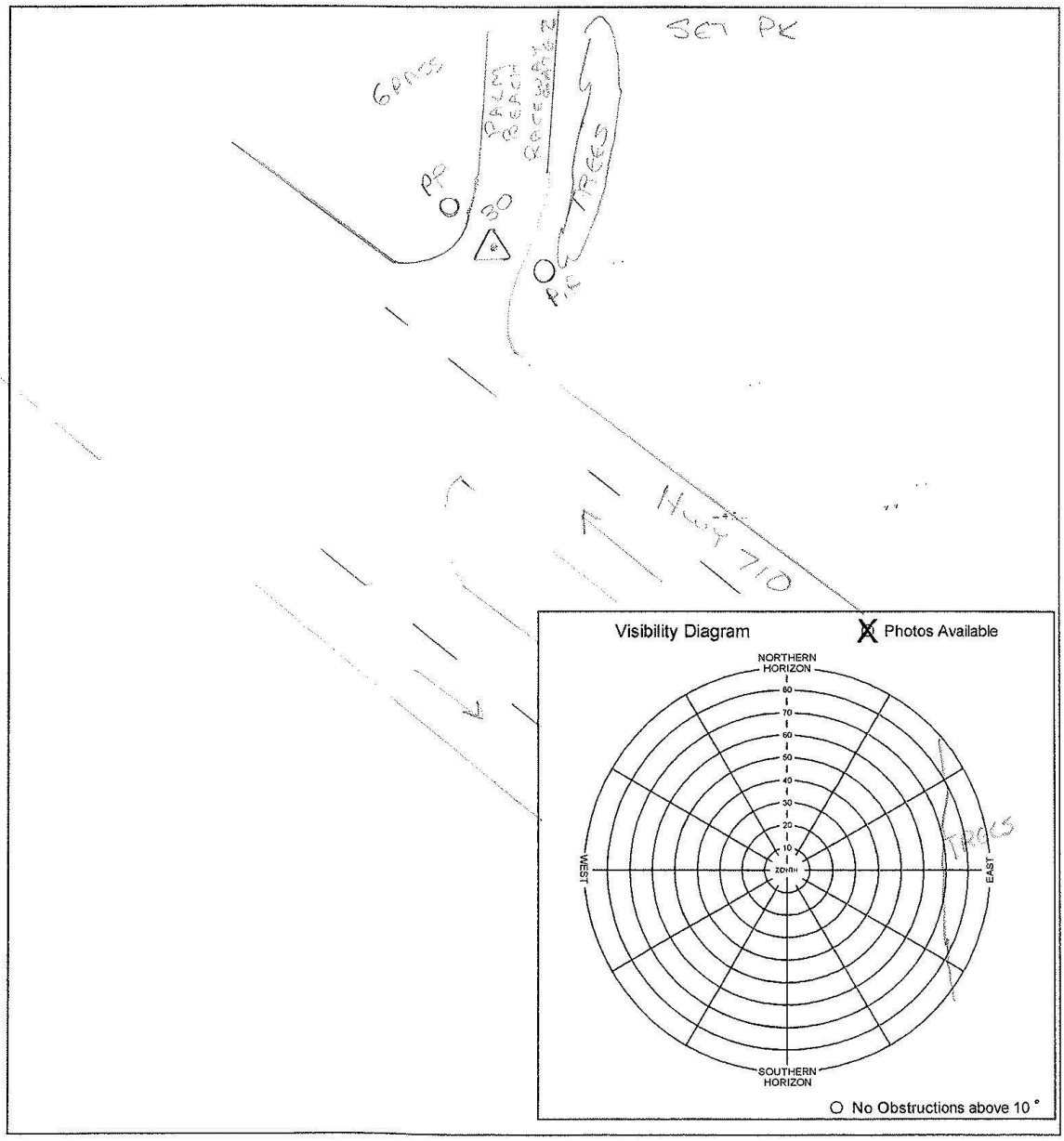
29-3W-15DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
30	Hwy 710 & GMRC 2nd Bridge	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 26°54'42.2"	W 80°18'19.3"	12/16/15	RMC



30-1-16DEC2015

30-2-16DEC2015

30-3N-16DEC2015

30-3E-16DEC2015

30-3S-16DEC2015

30-3W-16DEC2015

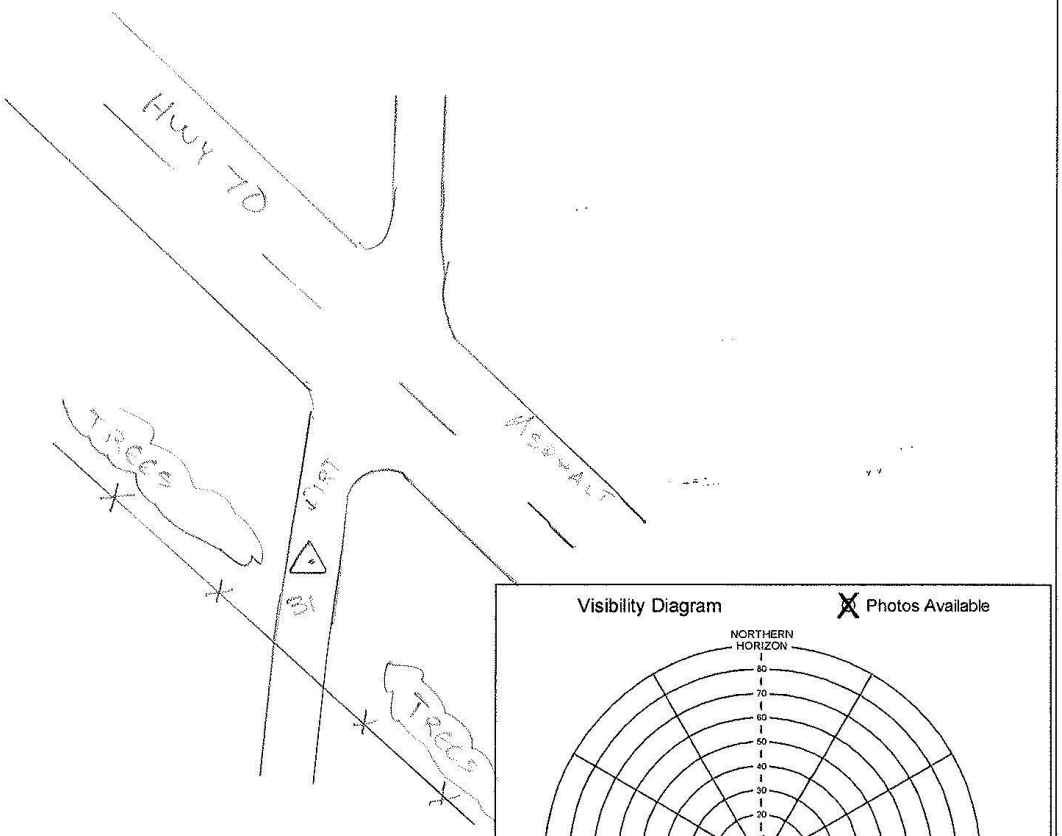
MARTIN County FL - LiDAR Control

WOOLPERT

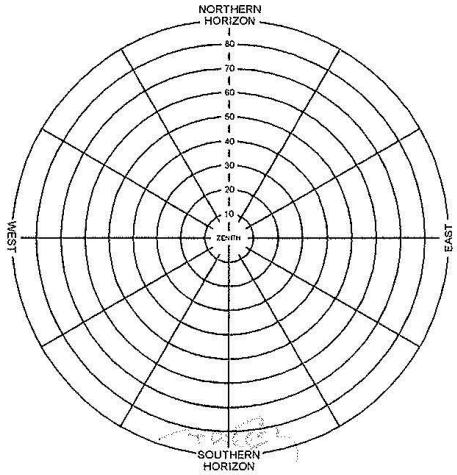
LiDAR Control point #	General location	Ground Class
31	Hwy 710 & R2 Access Rd	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 26 ° 57 ' 12.9 "	W 80 ° 25 ' 03.5 "	12 /14/ 15	RMC

SCT 60d



Visibility Diagram X Photos Available



○ No Obstructions above 10 °

31-1-16DEC2015

31-2-16DEC2015

31-3N-16DEC2015

31-3E-16DEC2015

31-3S-16DEC2015

31-3W-16DEC2015

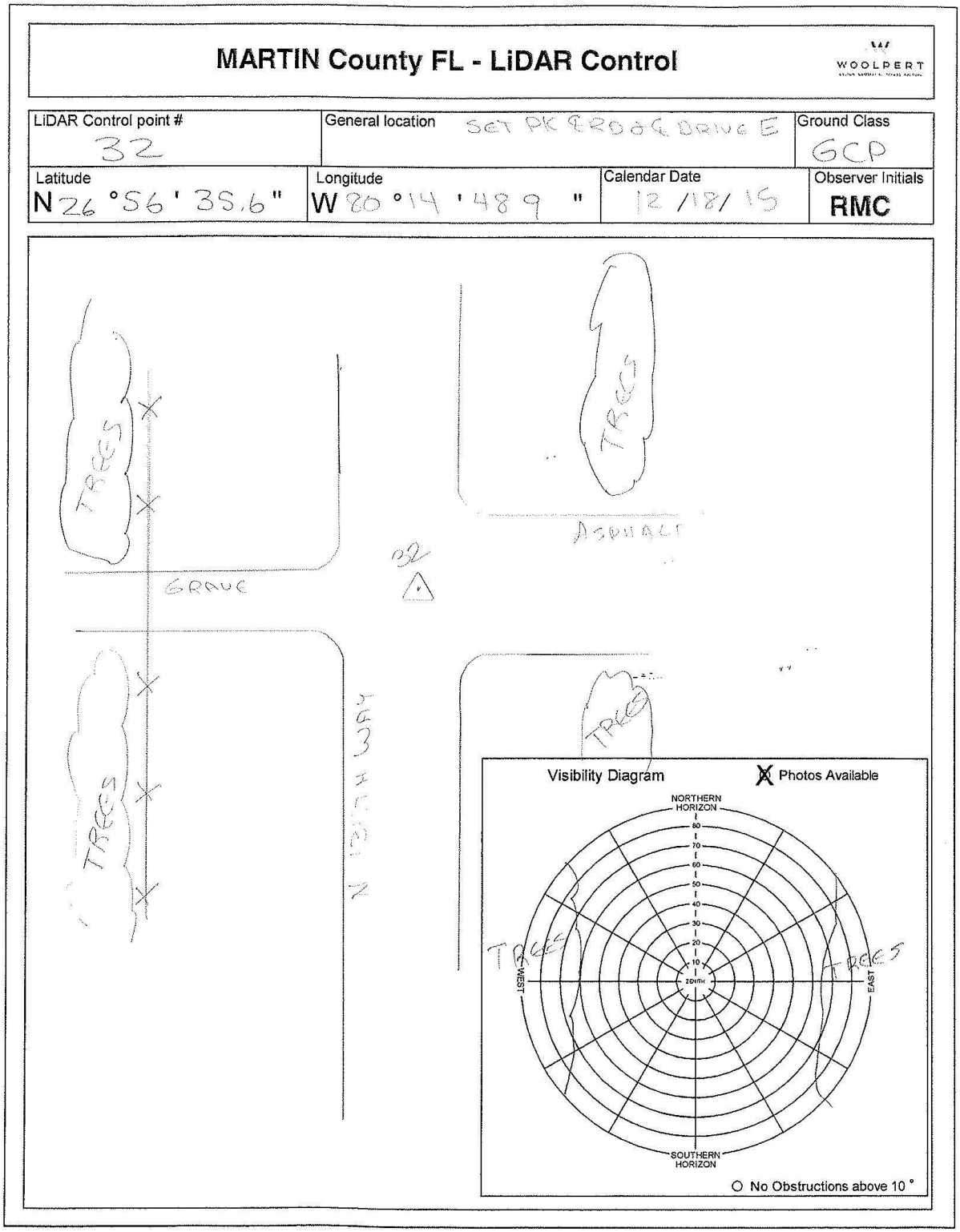
GCP 32

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
32	SET PK @ 20th & DRIVE E	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 26 °56 ' 35.6 "	W 80 °14 ' 48 9 "	12 /18/ 15	RMC



