

**Minimum Technical Standards Report
Control Survey &
Specific Purpose Survey for LiDAR**



**PREPARED FOR:
UNITED STATES GEOLOGICAL SURVEY
& UNITED STATES ARMY CORPS OF ENGINEERS
ENGINEER RESEARCH AND DEVELOPMENT CENTER**



**PREPARED BY:
NORTHROP GRUMMAN CORPORATION**

2010 ATCHAFALAYA BASIN LIDAR

CONTRACT # G10PC00150 TO #01

NGC INTERNAL #B1M95800

DATE: 17 JANUARY 2011

**Technical Standards Report
Control Survey & Specific Purpose Survey for LiDAR**

2010 LiDAR Elevation Mapping
Atchafalaya Basin

Prepared For:
US Geological Survey
1400 Independence Road
Rolla, MO 65401
Phone: 573.308.3587

Prepared By:
Northrop Grumman Corporation
301 Voyager Way
Huntsville, AL 35806
Phone: 256.327.6500

Table of Contents

Introduction & Specifications.....	4
Abbreviations and Definitions.....	4
Datum & Coordinate Systems.....	5
Survey Area.....	5
Control Survey	5
Local Network Accuracy.....	5
Ground Truth Survey.....	6
Data Analysis.....	6
Supplemental Vertical Accuracy.....	7
Low Vegetation Results.....	7
Medium Vegetation Results.....	8
High Vegetation Results.....	8
Consolidated Vertical Accuracy.....	9

Appendices and Exhibits

Appendix A.....	NGS Published Datasheets
Appendix B.....	Fundamental Vertical accuracy (FVA) Point List
Appendix C.....	Ground Truth Analysis (Point Comparisons)
Appendix D.....	Consolidated Vertical Accuracy Results
Appendix E.....	Fundamental Vertical Accuracy Point Listing
Appendix F.....	Ground Truth Point Map
Appendix G.....	Ground Control Logs
Appendix H.....	Personnel List

Technical Standards Report Control Survey & Specific Purpose Survey for LiDAR

2010 LiDAR Elevation Mapping Atchafalaya Basin

Introduction & Specifications

The purpose of this project was to provide ground truth data which will be used to validate LiDAR data of the Atchafalaya Basin located in South-Central Louisiana. The ground surveys were conducted utilizing the Gulf-Net VRS network to collect checkpoints of 10% of the predominant vegetation within the AOI. The vertical accuracy requirements meet or exceed the required RMSEz of 18.5cm and the vertical accuracy of 36.3cm at the 95% confidence level as specified by the SOW using NDEP/ASPRS methodologies referring to the NDEP_Elevation_Guidelines_Ver1_10May2004 .pdf.

Datum & Coordinate Systems

The LiDAR data and coordinate values associated with this project are referenced to the North American Datum of 1983, Universal Transverse Mercator Coordinate System, Zone 15 North, in units of Meters. The vertical datum is North America Vertical Datum of 1988, in units of Meters.

Survey Area

The project area is approximately 981 square miles and covers the site of interest: Atchafalaya Basin located in Louisiana. The project area was divided into two (2) “Blocks” to facilitate the LiDAR edits.

Control Survey

The GPS survey was tied into the LSU Gulf-Net VRS Network located in Louisiana. The Gulf-Net VRS network is a network of continuously operating GPS reference stations that provides Real Time Kinematic (RTK) capabilities within a Real Time Network (RTN). This allows corrections to be applied to the points as they are being collected, eliminating the need for an adjustment.

As a quality control measure several “check-in” points consisting of NSRS published horizontal and vertical control points were used as checks within the Gulf-Net VRS network. The survey crew checked into these published points daily to validate the consistency of the network. Also to confirm that the project will meet the 5cm local network accuracy at the 95% confidence level.

Survey field work was performed on 12.01.2010-12.05.2010, 12.07.2010 and 12.08.2010 by Northrop Grumman field crews using Trimble R8 Global Positioning System with Integrated GNSS antenna.

Local Network Accuracy

Several existing control monuments listed in the NSRS database were used as checks within the Gulf-Net VRS Now Network. This confirmed network accuracies were being met during the field survey as well as providing a redundancy check on the Gulf-Net VRS network. The Specified local network accuracy of 5cm at the 95% confidence level was met or exceeded. The results and NSRS published point information are listed on the following page.