32-1-18DEC2015

32-2-18DEC2015

32-3N-18DEC2015

32-3E-18DEC2015

32-3S-18DEC2015

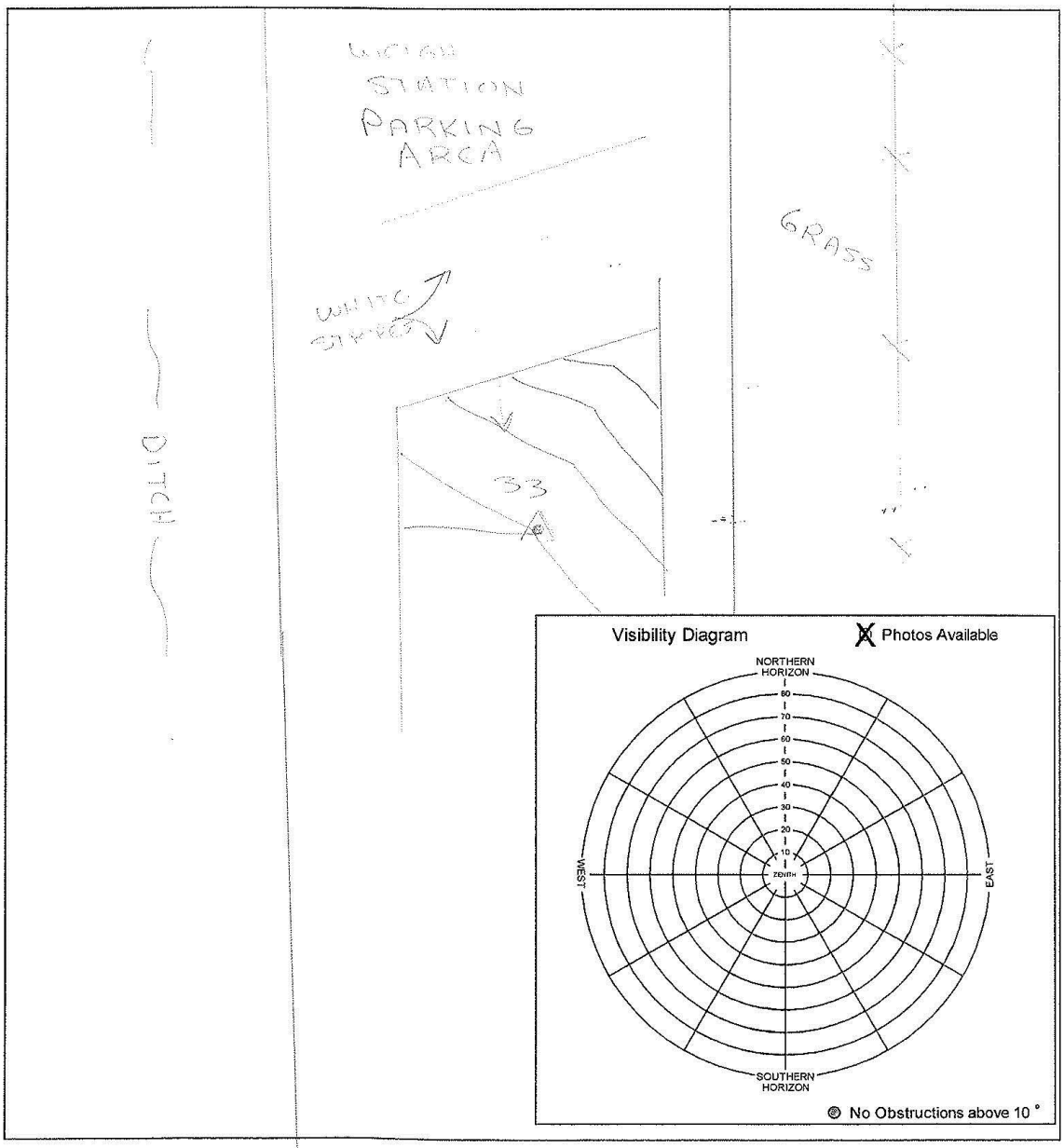
32-3W-18DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
33	I-95 N. BND WEIGH STATION	GCP

Latitude	Longitude	Calendar Date	Observer Initials
N 27 ° 00 ' 16.0 "	W 80 ° 12 ' 14.1 "	12/18/15	RMC



33-1-18DEC2015

33-2-18DEC2015

33-3N-18DEC2015

33-3E-18DEC2015

33-3S-18DEC2015

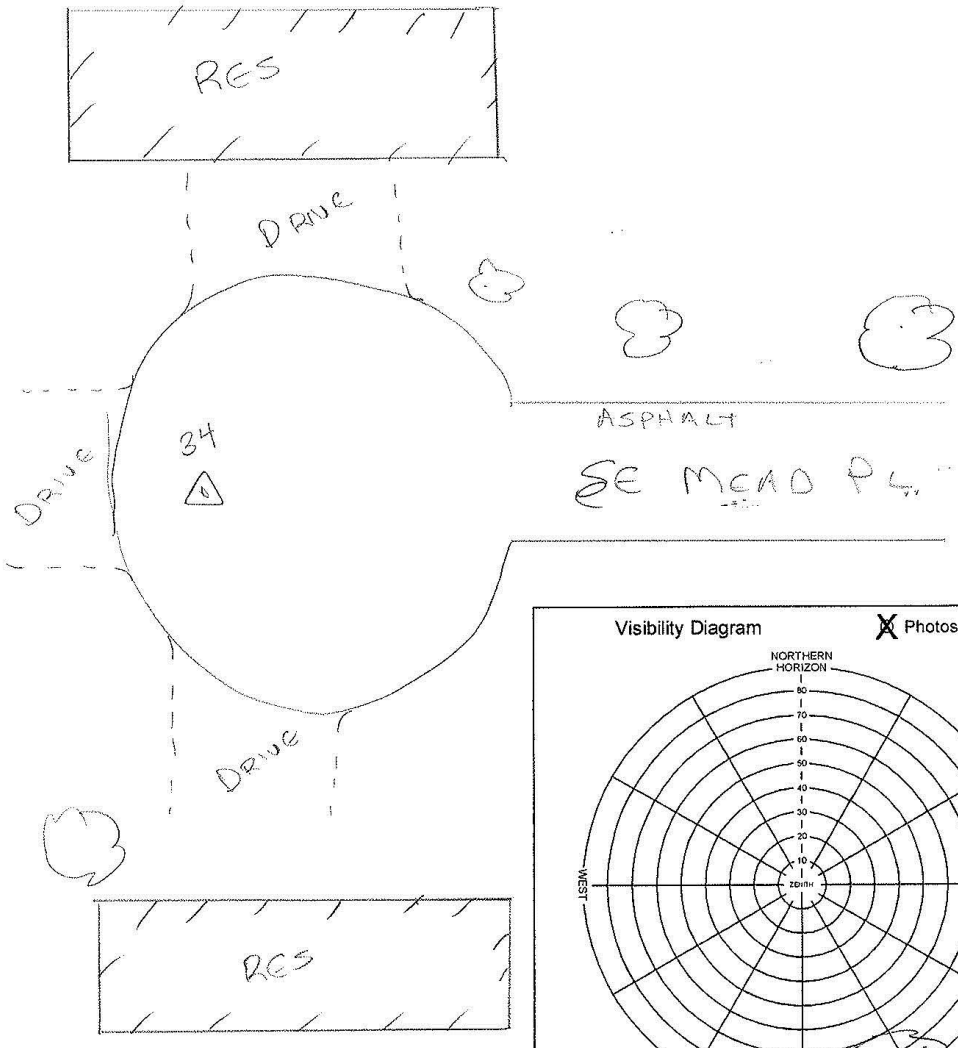
33-3W-18DEC2015

MARTIN County FL - LiDAR Control

WOOLPERT

LiDAR Control point #	General location	Ground Class
34	PK IN CUL-DE-SAC	GCD

Latitude	Longitude	Calendar Date	Observer Initials
N 27°09'13.7"	W 80°14'39.9"	12/17/15	RMC



34-1-17DEC2015

34-2-17DEC2015

34-3N-17DEC2015

34-3E-17DEC2015

34-3S-17DEC2015

34-3W-17DEC2015

Appendix C | QA/QC Check Point Listing

Ground Classification				
Points	State Plane Florida East Geoid 12A			Description
	Northing (sFT)	Easting (sFT)	Elevation (sFT)	
2001	1065605.62	915631.63	3.96	NVA
2002	1044070.02	916145.08	3.51	NVA
2003	1022078.10	918977.61	7.25	NVA
2004	999034.03	939208.54	3.05	NVA
2005	993813.47	943688.52	11.72	NVA
2007	953909.35	908457.56	17.93	NVA
2008	956788.48	888260.33	24.19	NVA
2009	980673.25	896151.85	20.40	NVA
2010	1010073.50	889346.74	16.32	NVA
2011	1037243.40	891249.95	7.79	NVA
2012	1058192.46	890998.81	10.80	NVA
2013	1036623.18	854296.84	26.92	NVA
2014	1044256.97	824762.95	29.85	NVA
2015	1023290.57	856591.26	32.71	NVA
2016	1011132.54	824838.99	28.11	NVA
2017	996598.32	877746.32	23.50	NVA
2018	979468.99	848335.29	26.25	NVA
2019	964722.25	786187.57	21.26	NVA
2020	980154.77	824316.91	33.58	NVA
2021	1007048.70	782000.59	26.71	NVA
2022	988327.98	772286.49	16.69	NVA
2023	1028295.49	761485.82	27.82	NVA
2024	1028332.03	774273.05	34.04	NVA
2025	1022877.86	805626.41	33.24	NVA
2026	1028430.55	824724.06	28.17	NVA
2027	995989.86	800159.73	34.16	NVA
2028	974637.35	813924.59	26.22	NVA
2029	1033271.66	881137.78	15.04	NVA
2030	1028510.11	840694.29	29.83	NVA
2030A	1043468.14	853910.74	26.78	NVA
2031	985929.24	919419.09	15.63	NVA
2031A	985977.53	914502.99	16.20	NVA
2032	1008545.48	877553.80	21.52	NVA
2033	1010463.11	813339.91	36.99	NVA
2034	1039200.35	905572.95	11.83	NVA
2035	986012.24	907064.70	17.35	NVA

2036	1018985.46	909474.26	16.64	NVA
2037	959477.04	934750.65	12.86	NVA
2038	936803.01	888358.62	23.74	NVA
2039	1054052.01	910170.20	3.42	NVA
2040	978531.49	945699.80	33.91	NVA
2041	1038075.07	775253.20	33.52	NVA
2042	1006408.15	915574.31	16.96	NVA
2043	947474.64	923252.11	16.70	NVA
2044	979775.95	831849.73	37.89	NVA
3001	1063733.23	916522.48	3.69	VVA
3002	993953.85	943605.01	11.28	VVA
3003	978575.70	945646.89	33.39	VVA
3004	986067.26	928516.67	12.44	VVA
3005	965652.06	891342.80	20.15	VVA
3006	955889.80	881493.77	22.71	VVA
3007	980823.69	896202.39	17.74	VVA
3008	1010641.11	892073.14	7.507	VVA
3009	1037929.348	893301.158	4.408	VVA
3010	1058756.857	890915.011	9.982	VVA
3011	1047177.771	896253.527	7.445	VVA
3012	1043758.163	909547.105	9.43	VVA
3013	1036548.641	854200.757	27.205	VVA
3014	1044393.836	824935.136	30.146	VVA
3016	1012663.634	824643.282	28.374	VVA
3017	995565.813	878647.22	27.853	VVA
3018	980567.196	849090.29	25.071	VVA
3019	964767.136	786096.643	19.303	NVA
3020	980241.191	824338.081	34.196	VVA
3021	1006943.384	782264.13	26.658	VVA
3022	988395.625	772273.286	14.622	VVA
3023	1028270.72	761568.448	26.162	VVA
3024	1028754.653	786454.3	37.493	VVA
3025	1022827.714	805953.283	29.294	VVA
3026	1028455.336	824844.095	27.691	VVA
3027	1010434.245	813313.124	36.827	VVA
3027A	996244.799	800141.813	30.912	VVA

3028	983681.167	866959.961	24.93	VVA
3030	969054.093	934340.804	8.346	VVA
3031	1004540.267	913326.157	13.353	VVA
3032	964668.188	946394.212	12.468	VVA
3033	1025690.094	856681.026	33.487	VVA
3034	1025583.639	884441.301	16.626	VVA

Appendix D | QA/QC Check Point Listing & NGS Datasheets

Point	Grid Deltas		
	Δ Northing (sFT)	Δ Easting (sFT)	Δ Elev. (sFT)
F009 RTK	0.02	0.02	0.03
F014 RTK	-0.05	0.02	0.11
F018 RTK	-0.02	-0.01	0.28
GCY D23 RTK	-0.05	-0.02	0.05
MCGPS1006 RTK	0.03	0.01	0.01
N 522 RTK	0.02	0.05	0.08
P 516 RTK	-0.04	0.03	0.03
W 522 RTK	0.01	0.01	0.04

1 National Geodetic Survey, Retrieval Date = JANUARY 6, 2016

AF7687 ***
AF7687 DESIGNATION - F009
AF7687 PID - AF7687
AF7687 STATE/COUNTY- FL/MARTIN
AF7687 COUNTRY - US
AF7687 USGS QUAD - INDIAN TOWN NW (1983)
AF7687
AF7687 *CURRENT SURVEY CONTROL
AF7687 _____
AF7687* NAD 83(2011) POSITION- 27 12 21.31258(N) 080 28 52.82113(W) ADJUSTED
AF7687* NAD 83(2011) ELLIP HT- -17.807 (meters) (06/27/12) ADJUSTED
AF7687* NAD 83(2011) EPOCH - 2010.00
AF7687* NAVD 88 ORTHO HEIGHT - 9.269 (meters) 30.41 (feet) ADJUSTED
AF7687 _____
AF7687 NAD 83(2011) X - 938,712.030 (meters) COMP
AF7687 NAD 83(2011) Y - -5,598,320.373 (meters) COMP
AF7687 NAD 83(2011) Z - 2,898,518.884 (meters) COMP
AF7687 LAPLACE CORR - -1.47 (seconds) DEFLEC12B
AF7687 GEOID HEIGHT - -27.086 (meters) GEOID12B
AF7687 DYNAMIC HEIGHT - 9.255 (meters) 30.36 (feet) COMP
AF7687 MODELED GRAVITY - 979,106.2 (mgal) NAVD 88
AF7687
AF7687 VERT ORDER - FIRST CLASS II
AF7687
AF7687 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AF7687 Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE
	Horiz	Ellip	SD_N	SD_E	SD_h	(unitless)
NETWORK	0.81	1.04	0.35	0.31	0.53	0.08469434

AF7687 Click here for local accuracies and other accuracy information.
AF7687
AF7687
AF7687.The horizontal coordinates were established by GPS observations
AF7687.and adjusted by the National Geodetic Survey in June 2012.
AF7687
AF7687.NAD 83(2011) refers to NAD 83 coordinates where the reference
AF7687.frame has been affixed to the stable North American tectonic plate. See
AF7687.NA2011 for more information.
AF7687
AF7687.The horizontal coordinates are valid at the epoch date displayed above
AF7687.which is a decimal equivalence of Year/Month/Day.
AF7687
AF7687.The orthometric height was determined by differential leveling and
AF7687.adjusted by the NATIONAL GEODETIC SURVEY
AF7687.in November 2015.
AF7687
AF7687.Significant digits in the geoid height do not necessarily reflect accuracy.
AF7687.GEOID12B height accuracy estimate available here.
AF7687
AF7687.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AF7687
AF7687.The Laplace correction was computed from DEFLEC12B derived deflections.
AF7687
AF7687.The ellipsoidal height was determined by GPS observations
AF7687.and is referenced to NAD 83.

```
AF7687
AF7687.The dynamic height is computed by dividing the NAVD 88
AF7687.geopotential number by the normal gravity value computed on the
AF7687.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AF7687.degrees latitude (g = 980.6199 gals.).
AF7687
AF7687.The modeled gravity was interpolated from observed gravity values.
AF7687
AF7687. The following values were computed from the NAD 83(2011) position.
AF7687
AF7687;                    North         East     Units Scale Factor Converg.
AF7687;SPC FL E     -   318,326.052   251,382.908   MT  0.99997376   +0 14 13.7
AF7687;SPC FL E     - 1,044,374.72    824,745.42   sFT  0.99997376   +0 14 13.7
AF7687;UTM  17      - 3,009,349.422   551,365.376   MT  0.99963257   +0 14 13.7
AF7687
AF7687!             -  Elev Factor  x  Scale Factor =   Combined Factor
AF7687!SPC FL E     -   1.00000280  x   0.99997376  =   0.99997656
AF7687!UTM  17      -   1.00000280  x   0.99963257  =   0.99963537
AF7687
AF7687                          SUPERSEDED SURVEY CONTROL
AF7687
AF7687  NAD 83(2007)-  27 12 21.31263(N)    080 28 52.82167(W) AD(2002.00) 0
AF7687  ELLIP H (02/10/07)  -17.792  (m)                       GP(2002.00)
AF7687  NAD 83(1999)-  27 12 21.31276(N)    080 28 52.82206(W) AD(       ) 1
AF7687  ELLIP H (06/19/01)  -17.765  (m)                       GP(       ) 4 1
AF7687  NAD 83(1990)-  27 12 21.31132(N)    080 28 52.82122(W) AD(       ) 1
AF7687  ELLIP H (03/30/94)  -17.731  (m)                       GP(       ) 3 2
AF7687  NAVD 88 (05/02/02)    9.268  (m)           30.41   (f) SUPERSEDED  1 2
AF7687  NAVD 88 (03/30/94)    9.2    (m)  GEOID93 model used   GPS OBS
AF7687
AF7687.Superseded values are not recommended for survey control.
AF7687
AF7687.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AF7687.See file dsdata.txt to determine how the superseded data were derived.
AF7687
AF7687_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNL5136509349(NAD 83)
AF7687
AF7687_MARKER: F = FLANGE-ENCASED ROD
AF7687_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
AF7687+WITH SETTING: INFORMATION.
AF7687_STAMPING: F009 1992
AF7687_MARK LOGO: NGS
AF7687_PROJECTION: FLUSH
AF7687_MAGNETIC: N = NO MAGNETIC MATERIAL
AF7687_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AF7687+STABILITY: SURFACE MOTION
AF7687_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AF7687+SATELLITE: SATELLITE OBSERVATIONS - January 13, 2015
AF7687_ROD/PIPE-DEPTH:  2.7 meters
AF7687
AF7687  HISTORY     - Date     Condition        Report By
AF7687  HISTORY     - 1992     MONUMENTED       KEISCH
AF7687  HISTORY     - 19930913 GOOD             GENGRP
AF7687  HISTORY     - 19950208 GOOD             SFLWMD
AF7687  HISTORY     - 20010906 GOOD             FOST
AF7687  HISTORY     - 20050815 GOOD             GCYI
AF7687  HISTORY     - 20050815 GOOD             GCYI
AF7687  HISTORY     - 20060817 GOOD             FLDEP
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AF7687  HISTORY     - 20100730 GOOD             FL-085
AF7687  HISTORY     - 20150113 GOOD             FLDEP
AF7687
AF7687                          STATION DESCRIPTION
AF7687
AF7687'DESCRIBED BY KEITH AND SCHNARS - LAKELAND 1992
AF7687'THE STATION IS LOCATED ABOUT 14 MI (22.5 KM) WEST OF STUART NEAR THE
AF7687'MARTIN COUNTY/ST LUCIE COUNTY LINE IN THE EAST RIGHT-OF-WAY OF C.R.
AF7687'609 IN SECTION 6, TOWNSHIP 38 SOUTH, RANGE 39 EAST, MARTIN COUNTY,
AF7687'FLORIDA.
AF7687'TO REACH THE STATION FROM THE INTERSECTION OF C.R. 714 AND C.R. 609,
AF7687'NORTH OF INDIANTOWN, GO NORTH ON C.R. 609 FOR 3.1 MI (5.0 KM) TO
AF7687'CANAL C-23, THE COUNTY LINE, AND THE STATION ON THE RIGHT. THE
AF7687'STATION LIES SOUTH OF THE CANAL, 32.7 FT (10.0 M) SOUTH OF THE SOUTH
AF7687'END OF A CONCRETE HEADWALL, 3.5 FT (1.1 M) EAST OF A METAL GUARDRAIL,
AF7687'78.4 FT (23.9 M) WEST OF A BARBED WIRE FENCE, AND EAST OF A CARSONITE
AF7687'WITNESS POST.
AF7687'ACCESS TO THE DATUM POINT--THE STATION IS RECESSED INSIDE A NGS LOGO
AF7687'CAP MOUNTED ON A 5 INCH DIAMETER PVC PIPE SET IN A CONCRETE COLLAR
AF7687'SET FLUSH WITH THE GROUND.
AF7687'REFERENCES--
AF7687'FOUND X-CUT IN CONCRETE HEADWALL, MAGNETIC AZIMUTH OF 11 DEGREES AT
AF7687'35.68 FT (10.88 M) .
AF7687'KEITH AND SCHNARS NAIL AND DISC, SET IN WOOD FENCE CORNER, MAGNETIC
AF7687'AZIMUTH OF 90 DEGREES AT 78.38 FT (23.89 M) .
AF7687'KEITH AND SCHNARS NAIL AND DISC, SET IN WOOD P.I. POWER POLE, MAGNETIC
AF7687'AZIMUTH OF 160 DEGREES AT 148.70 FT (45.32 M) .
AF7687'FOUND NAIL AND DISC STAMPED TINKLE PAUGH SURVEYORS, SET IN TOP OF
AF7687'WOOD GUARDRAIL, MAGNETIC AZIMUTH OF 350 DEGREES AT 9.02 FT (2.75 M) .
AF7687
AF7687                          STATION RECOVERY (2005)
AF7687
AF7687'RECOVERY NOTE BY G.C.Y., INCORPORATED 2005 (JES)
AF7687'RECOVERED AS DESCRIBED.
AF7687
AF7687                          STATION RECOVERY (2006)
AF7687
AF7687'RECOVERY NOTE BY FL DEPT OF ENV PRO 2006 (BPJ)
AF7687'RECOVERED AS DESCRIBED.
AF7687
AF7687                          STATION RECOVERY (2010)
AF7687
AF7687'RECOVERY NOTE BY MARTIN COUNTY FLORIDA 2010
AF7687'RECOVERED IN GOOD CONDITION.
AF7687
AF7687                          STATION RECOVERY (2015)
AF7687
AF7687'RECOVERY NOTE BY FL DEPT OF ENV PRO 2015 (BPJ)
AF7687'RECOVERED AS DESCRIBED.
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1 National Geodetic Survey, Retrieval Date = JANUARY 6, 2016

AF7691 **********

AF7691 DESIGNATION - F014
AF7691 PID - AF7691
AF7691 STATE/COUNTY- FL/MARTIN
AF7691 COUNTRY - US
AF7691 USGS QUAD - INDIAN TOWN SE (1983)
AF7691
AF7691 *CURRENT SURVEY CONTROL
AF7691 ______

AF7691* NAD 83(2011) POSITION- 27 01 46.31105(N) 080 15 45.76371(W) ADJUSTED
AF7691* NAD 83(2011) ELLIP HT- -20.911 (meters) (06/27/12) ADJUSTED
AF7691* NAD 83(2011) EPOCH - 2010.00
AF7691* NAVD 88 ORTHO HEIGHT - 6.204 (meters) 20.35 (feet) ADJUSTED

AF7691 ______

AF7691 NAD 83(2011) X - 961,573.309 (meters) COMP
AF7691 NAD 83(2011) Y - -5,603,475.580 (meters) COMP
AF7691 NAD 83(2011) Z - 2,881,121.179 (meters) COMP
AF7691 LAPLACE CORR - -2.85 (seconds) DEFLEC12B
AF7691 GEOID HEIGHT - -27.109 (meters) GEOID12B
AF7691 DYNAMIC HEIGHT - 6.195 (meters) 20.32 (feet) COMP
AF7691 MODELED GRAVITY - 979,101.6 (mgal) NAVD 88
AF7691
AF7691 VERT ORDER - FIRST CLASS II
AF7691
AF7691 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AF7691 Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE
	Horiz	Ellip	SD_N	SD_E	SD_h	(unitless)
NETWORK	1.12	2.16	0.51	0.39	1.10	-0.04039250

AF7691 Click here for local accuracies and other accuracy information.
AF7691
AF7691
AF7691.The horizontal coordinates were established by GPS observations
AF7691.and adjusted by the National Geodetic Survey in June 2012.
AF7691
AF7691.NAD 83(2011) refers to NAD 83 coordinates where the reference
AF7691.frame has been affixed to the stable North American tectonic plate. See
AF7691.NA2011 for more information.
AF7691
AF7691.The horizontal coordinates are valid at the epoch date displayed above
AF7691.which is a decimal equivalence of Year/Month/Day.
AF7691
AF7691.The orthometric height was determined by differential leveling and
AF7691.adjusted by the NATIONAL GEODETIC SURVEY
AF7691.in September 2013.
AF7691
AF7691.Significant digits in the geoid height do not necessarily reflect accuracy.
AF7691.GEOID12B height accuracy estimate available here.
AF7691
AF7691.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AF7691
AF7691.The Laplace correction was computed from DEFLEC12B derived deflections.
AF7691
AF7691.The ellipsoidal height was determined by GPS observations
AF7691.and is referenced to NAD 83.

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AF7691
AF7691.The dynamic height is computed by dividing the NAVD 88
AF7691.geopotential number by the normal gravity value computed on the
AF7691.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AF7691.degrees latitude (g = 980.6199 gals.).
AF7691
AF7691.The modeled gravity was interpolated from observed gravity values.
AF7691
AF7691. The following values were computed from the NAD 83(2011) position.
AF7691
AF7691;                    North         East     Units Scale Factor Converg.
AF7691;SPC FL E     -   298,889.904   273,157.190   MT  1.00000722   +0 20 06.3
AF7691;SPC FL E     -   980,607.96    896,183.21   sFT  1.00000722   +0 20 06.3
AF7691;UTM  17      - 2,989,919.905   573,132.229   MT  0.99966602   +0 20 06.3
AF7691
AF7691!             -  Elev Factor  x  Scale Factor =   Combined Factor
AF7691!SPC FL E     -   1.00000329  x   1.00000722  =   1.00001051
AF7691!UTM  17      -   1.00000329  x   0.99966602  =   0.99966930
AF7691
AF7691                          SUPERSEDED SURVEY CONTROL
AF7691
AF7691  NAD 83(2007)-  27 01 46.31121(N)    080 15 45.76472(W) AD(2002.00) 0
AF7691  ELLIP H (02/10/07)  -20.902  (m)                       GP(2002.00)
AF7691  NAD 83(1999)-  27 01 46.31129(N)    080 15 45.76496(W) AD(       ) 1
AF7691  ELLIP H (06/19/01)  -20.895  (m)                       GP(       ) 4 1
AF7691  NAD 83(1990)-  27 01 46.31031(N)    080 15 45.76406(W) AD(       ) 1
AF7691  ELLIP H (03/30/94)  -20.840  (m)                       GP(       ) 3 2
AF7691  NAVD 88 (09/27/01)    6.2    (m)  GEOID99 model used   GPS OBS
AF7691  NAVD 88 (03/30/94)    6.2    (m)  GEOID93 model used   GPS OBS
AF7691
AF7691.Superseded values are not recommended for survey control.
AF7691
AF7691.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AF7691.See file dsdata.txt to determine how the superseded data were derived.
AF7691
AF7691_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK7313289919(NAD 83)
AF7691
AF7691_MARKER: F = FLANGE-ENCASED ROD
AF7691_SETTING: 50 = ALUMINUM ALLOY ROD W/O SLEEVE (10 FT.+)
AF7691_STAMPING: F014 1992
AF7691_MARK LOGO: NGS
AF7691_PROJECTION: FLUSH
AF7691_MAGNETIC: N = NO MAGNETIC MATERIAL
AF7691_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AF7691_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AF7691+SATELLITE: SATELLITE OBSERVATIONS - August 04, 2011
AF7691_ROD/PIPE-DEPTH: 11.3 meters
AF7691
AF7691  HISTORY     - Date     Condition        Report By
AF7691  HISTORY     - 1992     MONUMENTED       KEISCH
AF7691  HISTORY     - 20010730 GOOD             GCYI
AF7691  HISTORY     - 20010730 GOOD             GCYI
AF7691  HISTORY     - 20110804 GOOD             FLDEP
AF7691
AF7691                           STATION DESCRIPTION
AF7691
AF7691'DESCRIBED BY KEITH AND SCHNARS - LAKELAND 1992
AF7691'THE STATION IS LOCATED ABOUT 9 MI (14.5 KM) WEST OF HOBE SOUND IN THE
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AF7691'EAST RIGHT-OF-WAY OF C.R. 711 IN SECTION 5, TOWNSHIP 40 SOUTH, RANGE
AF7691'41 EAST, MARTIN COUNTY, FLORIDA.
AF7691'TO REACH THE STATION FROM THE INTERSECTION OF I-95 AND C.R. 708, WEST
AF7691'OF HOBE SOUND, GO WEST ON C.R. 708 FOR 2.3 MI (3.7 KM) TO THE
AF7691'INTERSECTION WITH C.R. 711. TURN LEFT AND GO SOUTH ON C.R. 711 FOR
AF7691'2.1 MI (3.4 KM) TO THE STATION ON THE LEFT. THE STATION LIES BETWEEN
AF7691'TWO DRAINAGE DITCHES TO THE EAST, 45.8 FT (14.0 M) EAST OF THE EAST
AF7691'EDGE OF PAVEMENT, 61.9 FT (18.9 M) SOUTH OF A FENCE CORNER AND GATE,
AF7691'46.7 FT (14.2 M) NORTH OF A WOOD POWER POLE, AND 17.8 FT (5.4 M)
AF7691'NORTHWEST OF A CARSONITE WITNESS POST.
AF7691'ACCESS TO THE DATUM POINT--THE STATION IS RECESSED INSIDE A NGS LOGO
AF7691'CAP MOUNTED ON A 5 INCH DIAMETER PVC PIPE SET IN A CONCRETE COLLAR
AF7691'SET FLUSH WITH THE GROUND.
AF7691'REFERENCES--
AF7691'KEITH AND SCHNARS NAIL AND DISC, SET AT THE EDGE OF PAVEMENT, MAGNETIC
AF7691'AZIMUTH OF 259 DEGREES AT 48.36 FT (14.74 M) .
AF7691'KEITH AND SCHNARS NAIL AND DISC, SET AT THE EDGE OF PAVEMENT, MAGNETIC