Name	Published			Surveyed			Differences		
	Northing	Easting	Elev.	Northing	Easting	Elev.	ΔNorth	ΔEast	ΔElev
86 EABPL (AU0092)	3295016.531	676244.162	3.58	3295016.546	676244.187	3.566	0.015	0.025	0.014
X 290 (BJ0579)	3352082.359	670136.953	7.89	3352082.351	670136.958	7.889	0.008	0.005	0.001
L010 (AU3388)	3283980.939	671028.333	0.97	3283980.94	671028.336	0.988	0.001	0.003	0.018
L031 (AU3412)	3299260.557	649582.259	3.609	3299260.512	649582.294	3.653	0.045	0.035	0.044
L034 (AU3415)	3304889.841	642238.470	3.95	3304889.848	642238.478	3.946	0.007	0.008	0.004
X 293 (AU0077)	3309958.278	672218.094	2.29	3309958.287	672218.107	2.314	0.009	0.013	0.024
C 394 (DJ9344)	3371976.194	665248.474	5.18	3371976.202	665248.466	5.195	0.008	0.008	0.015
D 394 (DJ9347)	3343449.176	625792.582	9.49	3343449.189	625792.583	9.449	0.013	0.001	0.041
X 393 (DJ9381)	3371490.463	639653.358	6.01	3371490.475	639653.371	6.022	0.012	0.013	0.012
HP Williams(AU3275)	3287938.466	660786.724	1.581	3287938.511	660786.749	1.573	0.045	0.025	0.008

Ground Truth Survey

Ground Truth data was collected of the three major land cover classes representing 10% of the predominate vegetation dispersed within the area of interest. 20 points were collected in each of the three predominate vegetation classes low vegetation, medium vegetation, and high vegetation, points collected in high vegetation were collected with a Total Station. Pair of points was surveyed using the VRS network once completed the total station is used to collect the high vegetation ground class. A Sokkia SET 4B total station was used to collect all the shots collected in the high vegetation class, due to the limited GPS signal when working in and around tree canopy.

Data Analysis

Data analysis was accomplished by comparing ground truth checkpoints with LIDAR points from the edited data set, which were within 1 meter horizontally from the ground truth points. Based on the number of returns and the density of points in this project, it was not necessary to compare to anything further away than 1meter horizontally from the ground truth points. Note that the edited LIDAR points are simply a subset of the raw LIDAR points. The points that fell above the ground surface on vegetation canopies, buildings, or other obstructions were removed from the data set. Comparisons were also made between the survey points and the LIDAR derived terrain surface. These comparisons provide an additional verification of the LIDAR data against the survey data.

Supplemental Vertical Accuracy Results

Supplemental Accuracy is comprised of all classes of data collected solved individually based on vegetation type. All vegetation classes met or exceeded the required RMSEz of 18.5cm and a vertical accuracy of 36.3cm at the 95% confidence level.

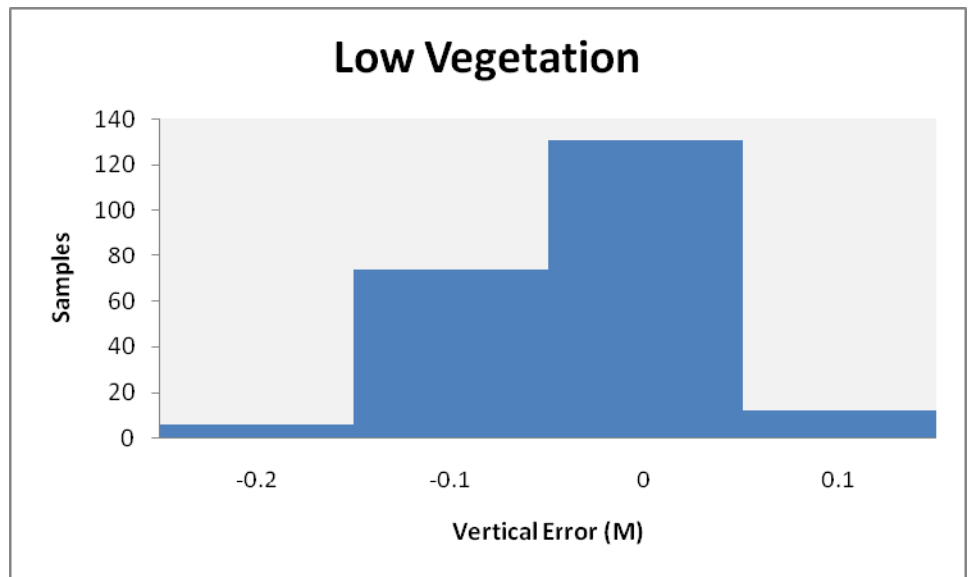
NDEP Elevation Guidelines Ver1 10May2004.pdf Section 1.5.3.2

$$RMSEz = \sqrt{S(z \text{ data } i - z \text{ check } i)^2 / n}$$

$$Accuracy_z = 1.9600 * RMSE_z = \text{vertical accuracy at 95 percent confidence level}$$