AF7691'AZIMUTH OF 308 DEGREES AT 56.20 FT (17.13 M) .
AF7691'KEITH AND SCHNARS NAIL AND DISC, SET IN WOOD FENCE CORNER, MAGNETIC
AF7691'AZIMUTH OF 18 DEGREES AT 61.89 FT (18.86 M) .
AF7691'KEITH AND SCHNARS NAIL AND DISC, SET IN WOOD POWER POLE, MAGNETIC
AF7691'AZIMUTH OF 178 DEGREES AT 46.67 FT (14.23 M) .
AF7691'SET CARSONITE WITNESS POST, 17.8 FT (5.4 M) SOUTHEAST.
AF7691
AF7691   STATION RECOVERY (2001)
AF7691
AF7691'RECOVERY NOTE BY G.C.Y., INCORPORATED 2001 (PA)
AF7691'RECOVERED IN GOOD CONDITION.
AF7691
AF7691   STATION RECOVERY (2001)
AF7691
AF7691'RECOVERY NOTE BY G.C.Y., INCORPORATED 2001 (DI)
AF7691'RECOVERY NOTE BY CREECH ENGINEERS, INCORPORATED. - MELBOURNE 2006
AF7691'(DTB) RECOVERED AS DESCRIBED.
AF7691
AF7691   STATION RECOVERY (2011)
AF7691
AF7691'RECOVERY NOTE BY FL DEPT OF ENV PRO 2011 (DLP)
AF7691'RECOVERED AS DESCRIBED.

1 National Geodetic Survey, Retrieval Date = JANUARY 6, 2016

AD8712 **********

AD8712 DESIGNATION - F018
AD8712 PID - AD8712
AD8712 STATE/COUNTY- FL/MARTIN
AD8712 COUNTRY - US
AD8712 USGS QUAD - JUPITER (1983)
AD8712
AD8712 *CURRENT SURVEY CONTROL
AD8712 ______

AD8712* NAD 83(2011) POSITION- 26 58 44.63778(N) 080 05 24.72802(W) ADJUSTED
AD8712* NAD 83(2011) ELLIP HT- -24.355 (meters) (06/27/12) ADJUSTED
AD8712* NAD 83(2011) EPOCH - 2010.00
AD8712* NAVD 88 ORTHO HEIGHT - 3.181 (meters) 10.44 (feet) ADJUSTED

AD8712 ______

AD8712 NAD 83(2011) X - 978,876.655 (meters) COMP
AD8712 NAD 83(2011) Y - -5,603,053.048 (meters) COMP
AD8712 NAD 83(2011) Z - 2,876,137.599 (meters) COMP
AD8712 LAPLACE CORR - -4.61 (seconds) DEFLEC12B
AD8712 GEOID HEIGHT - -27.536 (meters) GEOID12B
AD8712 DYNAMIC HEIGHT - 3.176 (meters) 10.42 (feet) COMP
AD8712 MODELED GRAVITY - 979,091.9 (mgal) NAVD 88
AD8712
AD8712 VERT ORDER - SECOND CLASS I
AD8712
AD8712 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AD8712 Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE
	Horiz	Ellip	SD_N	SD_E	SD_h	(unitless)
NETWORK	1.39	2.82	0.60	0.53	1.44	0.10710892

AD8712 Click here for local accuracies and other accuracy information.
AD8712
AD8712
AD8712.The horizontal coordinates were established by GPS observations
AD8712.and adjusted by the National Geodetic Survey in June 2012.
AD8712
AD8712.NAD 83(2011) refers to NAD 83 coordinates where the reference
AD8712.frame has been affixed to the stable North American tectonic plate. See
AD8712.NA2011 for more information.
AD8712
AD8712.The horizontal coordinates are valid at the epoch date displayed above
AD8712.which is a decimal equivalence of Year/Month/Day.
AD8712
AD8712.The orthometric height was determined by differential leveling and
AD8712.adjusted by the NATIONAL GEODETIC SURVEY
AD8712.in June 2011.
AD8712
AD8712.Significant digits in the geoid height do not necessarily reflect accuracy.
AD8712.GEOID12B height accuracy estimate available here.
AD8712
AD8712.Photographs are available for this station.
AD8712
AD8712.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AD8712
AD8712.The Laplace correction was computed from DEFLEC12B derived deflections.
AD8712

AD8712.The ellipsoidal height was determined by GPS observations
AD8712.and is referenced to NAD 83.
AD8712
AD8712.The dynamic height is computed by dividing the NAVD 88
AD8712.geopotential number by the normal gravity value computed on the
AD8712.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AD8712.degrees latitude (g = 980.6199 gals.).
AD8712
AD8712.The modeled gravity was interpolated from observed gravity values.
AD8712
AD8712. The following values were computed from the NAD 83(2011) position.
AD8712
AD8712;   North   East   Units Scale Factor Converg.
AD8712;SPC FL E   -   293,409.958   290,315.530   MT 1.00004184   +0 24 46.0
AD8712;SPC FL E   -   962,629.17   952,476.87   sFT 1.00004184   +0 24 46.0
AD8712;UTM 17   - 2,984,441.830   590,284.714   MT 0.99970063   +0 24 46.0
AD8712
AD8712!   - Elev Factor x Scale Factor =   Combined Factor
AD8712!SPC FL E   -   1.00000383 x   1.00004184 =   1.00004567
AD8712!UTM 17   -   1.00000383 x   0.99970063 =   0.99970445
AD8712
AD8712   SUPERSEDED SURVEY CONTROL
AD8712
AD8712 NAD 83(2007)- 26 58 44.63834(N)   080 05 24.72910(W) AD(2002.00) 0
AD8712 ELLIP H (02/10/07) -24.336 (m)   GP(2002.00)
AD8712 NAD 83(1999)- 26 58 44.63851(N)   080 05 24.72943(W) AD(   ) 1
AD8712 ELLIP H (06/19/01) -24.333 (m)   GP(   ) 4 1
AD8712 NAD 83(1990)- 26 58 44.63766(N)   080 05 24.72836(W) AD(   ) 1
AD8712 ELLIP H (03/30/94) -24.290 (m)   GP(   ) 3 2
AD8712 NAVD 88 (04/24/07)   3.2   (m) GEOID03 model used   GPS OBS
AD8712 NAVD 88 (09/27/01)   3.2   (m) GEOID99 model used   GPS OBS
AD8712 NAVD 88 (03/30/94)   3.2   (m) GEOID93 model used   GPS OBS
AD8712
AD8712.Superseded values are not recommended for survey control.
AD8712
AD8712.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AD8712.See file dsdata.txt to determine how the superseded data were derived.
AD8712
AD8712_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK9028484441(NAD 83)
AD8712
AD8712_MARKER: F = FLANGE-ENCASED ROD
AD8712_SETTING: 50 = ALUMINUM ALLOY ROD W/O SLEEVE (10 FT.+)
AD8712_STAMPING: F018 1992
AD8712_MARK LOGO: NGS
AD8712_PROJECTION: FLUSH
AD8712_MAGNETIC: N = NO MAGNETIC MATERIAL
AD8712_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AD8712_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AD8712+SATELLITE: SATELLITE OBSERVATIONS - August 21, 2012
AD8712_ROD/PIPE-DEPTH: 12.6 meters
AD8712
AD8712 HISTORY   - Date   Condition   Report By
AD8712 HISTORY   - 1992   MONUMENTED   KEISCH
AD8712 HISTORY   - 20010730 GOOD   GCYI
AD8712 HISTORY   - 20010730 GOOD   GCYI
AD8712 HISTORY   - 20031002 GOOD   USPSQD
AD8712 HISTORY   - 20051214 GOOD   FLDEP
AD8712 HISTORY   - 20070411 GOOD   LBFH

AD8712 HISTORY   - 20091019 GOOD   FLDT
AD8712 HISTORY   - 20120821 GOOD   GCYI
AD8712
AD8712   STATION DESCRIPTION
AD8712
AD8712'DESCRIBED BY KEITH AND SCHNARS - LAKELAND 1992
AD8712'THE STATION IS LOCATED ABOUT 0.7 MI (1.1 KM) NORTH OF TEQUESTA IN THE
AD8712'MEDIAN OF U.S. 1 IN SECTION 19, TOWNSHIP 40 SOUTH, RANGE 43 EAST,
AD8712'MARTIN COUNTY, FLORIDA.
AD8712'TO REACH THE STATION FROM THE INTERSECTION OF U.S. 1 AND COUNTY LINE
AD8712'ROAD IN TEQUESTA, GO NORTH ON U.S. 1 FOR 0.7 MI (1.1 KM) TO THE
AD8712'STATION IN THE MEDIAN. THE STATION LIES WEST OF THE BLOWING ROCKS
AD8712'MARINA, 331 FT (100.9 M) NORTH OF THE BULLNOSE, 5.2 FT (1.6 M) NORTH
AD8712'OF THE NORTH EDGE OF A CONCRETE MEDIAN, 4.6 FT (1.4 M) WEST OF THE
AD8712'WEST EDGE OF PAVEMENT OF THE NORTHBOUND LANE OF U.S. 1, AND 5.0 FT
AD8712'(1.5 M) NORTH OF A CARSONITE WITNESS POST.
AD8712'ACCESS TO THE DATUM POINT--THE STATION IS RECESSED INSIDE A NGS LOGO
AD8712'CAP MOUNTED ON A 5 INCH DIAMETER PVC PIPE SET IN A CONCRETE COLLAR
AD8712'SET FLUSH WITH THE GROUND.
AD8712'REFEREEENCES--
AD8712'FOUND NAIL AND DISC,SET IN 6 FOOT SQUARE PAINTED AERIAL TARGET,
AD8712'MAGNETIC AZIMUTH OF 348 DEGREES AT 141.18 FT (43.03 M) .
AD8712'X-CUT, SET IN CONCRETE CURB, MAGNETIC AZIMUTH OF 78 DEGREES AT 2.96 FT
AD8712'(0.90 M) .
AD8712'X-CUT, SET IN CONCRETE MEDIAN, MAGNETIC AZIMUTH OF 173 DEGREES AT
AD8712'23.34 FT (7.11 M) .
AD8712'X-CUT, SET IN CONCRETE CURB, MAGNETIC AZIMUTH OF 261 DEGREES AT 2.78
AD8712'FT (0.85 M) .
AD8712'SET CARSONITE WITNESS POST, 5.0 FT (1.5 M) SOUTH.
AD8712
AD8712   STATION RECOVERY (2001)
AD8712
AD8712'RECOVERY NOTE BY G.C.Y., INCORPORATED 2001 (PA)
AD8712'RECOVERED IN GOOD CONDITION.
AD8712
AD8712   STATION RECOVERY (2001)
AD8712
AD8712'RECOVERY NOTE BY G.C.Y., INCORPORATED 2001 (DI)
AD8712'RECOVERY NOTE BY CREECH ENGINEERS, INCORPORATED. - MELBOURNE 2006
AD8712'(DTB) RECOVERED AS DESCRIBED
AD8712
AD8712
AD8712   STATION RECOVERY (2012)
AD8712
AD8712'RECOVERY NOTE BY G.C.Y., INCORPORATED 2012 (PA)
AD8712'RECOVERED AS DESCRIBED.

1 National Geodetic Survey, Retrieval Date = JANUARY 6, 2016

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AJ5265 ***********************************************************************
AJ5265  DESIGNATION -  GCY D23
AJ5265  PID         -  AJ5265
AJ5265  STATE/COUNTY-  FL/MARTIN
AJ5265  COUNTRY     -  US
AJ5265  USGS QUAD   -  ST LUCIE INLET (1983)
AJ5265
AJ5265                        *CURRENT SURVEY CONTROL
AJ5265  ______________________________________________________________________
AJ5265* NAD 83(2011) POSITION- 27 13 24.56776(N) 080 13 12.85900(W)   ADJUSTED
AJ5265* NAD 83(2011) ELLIP HT-   -22.538 (meters)        (06/27/12)   ADJUSTED
AJ5265* NAD 83(2011) EPOCH    -  2010.00
AJ5265* NAVD 88 ORTHO HEIGHT -     5.085 (meters)       16.68  (feet) ADJUSTED
AJ5265  ______________________________________________________________________
AJ5265  NAD 83(2011) X  -    964,062.145 (meters)                    COMP
AJ5265  NAD 83(2011) Y  - -5,593,102.880 (meters)                    COMP
AJ5265  NAD 83(2011) Z  -  2,900,248.158 (meters)                    COMP
AJ5265  LAPLACE CORR    -         -3.12  (seconds)                   DEFLEC12B
AJ5265  GEOID HEIGHT    -        -27.623 (meters)                    GEOID12B
AJ5265  DYNAMIC HEIGHT  -          5.077 (meters)       16.66  (feet) COMP
AJ5265  MODELED GRAVITY -    979,119.2   (mgal)                      NAVD 88
AJ5265
AJ5265  VERT ORDER      -  SECOND    CLASS I
AJ5265
AJ5265  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AJ5265  Standards:
AJ5265         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
AJ5265            Horiz  Ellip          SD_N   SD_E   SD_h      (unitless)
AJ5265  ------------------------------------------------------------------
AJ5265  NETWORK    0.72   2.45          0.30   0.29   1.25     -0.01079313
AJ5265  ------------------------------------------------------------------
AJ5265  Click here for local accuracies and other accuracy information.
AJ5265
AJ5265
AJ5265.The horizontal coordinates were established by GPS observations
AJ5265.and adjusted by the National Geodetic Survey in June 2012.
AJ5265
AJ5265.NAD 83(2011) refers to NAD 83 coordinates where the reference
AJ5265.frame has been affixed to the stable North American tectonic plate. See
AJ5265.NA2011 for more information.
AJ5265
AJ5265.The horizontal coordinates are valid at the epoch date displayed above
AJ5265.which is a decimal equivalence of Year/Month/Day.
AJ5265
AJ5265.The orthometric height was determined by differential leveling and
AJ5265.adjusted by the NATIONAL GEODETIC SURVEY
AJ5265.in August 2002.
AJ5265
AJ5265.Significant digits in the geoid height do not necessarily reflect accuracy.
AJ5265.GEOID12B height accuracy estimate available here.
AJ5265
AJ5265.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ5265
AJ5265.The Laplace correction was computed from DEFLEC12B derived deflections.
AJ5265
AJ5265.The ellipsoidal height was determined by GPS observations
AJ5265.and is referenced to NAD 83.
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AJ5265
AJ5265.The dynamic height is computed by dividing the NAVD 88
AJ5265.geopotential number by the normal gravity value computed on the
AJ5265.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ5265.degrees latitude (g = 980.6199 gals.).
AJ5265
AJ5265.The modeled gravity was interpolated from observed gravity values.
AJ5265
AJ5265. The following values were computed from the NAD 83(2011) position.
AJ5265
AJ5265;                    North         East     Units Scale Factor Converg.
AJ5265;SPC FL E     -   320,407.028   277,238.393   MT  1.00001479   +0 21 24.2
AJ5265;SPC FL E     - 1,051,202.06    909,572.96   sFT  1.00001479   +0 21 24.2
AJ5265;UTM  17      - 3,011,429.688   577,212.040   MT  0.99967359   +0 21 24.2
AJ5265
AJ5265!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ5265!SPC FL E     -   1.00000354  x   1.00001479  =   1.00001833
AJ5265!UTM  17      -   1.00000354  x   0.99967359  =   0.99967713
AJ5265
AJ5265:                Primary Azimuth Mark                     Grid Az
AJ5265:SPC FL E     -  GCY D22                                  359 44 25.1
AJ5265:UTM  17      -  GCY D22                                  359 44 25.1
AJ5265
AJ5265|---------------------------------------------------------------------|
AJ5265| PID    Reference Object                    Distance      Geod. Az   |
AJ5265|                                                          dddmmss.s |
AJ5265| AJ5264 GCY D22                           APPROX. 0.7 KM 0000549.3 |
AJ5265|---------------------------------------------------------------------|
AJ5265
AJ5265                          SUPERSEDED SURVEY CONTROL
AJ5265
AJ5265  NAD 83(2007)-  27 13 24.56800(N)    080 13 12.85988(W) AD(2002.00) 0
AJ5265  ELLIP H (02/10/07)  -22.518  (m)                       GP(2002.00)
AJ5265  NAD 83(1999)-  27 13 24.56806(N)    080 13 12.86006(W) AD(       ) 1
AJ5265  ELLIP H (09/27/01)  -22.495  (m)                       GP(       ) 4 2
AJ5265  NAVD 88 (09/27/01)    5.1    (m)  GEOID99 model used   GPS OBS
AJ5265
AJ5265.Superseded values are not recommended for survey control.
AJ5265
AJ5265.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AJ5265.See file dsdata.txt to determine how the superseded data were derived.
AJ5265
AJ5265_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNL7721211429(NAD 83)
AJ5265
AJ5265_MARKER: DH = HORIZONTAL CONTROL DISK
AJ5265_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AJ5265_STAMPING: GCY D23 2001
AJ5265_MARK LOGO: FL-085
AJ5265_PROJECTION: FLUSH
AJ5265_MAGNETIC: N = NO MAGNETIC MATERIAL
AJ5265_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AJ5265+STABILITY: SURFACE MOTION
AJ5265_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ5265+SATELLITE: SATELLITE OBSERVATIONS - August 21, 2012
AJ5265
AJ5265  HISTORY     - Date     Condition        Report By
AJ5265  HISTORY     - 20010509 MONUMENTED       GCYI
AJ5265  HISTORY     - 20020408 GOOD             GCYI
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AJ5265  HISTORY     - 20091022 GOOD             ESPPA
AJ5265  HISTORY     - 20120821 GOOD             GCYI
AJ5265
AJ5265                          STATION DESCRIPTION
AJ5265
AJ5265'DESCRIBED BY G.C.Y., INCORPORATED 2001 (MDL)
AJ5265'THE STATION IS LOCATED 2.5 KM (1.6 MI) SOUTHEAST OF JENSEN BEACH AND
AJ5265'4.2 KM
AJ5265'(2.6 MI) NORTHEAST OF STUART NEAR THE EAST RIGHT OF WAY OF DIXIE
AJ5265'HIGHWAY
AJ5265'IN SECTION 26, TOWNSHIP 37 SOUTH, RANGE 41 EAST, MARTIN COUNTY,
AJ5265'FLORIDA.
AJ5265'
AJ5265'TO REACH THE STATION FROM THE INTERSECTION OF JENSEN BEACH BOULEVARD
AJ5265'AND THE FLORIDA EAST COAST RAILWAY, GO EAST ON JENSEN BEACH BOULEVARD
AJ5265'0.23 KM (0.14 MI) TO THE INTERSECTION WITH INDIAN RIVER DRIVE. THEN GO
AJ5265'SOUTHERLY ON INDIAN RIVER DRIVE 1.5 KM (0.9 MI) TO THE INTERSECTION
AJ5265'WITH
AJ5265'DIXIE HIGHWAY. THEN GO SOUTHERLY ALONG DIXIE HIGHWAY 1.1 KM (0.7 MI)
AJ5265'TO THE
AJ5265'STATION ON THE LEFT.
AJ5265'
AJ5265'STATION IS LOCATED NEAR THE NORTH SIDE OF A PLANTED TRAFFIC ISLAND 1.0
AJ5265'M
AJ5265'(3.2 FT) SOUTH OF THE SOUTH EDGE OF PAVEMENT AT THE NORTH SIDE OF THE
AJ5265'TRAFFIC ISLAND AND 13.05 M (42.8 FT) NORTH OF A CARSONITE WITNESS
AJ5265'POST.
AJ5265'REFERENCES -
AJ5265'GCY, INC. MAG NAIL AND WASHER IN SOUTH EDGE OF PAVEMENT AT NORTH SIDE
AJ5265'OF
AJ5265'TRAFFIC ISLAND - 22 DEG. MAG. AZ. - 1.83 M (6.00 FT)
AJ5265'GCY, INC. MAG NAIL AND WASHER IN WEST EDGE OF PAVEMENT AT EAST SIDE OF
AJ5265'TRAFFIC ISLAND - 96 DEG. MAG. AZ. - 3.12 M (10.23 FT)
AJ5265'GCY, INC. MAG NAIL AND WASHER IN EAST EDGE OF PAVEMENT OF DIXIE
AJ5265'HIGHWAY -
AJ5265'249 DEG. MAG. AZ. - 11.26 M (36.94 FT)
AJ5265'GCY, INC. MAG NAIL AND WASHER IN EAST EDGE OF PAVEMENT OF DIXIE
AJ5265'HIGHWAY -
AJ5265'310 DEG. MAG. AZ. - 4.03M (13.23 FT)
AJ5265'
AJ5265'NOTE-
AJ5265'DEEP ONE MAGNET BURIED AT NORTH SIDE OF MONUMENT.
AJ5265
AJ5265                          STATION RECOVERY (2012)
AJ5265
AJ5265'RECOVERY NOTE BY G.C.Y., INCORPORATED 2012 (PA)
AJ5265'RECOVERED AS DESCRIBED.
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1 National Geodetic Survey, Retrieval Date = JANUARY 6, 2016

DI8177 ***
DI8177 DESIGNATION - MCGPS1006
DI8177 PID - DI8177
DI8177 STATE/COUNTY- FL/MARTIN
DI8177 COUNTRY - US
DI8177 USGS QUAD - WEST OF ROOD (1994)
DI8177
DI8177 *CURRENT SURVEY CONTROL
DI8177 _____
DI8177* NAD 83(2011) POSITION- 26 57 27.74846(N) 080 17 14.38864(W) ADJUSTED
DI8177* NAD 83(2011) ELLIP HT- -20.028 (meters) (06/27/12) ADJUSTED
DI8177* NAD 83(2011) EPOCH - 2010.00
DI8177* NAVD 88 ORTHO HEIGHT - 6.754 (meters) 22.16 (feet) ADJUSTED
DI8177 _____
DI8177 NAD 83(2011) X - 959,775.129 (meters) COMP
DI8177 NAD 83(2011) Y - -5,607,449.375 (meters) COMP
DI8177 NAD 83(2011) Z - 2,874,030.368 (meters) COMP
DI8177 LAPLACE CORR - -2.77 (seconds) DEFLEC12B
DI8177 GEOID HEIGHT - -26.773 (meters) GEOID12B
DI8177 DYNAMIC HEIGHT - 6.743 (meters) 22.12 (feet) COMP
DI8177 MODELED GRAVITY - 979,104.5 (mgal) NAVD 88
DI8177
DI8177 VERT ORDER - FIRST CLASS II
DI8177
DI8177 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
DI8177 Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE
	Horiz	Ellip	SD_N	SD_E	SD_h	(unitless)
NETWORK	1.17	2.27	0.52	0.43	1.16	0.05675467

DI8177 Click here for local accuracies and other accuracy information.
DI8177
DI8177
DI8177.The horizontal coordinates were established by GPS observations
DI8177.and adjusted by the National Geodetic Survey in June 2012.
DI8177
DI8177.NAD 83(2011) refers to NAD 83 coordinates where the reference
DI8177.frame has been affixed to the stable North American tectonic plate. See
DI8177.NA2011 for more information.
DI8177
DI8177.The horizontal coordinates are valid at the epoch date displayed above
DI8177.which is a decimal equivalence of Year/Month/Day.
DI8177
DI8177.The orthometric height was determined by differential leveling and
DI8177.adjusted by the NATIONAL GEODETIC SURVEY
DI8177.in September 2013.
DI8177
DI8177.Significant digits in the geoid height do not necessarily reflect accuracy.
DI8177.GEOID12B height accuracy estimate available here.
DI8177
DI8177.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DI8177
DI8177.The Laplace correction was computed from DEFLEC12B derived deflections.
DI8177
DI8177.The ellipsoidal height was determined by GPS observations
DI8177.and is referenced to NAD 83.

DI8177
DI8177.The dynamic height is computed by dividing the NAVD 88
DI8177.geopotential number by the normal gravity value computed on the
DI8177.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DI8177.degrees latitude (g = 980.6199 gals.).
DI8177
DI8177.The modeled gravity was interpolated from observed gravity values.
DI8177
DI8177. The following values were computed from the NAD 83(2011) position.
DI8177

		North	East	Units	Scale Factor	Converg.
DI8177;SPC FL E	-	290,917.732	270,759.328	MT	1.00000296	+0 19 23.1
DI8177;SPC FL E	-	954,452.59	888,316.23	sFT	1.00000296	+0 19 23.1
DI8177;UTM 17	-	2,981,950.454	570,735.185	MT	0.99966177	+0 19 23.1

DI8177

		Elev Factor	x	Scale Factor	=	Combined Factor
DI8177!	-					
DI8177!SPC FL E	-	1.00000315	x	1.00000296	=	1.00000611
DI8177!UTM 17	-	1.00000315	x	0.99966177	=	0.99966492

DI8177

		Primary Azimuth Mark	Grid Az
DI8177:			
DI8177:SPC FL E	-	MCGPS1007	000 08 02.4
DI8177:UTM 17	-	MCGPS1007	000 08 02.4

DI8177

PID	Reference Object	Distance	Geod. Az dddmmss.s
DI8180	MCGPS1007	APPROX. 1.0 KM	0002725.5

DI8177

SUPERSEDED SURVEY CONTROL

DI8177

DI8177 NAD 83(2007)-	26 57 27.74862(N)	080 17 14.38967(W)	AD(2002.00)	1
DI8177 ELLIP H (05/01/09)	-20.015 (m)		GP(2002.00)	4 2
DI8177 NAD 83(1999)-	26 57 27.74873(N)	080 17 14.38959(W)	AD( )	1
DI8177 ELLIP H (04/24/07)	-20.006 (m)		GP( )	4 2
DI8177 NAVD 88 (04/24/07)	6.7 (m)	GEOID03 model used	GPS OBS	

DI8177
DI8177.Superseded values are not recommended for survey control.
DI8177
DI8177.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DI8177.See file dsdata.txt to determine how the superseded data were derived.
DI8177
DI8177_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK7073581950(NAD 83)
DI8177
DI8177_MARKER: F = FLANGE-ENCASED ROD
DI8177_SETTING: 50 = ALUMINUM ALLOY ROD W/O SLEEVE (10 FT.+)
DI8177_STAMPING: MCGPS1006 2004
DI8177_MARK LOGO: NONE
DI8177_PROJECTION: RECESSED 13 CENTIMETERS
DI8177_MAGNETIC: B = BAR MAGNET IMBEDDED IN MONUMENT
DI8177_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DI8177_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DI8177+SATELLITE: SATELLITE OBSERVATIONS - August 04, 2011
DI8177_ROD/PIPE-DEPTH: 10.7 meters
DI8177

DI8177 HISTORY	-	Date	Condition	Report By
DI8177 HISTORY	-	20040526	MONUMENTED	CREEI
DI8177 HISTORY	-	20081104	GOOD	INDIV

DI8177 HISTORY   - 20110804 GOOD   FLDEP
DI8177
DI8177   STATION DESCRIPTION
DI8177
DI8177'DESCRIBED BY CREECH ENGINEERS INC 2004
DI8177'RECOVERY NOTE BY CREECH ENGINEERS, INCORPORATED. - MELBOURNE 2006
DI8177'(DTB) THE STATION IS LOCATED 15.76 MI (25.36 KM) SOUTH OF THE STUART
DI8177'MUNICIPAL AIRPORT AND SOUTH OF THE TOWN OF STUART.
DI8177'
DI8177'TO REACH THE STATION FROM THE INTERSECTION OF COUNTY ROAD 708 (BRIDGE
DI8177'ROAD) AND COUNTY ROAD 711 (PRATT-WHITNEY ROAD) WEST OF THE TOWN OF
DI8177'HOBE SOUND. GO SOUTH ON COUNTY ROAD 711 FOR 6.51 MI (10.47 KM) TO
DI8177'JUST NORTH OF THE COUNTY LINE FOR MARTIN AND PALM BEACH AND THE
DI8177'STATION ON THE LEFT. 31.80 FT (9.69 M) EAST OF THE CENTERLINE OF
DI8177'COUNTY ROAD 711.
DI8177'
DI8177'THE STATION IS AN ALUMINUM ALLOY ROD DRIVEN INTO THE GROUND TO REFUSAL
DI8177'WITH A LOGO CAP STAMPED ---MCGPS 1006 2004---THAT IS 1.10 FT (34 CM)
DI8177'BELOW GROUND AND THE STATION IS RECESSED 0.50 FT (15 CM) BELOW THE
DI8177'LOGO CAP. NOTE THE HORIZONTAL CONTROL POINT IS A PUNCH MARK ON THE
DI8177'ALUMINUM ALLOY ROD THAT IS ACCESSED THROUGH A 5-1/2 INCH (13 CM)
DI8177'ACCESS COVER. NO CARSONITE WITNESS POST SET.
DI8177'
DI8177'REFERENCES-- SET MAG NAIL AND DISK --- REFERENCE. PT. LB 6705 --- IN
DI8177'THE EAST EDGE OF PAVEMENT OF COUNTY ROAD 711 ON A MAGNETIC AZIMUTH OF
DI8177'231 DEGREES AT A DISTANCE OF 27.75 FT (8.46 M). SET MAG NAIL AND DISK
DI8177'--- REFERENCE. PT. LB 6705 --- IN THE EAST EDGE OF PAVEMENT OF
DI8177'COUNTY ROAD 711 ON A MAGNETIC AZIMUTH OF 313 DEGREES AT A DISTANCE OF
DI8177'35.45 FT (10.81 M). SET 5/8 INCH (13 CM) IRON ROD AND CAP ---
DI8177'REFERENCE LB 6705 --- ON A MAGNETIC AZIMUTH OF 44 DEGREES AT A
DI8177'DISTANCE OF 20.05 FT (6.11 M). SET 5/8 INCH (13 CM) IRON ROD AND CAP
DI8177'--- REFERENCE LB 6705 --- ON A MAGNETIC AZIMUTH OF 141 DEGREES AT A
DI8177'DISTANCE OF 26.60 FT (8.11 M).
DI8177
DI8177   STATION RECOVERY (2008)
DI8177
DI8177'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2008 (CGA)
DI8177'FOUND AS DESCRIBED, CALVIN, GIORDANO AND ASSOCIATES WEST PALM BEACH
DI8177
DI8177   STATION RECOVERY (2011)
DI8177
DI8177'RECOVERY NOTE BY FL DEPT OF ENV PRO 2011 (DLP)
DI8177'RECOVERED AS DESCRIBED.

1 National Geodetic Survey, Retrieval Date = JANUARY 6, 2016

AJ8248 **********

AJ8248 DESIGNATION - N 522
AJ8248 PID - AJ8248
AJ8248 STATE/COUNTY- FL/MARTIN
AJ8248 COUNTRY - US
AJ8248 USGS QUAD - INDIAN TOWN SE (1983)
AJ8248
AJ8248 *CURRENT SURVEY CONTROL
AJ8248 ______

AJ8248* NAD 83(2011) POSITION- 27 02 21.33042(N) 080 22 26.67378(W) ADJUSTED
AJ8248* NAD 83(2011) ELLIP HT- -19.235 (meters) (06/27/12) ADJUSTED
AJ8248* NAD 83(2011) EPOCH - 2010.00
AJ8248* NAVD 88 ORTHO HEIGHT - 7.660 (meters) 25.13 (feet) ADJUSTED
AJ8248 ______

AJ8248 NAD 83(2011) X - 950,598.539 (meters) COMP
AJ8248 NAD 83(2011) Y - -5,604,852.430 (meters) COMP
AJ8248 NAD 83(2011) Z - 2,882,082.022 (meters) COMP
AJ8248 LAPLACE CORR - -1.88 (seconds) DEFLEC12B
AJ8248 GEOID HEIGHT - -26.900 (meters) GEOID12B
AJ8248 DYNAMIC HEIGHT - 7.649 (meters) 25.10 (feet) COMP
AJ8248 MODELED GRAVITY - 979,098.2 (mgal) NAVD 88
AJ8248
AJ8248 VERT ORDER - FIRST CLASS II
AJ8248
AJ8248 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AJ8248 Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE
	Horiz	Ellip	SD_N	SD_E	SD_h	(unitless)
NETWORK	3.86	5.14	1.53	1.59	2.62	-0.28320600

AJ8248 Click here for local accuracies and other accuracy information.
AJ8248
AJ8248
AJ8248.The horizontal coordinates were established by GPS observations
AJ8248.and adjusted by the National Geodetic Survey in June 2012.
AJ8248
AJ8248.NAD 83(2011) refers to NAD 83 coordinates where the reference
AJ8248.frame has been affixed to the stable North American tectonic plate. See
AJ8248.NA2011 for more information.
AJ8248
AJ8248.The horizontal coordinates are valid at the epoch date displayed above
AJ8248.which is a decimal equivalence of Year/Month/Day.
AJ8248
AJ8248.The orthometric height was determined by differential leveling and
AJ8248.adjusted by the NATIONAL GEODETIC SURVEY
AJ8248.in April 2002.
AJ8248
AJ8248.Significant digits in the geoid height do not necessarily reflect accuracy.
AJ8248.GEOID12B height accuracy estimate available here.
AJ8248
AJ8248.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ8248
AJ8248.The Laplace correction was computed from DEFLEC12B derived deflections.
AJ8248
AJ8248.The ellipsoidal height was determined by GPS observations
AJ8248.and is referenced to NAD 83.

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AJ8248
AJ8248.The dynamic height is computed by dividing the NAVD 88
AJ8248.geopotential number by the normal gravity value computed on the
AJ8248.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ8248.degrees latitude (g = 980.6199 gals.).
AJ8248
AJ8248.The modeled gravity was interpolated from observed gravity values.
AJ8248
AJ8248. The following values were computed from the NAD 83(2011) position.
AJ8248
AJ8248;                    North         East     Units Scale Factor Converg.