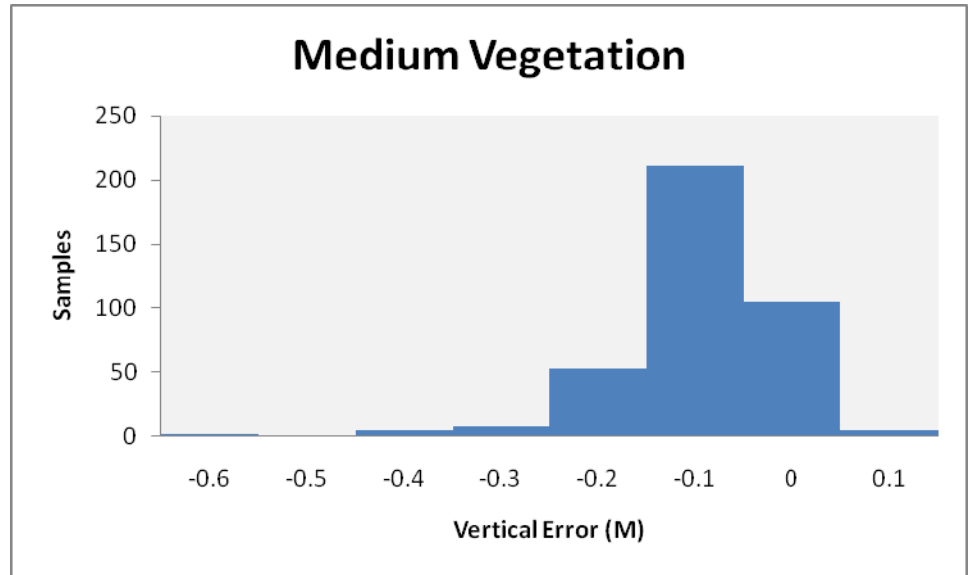
Low Vegetation Class

Low Veg. (M)	
RMSEz	0.06
Mean	-0.03
Standard Error	0.00
Median	-0.02
Mode	0.00
Standard Deviation	0.05
Sample Variance	0.00
Kurtosis	0.30
Skewness	-0.26
Range	0.32
Minimum	-0.18
Maximum	0.14
Count	223



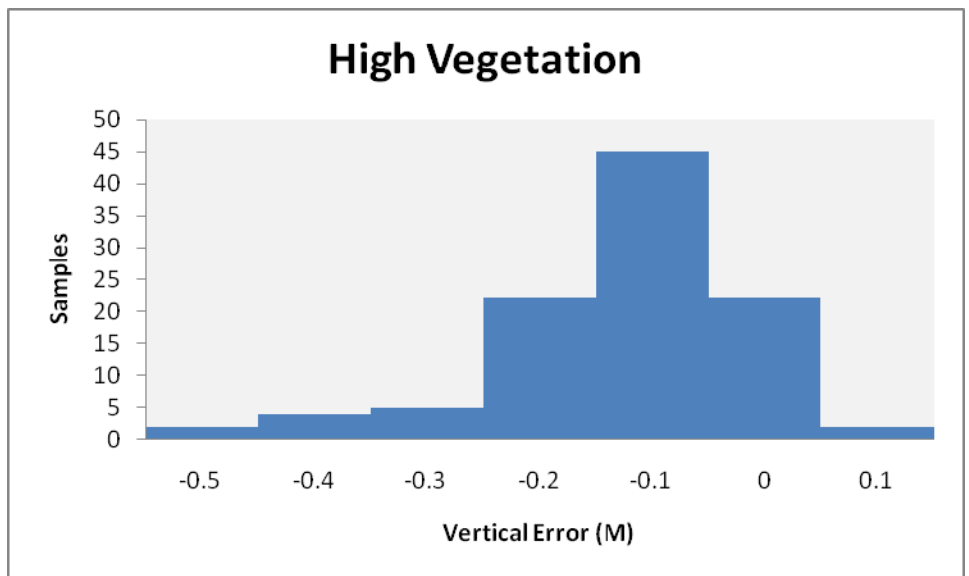
Medium Vegetation Class

Medium Veg. (M)	
RMSEz	0.12
Mean	-0.09
Standard Error	0.00
Median	-0.08
Mode	-0.09
Standard Deviation	0.09
Sample Variance	0.01
Kurtosis	6.53
Skewness	-1.72
Range	0.72
Minimum	-0.62
Maximum	0.10
Count	388



High Vegetation Class

High Veg. (M)	
RMSEz	0.16
Mean	-0.12
Standard Error	0.01
Median	-0.12
Mode	-0.12
Standard Deviation	0.11
Sample Variance	0.01
Kurtosis	1.85
Skewness	-1.02
Range	0.59
Minimum	-0.50
Maximum	0.09
Count	102



Consolidated Vertical Accuracy results

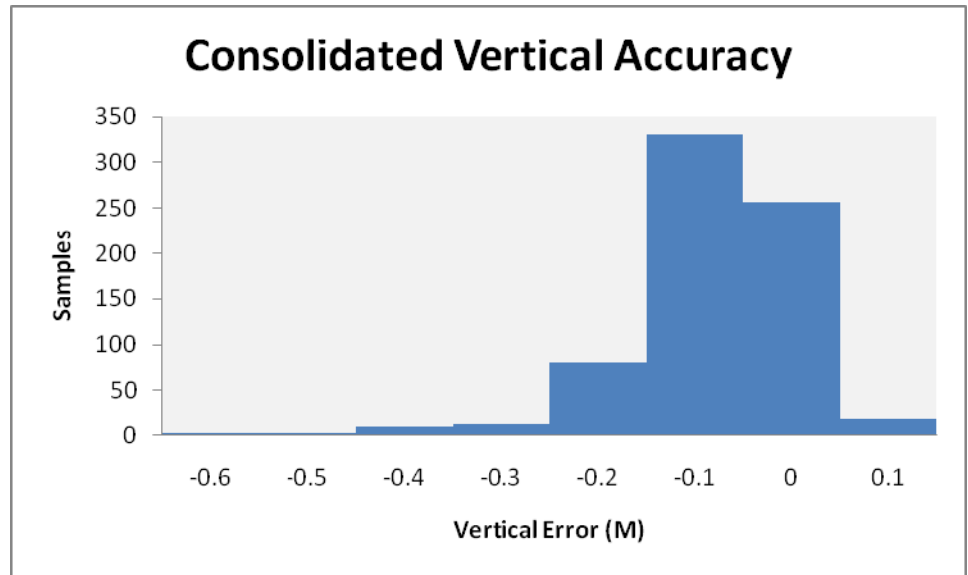
Consolidated Vertical Accuracies met or exceeded the required RMSEz of 18.5cm and the vertical accuracy of 36.3cm at the 95% confidence level.

NDEP Elevation Guidelines Ver1 10May2004.pdf Section 1.5.3.2

$$RMSEz = \sqrt{S(z \text{ data } i - z \text{ check } i)^2 / n}$$

$$Accuracy_z = 1.9600 * RMSE_z = \text{vertical accuracy at 95 percent confidence level}$$

CVA (M)	
RMSEz	0.12
Mean	-0.08
Standard Error	0.00
Median	-0.07
Mode	-0.09
Standard Deviation	0.09
Sample Variance	0.01
Kurtosis	5.28
Skewness	-1.57
Range	0.76
Minimum	-0.62
Maximum	0.14
Count	713