AJ8248;SPC FL E     -   299,907.992   262,101.501   MT  0.99998877   +0 17 04.4
AJ8248;SPC FL E     -   983,948.14    859,911.34   sFT  0.99998877   +0 17 04.4
AJ8248;UTM  17      - 2,990,937.646   562,080.312   MT  0.99964758   +0 17 04.4
AJ8248
AJ8248!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ8248!SPC FL E     -   1.00000302  x   0.99998877  =   0.99999179
AJ8248!UTM  17      -   1.00000302  x   0.99964758  =   0.99965060
AJ8248
AJ8248                          SUPERSEDED SURVEY CONTROL
AJ8248
AJ8248  NAD 83(2007)-  27 02 21.33056(N)    080 22 26.67453(W) AD(2002.00) 0
AJ8248  ELLIP H (02/10/07)  -19.218  (m)                       GP(2002.00)
AJ8248  NAD 83(1999)-  27 02 21.33069(N)    080 22 26.67481(W) AD(       ) 1
AJ8248  ELLIP H (12/12/02)  -19.211  (m)                       GP(       ) 3 1
AJ8248  NAVD 88 (12/12/02)    7.66   (m)           25.1    (f) LEVELING    3
AJ8248
AJ8248.Superseded values are not recommended for survey control.
AJ8248
AJ8248.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AJ8248.See file dsdata.txt to determine how the superseded data were derived.
AJ8248
AJ8248_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK6208090937(NAD 83)
AJ8248
AJ8248_MARKER: DD = SURVEY DISK
AJ8248_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AJ8248_STAMPING: N 522 2001 CERP
AJ8248_MARK LOGO: USE
AJ8248_PROJECTION: RECESSED 20 CENTIMETERS
AJ8248_MAGNETIC: O = OTHER; SEE DESCRIPTION
AJ8248_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AJ8248+STABILITY: SURFACE MOTION
AJ8248_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ8248+SATELLITE: SATELLITE OBSERVATIONS - April 24, 2002
AJ8248
AJ8248  HISTORY     - Date     Condition        Report By
AJ8248  HISTORY     - 20010904 MONUMENTED       FOST
AJ8248  HISTORY     - 20020424 GOOD             MAPTEC
AJ8248
AJ8248                          STATION DESCRIPTION
AJ8248
AJ8248'DESCRIBED BY CHARLEY FOSTER AND ASSOCIATES 2001 (JB)
AJ8248'THE MONUMENT IS LOCATED 5.0 MILES (8.05 KM) EAST OF INDIANTOWN, FL.
AJ8248'AND 8.9 MILES (14.32 KM) WEST OF THE
AJ8248'I-95 AND STATE ROAD 76 INTERCHANGE SOUTHWEST OF STUART, FL., SECTION
AJ8248'31, TOWNSHIP 39 SOUTH,
AJ8248'RANGE 40 EAST.
AJ8248'
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AJ8248'OWNERSHIP IS FLORIDA DEPARTMENT OF TRANSPORTATION.
AJ8248'
AJ8248'TO REACH MONUMENT FROM THE JUNCTION OF THE STATE ROAD 710 RAMP AND
AJ8248'STATE ROAD 76 IN
AJ8248'INDIANTOWN, GO EAST 5.0 MILES (8.05 KM) ALONG STATE ROAD 76 TO THE
AJ8248'MONUMENT LOCATION ON THE
AJ8248'NORTH (LEFT) SIDE OF THE ROAD IN THE RIGHT OF WAY. THE MONUMENT
AJ8248'LOCATION IS A CONCRETE POST SET
AJ8248'39.2 FEET (11.95 M) SOUTHWEST OF THE EAST GATE POST OF THE WESTERN
AJ8248'MOST ENTRANCE OF A NURSERY
AJ8248'AT 8775 SW KANNER ROAD (STATE ROAD 76).
AJ8248'
AJ8248'THE MONUMENT IS 48.6 FEET (14.81 M) NORTH OF THE CENTERLINE OF THE
AJ8248'ROAD, 37.0 FEET (11.28 M) SOUTH OF
AJ8248'A POWER POLE WITH GUY WIRE ON THE WEST SIDE OF ENTRANCE GATE AND 85.8
AJ8248'FEET (26.15 M) WEST OF THE
AJ8248'WEST END OF A DRIVEWAY CULVERT (8775 SW KANNER ROAD (STATE ROAD 76)).
AJ8248'NOTE A MAGNET WAS BURIED
AJ8248'NEARBY AT AN UNSPECIFIED POSITION.
AJ8248'
AJ8248
AJ8248   STATION RECOVERY (2002)
AJ8248
AJ8248'TO REACH MONUMENT FROM THE JUNCTION OF THE STATE ROAD 710 RAMP AND
AJ8248'STATE ROAD 76 IN
AJ8248'INDIANTOWN, GO EAST 5.0 MILES (8.05 KM) ALONG STATE ROAD 76 TO THE
AJ8248'MONUMENT LOCATION ON
AJ8248'THE
AJ8248'NORTH (LEFT) SIDE OF THE ROAD IN THE RIGHT OF WAY. THE MONUMENT
AJ8248'LOCATION IS A CONCRETE
AJ8248'POST SET
AJ8248'39.2 FEET (11.95 M) SOUTHWEST OF THE EAST GATE POST OF THE WESTERN
AJ8248'MOST ENTRANCE OF A
AJ8248'NURSERY
AJ8248'AT 8775 SW KANNER ROAD (STATE ROAD 76).
AJ8248'
AJ8248'THE MONUMENT IS 48.6 FEET (14.81 M) NORTH OF THE CENTERLINE OF THE
AJ8248'ROAD, 37.0 FEET (11.28 M)
AJ8248'SOUTH OF
AJ8248'A POWER POLE WITH GUY WIRE ON THE WEST SIDE OF ENTRANCE GATE AND 85.8
AJ8248'FEET (26.15 M)
AJ8248'WEST OF THE
AJ8248'WEST END OF A DRIVEWAY CULVERT (8775 SW KANNER ROAD (STATE ROAD 76)).
AJ8248'NOTE A MAGNET WAS
AJ8248'BURIED
AJ8248'NEARBY AT AN UNSPECIFIED POSITION.
AJ8248'
AJ8248'STATION RECOVERY (2002)
AJ8248'RECOVERY NOTE BY MAPTECH, INCORPORATED 2002 (CDP)
AJ8248'RECOVERED AS DESCRIBED.
AJ8248'
AJ8248'

1 National Geodetic Survey, Retrieval Date = JANUARY 6, 2016

AJ5611 **********

AJ5611 DESIGNATION - P 516
AJ5611 PID - AJ5611
AJ5611 STATE/COUNTY- FL/MARTIN
AJ5611 COUNTRY - US
AJ5611 USGS QUAD - GOMEZ (1983)
AJ5611
AJ5611 *CURRENT SURVEY CONTROL
AJ5611 ______

AJ5611* NAD 83(2011) POSITION- 27 02 38.54255(N) 080 12 22.95856(W) ADJUSTED
AJ5611* NAD 83(2011) ELLIP HT- -22.491 (meters) (06/27/12) ADJUSTED
AJ5611* NAD 83(2011) EPOCH - 2010.00
AJ5611* NAVD 88 ORTHO HEIGHT - 4.817 (meters) 15.80 (feet) ADJUSTED
AJ5611 ______

AJ5611 NAD 83(2011) X - 966,957.790 (meters) COMP
AJ5611 NAD 83(2011) Y - -5,601,805.924 (meters) COMP
AJ5611 NAD 83(2011) Z - 2,882,552.394 (meters) COMP
AJ5611 LAPLACE CORR - -3.36 (seconds) DEFLEC12B
AJ5611 GEOID HEIGHT - -27.319 (meters) GEOID12B
AJ5611 DYNAMIC HEIGHT - 4.809 (meters) 15.78 (feet) COMP
AJ5611 MODELED GRAVITY - 979,101.1 (mgal) NAVD 88
AJ5611
AJ5611 VERT ORDER - FIRST CLASS II
AJ5611
AJ5611 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AJ5611 Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE
	Horiz	Ellip	SD_N	SD_E	SD_h	(unitless)
NETWORK	2.07	3.51	0.85	0.84	1.79	0.07803385

AJ5611 Click here for local accuracies and other accuracy information.
AJ5611
AJ5611
AJ5611.The horizontal coordinates were established by GPS observations
AJ5611.and adjusted by the National Geodetic Survey in June 2012.
AJ5611
AJ5611.NAD 83(2011) refers to NAD 83 coordinates where the reference
AJ5611.frame has been affixed to the stable North American tectonic plate. See
AJ5611.NA2011 for more information.
AJ5611
AJ5611.The horizontal coordinates are valid at the epoch date displayed above
AJ5611.which is a decimal equivalence of Year/Month/Day.
AJ5611
AJ5611.The orthometric height was determined by differential leveling and
AJ5611.adjusted by the NATIONAL GEODETIC SURVEY
AJ5611.in November 2001.
AJ5611
AJ5611.Significant digits in the geoid height do not necessarily reflect accuracy.
AJ5611.GEOID12B height accuracy estimate available here.
AJ5611
AJ5611.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ5611
AJ5611.The Laplace correction was computed from DEFLEC12B derived deflections.
AJ5611
AJ5611.The ellipsoidal height was determined by GPS observations
AJ5611.and is referenced to NAD 83.

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AJ5611
AJ5611.The dynamic height is computed by dividing the NAVD 88
AJ5611.geopotential number by the normal gravity value computed on the
AJ5611.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ5611.degrees latitude (g = 980.6199 gals.).
AJ5611
AJ5611.The modeled gravity was interpolated from observed gravity values.
AJ5611
AJ5611. The following values were computed from the NAD 83(2011) position.
AJ5611
AJ5611;                    North         East     Units Scale Factor Converg.
AJ5611;SPC FL E     -   300,531.470   278,737.073   MT  1.00001768   +0 21 39.1
AJ5611;SPC FL E     -   985,993.66    914,489.88   sFT  1.00001768   +0 21 39.1
AJ5611;UTM  17      - 2,991,560.911   578,710.208   MT  0.99967648   +0 21 39.1
AJ5611
AJ5611!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ5611!SPC FL E     -   1.00000353  x   1.00001768  =   1.00002121
AJ5611!UTM  17      -   1.00000353  x   0.99967648  =   0.99968001
AJ5611
AJ5611                          SUPERSEDED SURVEY CONTROL
AJ5611
AJ5611  NAD 83(2007)-  27 02 38.54259(N)    080 12 22.95934(W) AD(2002.00) 0
AJ5611  ELLIP H (02/10/07)  -22.475  (m)                       GP(2002.00)
AJ5611  NAD 83(1999)-  27 02 38.54265(N)    080 12 22.95954(W) AD(       ) 1
AJ5611  ELLIP H (12/12/02)  -22.472  (m)                       GP(       ) 4 1
AJ5611  NAVD 88 (12/12/02)    4.82   (m)           15.8    (f) LEVELING    3
AJ5611
AJ5611.Superseded values are not recommended for survey control.
AJ5611
AJ5611.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AJ5611.See file dsdata.txt to determine how the superseded data were derived.
AJ5611
AJ5611_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK7871091560(NAD 83)
AJ5611
AJ5611_MARKER: F = FLANGE-ENCASED ROD
AJ5611_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
AJ5611_STAMPING: P 516 2001
AJ5611_MARK LOGO: FL-085
AJ5611_PROJECTION: FLUSH
AJ5611_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
AJ5611_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AJ5611_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ5611+SATELLITE: SATELLITE OBSERVATIONS - May 13, 2002
AJ5611_ROD/PIPE-DEPTH: 21.0 meters
AJ5611
AJ5611  HISTORY     - Date     Condition        Report By
AJ5611  HISTORY     - 20010513 MONUMENTED       GCYI
AJ5611  HISTORY     - 20020513 GOOD             MAPTEC
AJ5611  HISTORY     - 20100730 GOOD             FL-085
AJ5611
AJ5611                          STATION DESCRIPTION
AJ5611
AJ5611'DESCRIBED BY G.C.Y., INCORPORATED 2001 (KFK)
AJ5611'THE MARK IS LOCATED 7.4 KM (4.6 MI) SOUTHWEST OF HOBE SOUND, 16.7 KM
AJ5611'(J10.4 MI)
AJ5611'NORTHWEST OF JUPITER AND 17.5 KM (10.9 MI) SOUTHEAST OF STUART IN
AJ5611'SECTION
AJ5611'26, TOWNSHIP 39 SOUTH, RANGE 41 EAST NEAR THE NORTH RIGHT-OF-WAY OF
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AJ5611'C.R.
AJ5611'708 (BRIDGE ROAD).
AJ5611'
AJ5611'MARTIN COUNTY RIGHT-OF-WAY.
AJ5611'
AJ5611'TO REACH THE MARK FROM THE INTERSECTION OF I-95 AND C.R. 708 (BRIDGE
AJ5611'ROAD)
AJ5611'GO EAST ON C.R. 708 2.7 KM (1.7 MI) TO THE MARK ON THE LEFT.
AJ5611'
AJ5611'THE MARK IS 17 M (56 FT) NORTH OF THE CENTERLINE OF C.R. 708, 1.3 M (4
AJ5611'FT) EAST
AJ5611'OF A POWER LINE, 21 M (69 FT) SOUTH OF A METAL GATE AND O.8 M (2.7 FT)
AJ5611'WEST OF
AJ5611'THE WEST EDGE OF A CONCRETE DRIVE.
AJ5611' ACCESS IS THROUGH AN ALUMINUM ACCESS CAP.
AJ5611'
AJ5611'NOTE -  MAGNET PLACED IN PVC SLEEVE INSIDE ACCESS COVER.
AJ5611'
AJ5611'
AJ5611
AJ5611                          STATION RECOVERY (2002)
AJ5611
AJ5611'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)
AJ5611'STATION RECOVERY (2002)
AJ5611'RECOVERY NOTE BY MAPTECH,   INCORPORATED 2002 (CDP)
AJ5611'RECOVERED AS DESCRIBED.
AJ5611'
AJ5611'
AJ5611
AJ5611                          STATION RECOVERY (2010)
AJ5611
AJ5611'RECOVERY NOTE BY MARTIN COUNTY FLORIDA 2010
AJ5611'RECOVERED IN GOOD CONDITION.
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1 National Geodetic Survey, Retrieval Date = JANUARY 6, 2016

AJ8525 **
AJ8525 DESIGNATION - W 522
AJ8525 PID - AJ8525
AJ8525 STATE/COUNTY- FL/MARTIN
AJ8525 COUNTRY - US
AJ8525 USGS QUAD - MARCY (1970)
AJ8525
AJ8525 *CURRENT SURVEY CONTROL
AJ8525 ____
AJ8525* NAD 83(2011) POSITION- 27 09 33.36648(N) 080 40 38.57410(W) ADJUSTED
AJ8525* NAD 83(2011) ELLIP HT- -18.772 (meters) (06/27/12) ADJUSTED
AJ8525* NAD 83(2011) EPOCH - 2010.00
AJ8525* NAVD 88 ORTHO HEIGHT - 7.987 (meters) 26.20 (feet) ADJUSTED
AJ8525 ____
AJ8525 NAD 83(2011) X - 919,933.837 (meters) COMP
AJ8525 NAD 83(2011) Y - -5,603,828.919 (meters) COMP
AJ8525 NAD 83(2011) Z - 2,893,920.074 (meters) COMP
AJ8525 LAPLACE CORR - -1.32 (seconds) DEFLEC12B
AJ8525 GEOID HEIGHT - -26.766 (meters) GEOID12B
AJ8525 DYNAMIC HEIGHT - 7.974 (meters) 26.16 (feet) COMP
AJ8525 MODELED GRAVITY - 979,091.0 (mgal) NAVD 88
AJ8525
AJ8525 VERT ORDER - FIRST CLASS II
AJ8525
AJ8525 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AJ8525 Standards:

	FGDC (95% conf, cm)		Standard deviation (cm)			CorrNE
	Horiz	Ellip	SD_N	SD_E	SD_h	(unitless)
NETWORK	0.86	1.53	0.36	0.34	0.78	-0.05569444

AJ8525 Click here for local accuracies and other accuracy information.
AJ8525
AJ8525
AJ8525.The horizontal coordinates were established by GPS observations
AJ8525.and adjusted by the National Geodetic Survey in June 2012.
AJ8525
AJ8525.NAD 83(2011) refers to NAD 83 coordinates where the reference
AJ8525.frame has been affixed to the stable North American tectonic plate. See
AJ8525.NA2011 for more information.
AJ8525
AJ8525.The horizontal coordinates are valid at the epoch date displayed above
AJ8525.which is a decimal equivalence of Year/Month/Day.
AJ8525
AJ8525.The orthometric height was determined by differential leveling and
AJ8525.adjusted by the NATIONAL GEODETIC SURVEY
AJ8525.in May 2002.
AJ8525
AJ8525.Significant digits in the geoid height do not necessarily reflect accuracy.
AJ8525.GEOID12B height accuracy estimate available here.
AJ8525
AJ8525.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ8525
AJ8525.The Laplace correction was computed from DEFLEC12B derived deflections.
AJ8525
AJ8525.The ellipsoidal height was determined by GPS observations
AJ8525.and is referenced to NAD 83.