Appendix A

```

1      National Geodetic Survey,  Retrieval Date = JANUARY 11, 2011
AU0092 *****
AU0092 HT_MOD      -   This is a Louisiana Height Modernization Survey Station.
AU0092 DESIGNATION -   86 EABPL
AU0092 PID        -   AU0092
AU0092 STATE/COUNTY- LA/ST MARTIN
AU0092 USGS QUAD   -   NAPOLEONVILLE SW (1980)
AU0092
AU0092                      *CURRENT SURVEY CONTROL
AU0092 _____
AU0092* NAD 83(2007)- 29 46 22.52606(N)    091 10 36.97894(W)    ADJUSTED
AU0092* NAVD 88      -           3.58 (meters)    11.7 (feet)  GPS OBS(2006.81)
AU0092 **This station is located in a suspected subsidence area (see below).
AU0092 _____
AU0092 EPOCH DATE   -           2002.00
AU0092 X           -   -113,807.670 (meters)                COMP
AU0092 Y           -   -5,539,611.039 (meters)             COMP
AU0092 Z           -     3,148,538.708 (meters)             COMP
AU0092 LAPLACE CORR-           0.28 (seconds)              DEFLEC09
AU0092 ELLIP HEIGHT-   -22.114 (meters)    (03/12/08) ADJUSTED
AU0092 GEOID HEIGHT-   -25.70 (meters)                GEOID09
AU0092 HORZ ORDER   -   A
AU0092 ELLP ORDER   -   THIRD      CLASS I
AU0092
AU0092.The horizontal coordinates were established by GPS observations
AU0092.and adjusted by the National Geodetic Survey in March 2008.
AU0092
AU0092.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AU0092.See National Readjustment for more information.
AU0092.The horizontal coordinates are valid at the epoch date displayed above.
AU0092.The epoch date for horizontal control is a decimal equivalence
AU0092.of Year/Month/Day.
AU0092
AU0092 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
AU0092 ** and geoid heights are valid at the date of observation. These heights
AU0092 ** must always be validated when used as control.
AU0092 ** The orthometric height was determined by GPS observations using
AU0092 ** precise GPS observation and processing techniques and a new
AU0092 ** realization of GEOID03. It supersedes any height that may have been
AU0092 ** previously determined for this station.
AU0092 ** The geoid height was determined by a new realization of GEOID03 for the
AU0092 ** epoch indicated which incorporates improved geoid heights for the
AU0092 ** Southern Louisiana Subsidence area.
AU0092 ** (see www.ngs.noaa.gov/PC\_PROD/GEOID03).
AU0092
AU0092.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AU0092
AU0092.The Laplace correction was computed from DEFLEC09 derived deflections.
AU0092
AU0092.The ellipsoidal height was determined by GPS observations
AU0092.and is referenced to NAD 83.
AU0092
AU0092.The geoid height was determined by GEOID09.
AU0092
AU0092;           North      East      Units Scale Factor Converg.
AU0092;SPC LA S   -   141,107.030 1,015,123.174  MT  0.99993361  +0 04 41.5

```

AU0092;SPC LA S - 462,948.65 3,330,449.95 sFT 0.99993361 +0 04 41.5
 AU0092;UTM 15 - 3,295,016.531 676,244.162 MT 0.99998326 +0 54 19.8
 AU0092
 AU0092! - Elev Factor x Scale Factor = Combined Factor
 AU0092!SPC LA S - 1.00000347 x 0.99993361 = 0.99993708
 AU0092!UTM 15 - 1.00000347 x 0.99998326 = 0.99998673

AU0092

AU0092 SUPERSEDED SURVEY CONTROL

AU0092

AU0092 NGVD 29 (??/??/??) 3.913 (m) 12.84 (f) ADJUSTED 1 1

AU0092

AU0092.Superseded values are not recommended for survey control.

AU0092.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AU0092.[See file dsdata.txt](#) to determine how the superseded data were derived.

AU0092

AU0092_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXN7624495016(NAD 83)

AU0092_MARKER: DD = SURVEY DISK

AU0092_SETTING: 47 = GALVANIZED STEEL PIPE W/O SLEEVE (10 FT.+)

AU0092_SP_SET: 116 FT 1-INCH IRON PIPE

AU0092_STAMPING: PBM 86 EABPL 1976 USE

AU0092_MARK LOGO: USE

AU0092_PROJECTION: PROJECTING 33 CENTIMETERS

AU0092_MAGNETIC: P = MARKER IS A STEEL PIPE

AU0092_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AU0092+STABILITY: SURFACE MOTION

AU0092_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AU0092+SATELLITE: SATELLITE OBSERVATIONS - November 29, 2010

AU0092

AU0092	HISTORY	- Date	Condition	Report By
AU0092	HISTORY	- 1976	MONUMENTED	USE
AU0092	HISTORY	- 1976	GOOD	NGS
AU0092	HISTORY	- 20060504	GOOD	NGS
AU0092	HISTORY	- 20101129	GOOD	3001

STATION DESCRIPTION

AU0092'DESCRIBED BY NATIONAL GEODETIC SURVEY 1976

AU0092'10.4 MI SOUTH FROM BELLE RIVER.