```
AJ8525
AJ8525.The dynamic height is computed by dividing the NAVD 88
AJ8525.geopotential number by the normal gravity value computed on the
AJ8525.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ8525.degrees latitude (g = 980.6199 gals.).
AJ8525
AJ8525.The modeled gravity was interpolated from observed gravity values.
AJ8525
AJ8525. The following values were computed from the NAD 83(2011) position.
AJ8525
AJ8525;                    North         East     Units Scale Factor Converg.
AJ8525;SPC FL E     -   313,091.811   231,974.427   MT  0.99995379   +0 08 50.2
AJ8525;SPC FL E     - 1,027,202.05    761,069.43   sFT  0.99995379   +0 08 50.2
AJ8525;UTM  17      - 3,004,116.967   531,963.517   MT  0.99961261   +0 08 50.2
AJ8525
AJ8525!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ8525!SPC FL E     -   1.00000295  x   0.99995379  =   0.99995674
AJ8525!UTM  17      -   1.00000295  x   0.99961261  =   0.99961556
AJ8525
AJ8525:                Primary Azimuth Mark                     Grid Az
AJ8525:SPC FL E     -  P 544                                    292 30 27.7
AJ8525:UTM  17      -  P 544                                    292 30 27.7
AJ8525
AJ8525|---------------------------------------------------------------------|
AJ8525| PID    Reference Object                    Distance      Geod. Az   |
AJ8525|                                                          dddmmss.s |
AJ8525| AJ8523 P 544                              479.275 METERS 2923917.9 |
AJ8525|---------------------------------------------------------------------|
AJ8525
AJ8525                          SUPERSEDED SURVEY CONTROL
AJ8525
AJ8525  NAD 83(2007)-  27 09 33.36666(N)    080 40 38.57481(W) AD(2002.00) 0
AJ8525  ELLIP H (02/10/07)  -18.758   (m)                      GP(2002.00)
AJ8525  NAD 83(1999)-  27 09 33.36682(N)    080 40 38.57528(W) AD(       ) 1
AJ8525  ELLIP H (12/12/02)  -18.759   (m)                      GP(       ) 4 2
AJ8525  NAVD 88 (12/12/02)    7.99    (m)           26.2    (f) LEVELING    3
AJ8525
AJ8525.Superseded values are not recommended for survey control.
AJ8525
AJ8525.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AJ8525.See file dsdata.txt to determine how the superseded data were derived.
AJ8525
AJ8525_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNL3196304116(NAD 83)
AJ8525
AJ8525_MARKER: F = FLANGE-ENCASED ROD
AJ8525_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
AJ8525_STAMPING: W 522 2001 CERP
AJ8525_MARK LOGO: NONE
AJ8525_PROJECTION: RECESSED 15 CENTIMETERS
AJ8525_MAGNETIC: N = NO MAGNETIC MATERIAL
AJ8525_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AJ8525_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ8525+SATELLITE: SATELLITE OBSERVATIONS - June 01, 2004
AJ8525_ROD/PIPE-DEPTH: 24.4 meters
AJ8525
AJ8525  HISTORY     - Date     Condition        Report By
AJ8525  HISTORY     - 20010910 MONUMENTED       FOST
AJ8525  HISTORY     - 20020417 GOOD             MAPTEC
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AJ8525 HISTORY   - 20040601 GOOD   CREEI
AJ8525 HISTORY   - 20100730 GOOD   FL-085
AJ8525
AJ8525   STATION DESCRIPTION
AJ8525
AJ8525'DESCRIBED BY CHARLEY FOSTER AND ASSOCIATES 2001 (JB)
AJ8525'THE MONUMENT IS LOCATED 11.0 MILES (17.73 KM) SOUTHEAST OF OKEECHOBEE,
AJ8525'FL. AND 16.1 MILES (25.92 KM)
AJ8525'NORTHWEST OF INDIANTOWN, FL., SECTION 13, TOWNSHIP 38 SOUTH, RANGE 37
AJ8525'EAST.
AJ8525'
AJ8525'OWNERSHIP IS FLORIDA DEPARTMENT OF TRANSPORTATION.
AJ8525'
AJ8525'TO REACH THE MONUMENT FROM THE INTERSECTION OF ADAMS AVENUE AND STATE
AJ8525'ROAD 710 IN
AJ8525'INDIANTOWN, GO NORTHWEST ON STATE ROAD 710 16.1 MILES (25.91 KM) TO
AJ8525'THE JUNCTION OF COUNTY ROAD
AJ8525'714 AND STATE ROAD 710. THE MONUMENT IS LOCATED IN THE NORTHEAST
AJ8525'QUADRANT OF THE JUNCTION. THE
AJ8525'MONUMENT IS 0.3 MILES (0.48 KM) SOUTHEAST OF THE JUNCTION OF COUNTY
AJ8525'ROAD 15B AND STATE ROAD 710.
AJ8525'
AJ8525'THE MONUMENT IS 45.0 FEET (13.72 M) NORTHWEST OF THE CENTERLINE OF
AJ8525'COUNTY ROAD 714, 55.7 FEET (16.98
AJ8525'M) NORTHEAST OF THE CENTERLINE OF STATE ROAD 710, 9.5 FEET (2.90 M)
AJ8525'NORTHEAST OF POWER POLE NO. 6
AJ8525'4055-9840, 16.7 FEET (5.09 M) NORTH OF DAMAGED TELEPHONE PEDESTAL 2719
AJ8525'7, 26.5 FEET (8.08 M) NORTHEAST
AJ8525'OF THE SOUTHEAST END OF GUARDRAIL AND 4.0 FEET (1.22 M) SOUTH OF A
AJ8525'CARSONITE WITNESS POST. NOTE
AJ8525'ACCESS TO THE DATUM POINT (THE TOP OF A STAINLESS STEEL ROD) IS HAD
AJ8525'THROUGH A 5 INCH LOGO CAP.
AJ8525'NOTE A MAGNET WAS PLACED INSIDE THE PVC PIPE.
AJ8525'
AJ8525'
AJ8525
AJ8525   STATION RECOVERY (2002)
AJ8525
AJ8525'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)
AJ8525'THE MONUMENT IS LOCATED 11.0 MILES (17.73 KM) SOUTHEAST OF OKEECHOBEE,
AJ8525'FL. AND 16.1 MILES
AJ8525'(25.92 KM)
AJ8525'NORTHWEST OF INDIANTOWN, FL., SECTION 13, TOWNSHIP 38 SOUTH, RANGE 37
AJ8525'EAST.
AJ8525'
AJ8525'OWNERSHIP IS FLORIDA DEPARTMENT OF TRANSPORTATION.
AJ8525'
AJ8525'TO REACH THE MONUMENT FROM THE INTERSECTION OF ADAMS AVENUE AND STATE
AJ8525'ROAD 710 IN
AJ8525'INDIANTOWN, GO NORTHWEST ON STATE ROAD 710 16.1 MILES (25.91 KM) TO
AJ8525'THE JUNCTION OF
AJ8525'COUNTY ROAD
AJ8525'714 AND STATE ROAD 710. THE MONUMENT IS LOCATED IN THE NORTHEAST
AJ8525'QUADRANT OF THE
AJ8525'JUNCTION. THE
AJ8525'MONUMENT IS 0.3 MILES (0.48 KM) SOUTHEAST OF THE JUNCTION OF COUNTY
AJ8525'ROAD 15B AND STATE
AJ8525'ROAD 710.

AJ8525'
AJ8525'THE MONUMENT IS 45.0 FEET (13.72 M) NORTHWEST OF THE CENTERLINE OF
AJ8525'COUNTY ROAD 714, 55.7
AJ8525'FEET (16.98
AJ8525'M) NORTHEAST OF THE CENTERLINE OF STATE ROAD 710, 9.5 FEET (2.90 M)
AJ8525'NORTHEAST OF POWER
AJ8525'POLE NO. 6
AJ8525'4055-9840, 16.7 FEET (5.09 M) NORTH OF DAMAGED TELEPHONE PEDESTAL 2719
AJ8525'7, 26.5 FEET (8.08 M)
AJ8525'NORTHEAST
AJ8525'OF THE SOUTHEAST END OF GUARDRAIL AND 4.0 FEET (1.22 M) SOUTH OF A
AJ8525'CARSONITE WITNESS
AJ8525'POST. NOTE
AJ8525'ACCESS TO THE DATUM POINT (THE TOP OF A STAINLESS STEEL ROD) IS HAD
AJ8525'THROUGH A 5 INCH LOGO
AJ8525'CAP.
AJ8525'NOTE A MAGNET WAS PLACED INSIDE THE PVC PIPE.
AJ8525'
AJ8525'STATION RECOVERY (2002)
AJ8525'
AJ8525'RECOVERY NOTE BY MAPTECH, INCORPORATED 2002 (CDP)
AJ8525'RECOVERED AS DESCRIBED.
AJ8525   STATION RECOVERY (2004)
AJ8525
AJ8525'RECOVERY NOTE BY CREECH ENGINEERS INC 2004 (SAL)
AJ8525'RECOVERY NOTE BY CREECH ENGINEERS, INCORPORATED. - MELBOURNE 2006
AJ8525'(DTB) RECOVERED AS DESCRIBED WITH THE FOLLOWING CHANGES---
AJ8525'REFERENCES-- SET MAG NAIL AND DISK --- REFERENCE. PT. LB 6705 ---
AJ8525'AT THE WEST EDGE OF PAVEMENT OF NORTHBOUND STATE ROAD 710 (MARTIN
AJ8525'HIGHWAY) ON A MAGNETIC AZIMUTH OF 102 DEGREES AT A DISTANCE OF 30.75
AJ8525'FT (9.37 M). SET MAG NAIL AND DISK --- REFERENCE. PT. LB 6705 --- IN
AJ8525'A WOOD LIGHT POLE ON A MAGNETIC AZIMUTH OF 190 DEGREES AT A DISTANCE
AJ8525'OF 8.5 FT (2.59 M). SET MAG NAIL AND DISK --- REFERENCE. PT. LB 6705
AJ8525'--- ON TOP OF A WOOD GAURD RAIL POST FIFTH ONE FROM THE SOUTHEAST END
AJ8525'ON A MAGNETIC AZIMUTH OF 260 DEGREES AT A DISTANCE OF 36.52 FT (11.13
AJ8525'M). SET MAG NAIL AND DISK --- REFERENCE. PT. LB 6705 --- IN A WOOD
AJ8525'POWER POLE ON A MAGNETIC AZIMUTH OF 342 DEGREES AT A DISTANCE OF
AJ8525'58.82 FT (17.93 M).
AJ8525
AJ8525   STATION RECOVERY (2010)
AJ8525
AJ8525'RECOVERY NOTE BY MARTIN COUNTY FLORIDA 2010
AJ8525'RECOVERED IN GOOD CONDITION.

Appendix E | Ground Control Diagram