AU0092'10.4 MILES SOUTH ALONG STATE HIGHWAY 70 FROM THE DRAWBRIDGE OVER

AU0092'BELLE RIVER, 45 FT WEST OF THE CENTER LINE OF THE HIGHWAY, 65 FT EAST

AU0092'OF THE EAST LEVEE RETAINING WALL AT STATION NUMBER 2084+00,

AU0092'29.5 FT NORTH OF THE EXTENDED CENTER LINE OF A SHELL ROAD LEADING

AU0092'EAST WITH TWO IRON GATES, DISK IS SCREWED ON TIGHT TO A 1-INCH IRON

AU0092'PIPE DRIVEN TO A DEPTH OF 116.00 FT ENCASED IN 2-INCH IRON PIPE BORED

AU0092'TO A DEPTH OF 73.31 FT, ACCESS IS HAD THROUGH A 3-INCH SCREW CAP

AU0092'WHICH PROJECTS 1.4 FT ABOVE GROUND, DISK PROJECTS 1.1 FT ABOVE GROUND

AU0092

STATION RECOVERY (2006)

AU0092

AU0092'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)

AU0092'MARK RECOVERED IN GOOD CONDITION

AU0092

STATION RECOVERY (2010)

AU0092

AU0092'RECOVERY NOTE BY 3001, INC 2010 (JCP)

AU0092'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:00

1 National Geodetic Survey, Retrieval Date = JANUARY 11, 2011

BJ0579 *****

BJ0579 HT_MOD - This is a Louisiana Height Modernization Survey Station.

BJ0579 DESIGNATION - X 290

BJ0579 PID - BJ0579

BJ0579 STATE/COUNTY- LA/IBERVILLE

BJ0579 USGS QUAD - PLAQUEMINE (1992)

BJ0579

BJ0579 *CURRENT SURVEY CONTROL

BJ0579

BJ0579* NAD 83(2007)- 30 17 18.70391(N) 091 13 51.47517(W) ADJUSTED

BJ0579* NAVD 88 - 7.89 (meters) 25.9 (feet) GPS OBS(2006.81)

BJ0579 **This station is located in a suspected subsidence area (see below).

BJ0579

BJ0579 EPOCH DATE - 2002.00

BJ0579 X - -118,416.714 (meters) COMP

BJ0579 Y - -5,510,905.835 (meters) COMP

BJ0579 Z - 3,198,023.329 (meters) COMP

BJ0579 LAPLACE CORR- 0.93 (seconds) DEFLEC09

BJ0579 ELLIP HEIGHT- -19.231 (meters) (03/12/08) ADJUSTED

BJ0579 GEOID HEIGHT- -27.12 (meters) GEOID09

BJ0579

BJ0579 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----

Type	PID	Designation	North	East	Ellip
NETWORK	BJ0579	X 290	0.43	0.41	0.98

BJ0579

BJ0579 ELLP ORDER - THIRD CLASS I

BJ0579

BJ0579.The horizontal coordinates were established by GPS observations

BJ0579.and adjusted by the National Geodetic Survey in February 2007.

BJ0579

BJ0579.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).

BJ0579.See [National Readjustment](#) for more information.

BJ0579.The horizontal coordinates are valid at the epoch date displayed above.

BJ0579.The epoch date for horizontal control is a decimal equivalence

BJ0579.of Year/Month/Day.

BJ0579

BJ0579 ** Due to the variability of land subsidence, the orthometric, ellipsoid,

BJ0579 ** and geoid heights are valid at the date of observation. These heights

BJ0579 ** must always be validated when used as control.

BJ0579 ** The orthometric height was determined by GPS observations using

BJ0579 ** precise GPS observation and processing techniques and a new

BJ0579 ** realization of GEOID03. It supersedes any height that may have been

BJ0579 ** previously determined for this station.

BJ0579 ** The geoid height was determined by a new realization of GEOID03 for the

BJ0579 ** epoch indicated which incorporates improved geoid heights for the

BJ0579 ** Southern Louisiana Subsidence area.

BJ0579 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).

BJ0579

BJ0579.[Photographs](#) are available for this station.

BJ0579

BJ0579.The X, Y, and Z were computed from the position and the ellipsoidal ht.

BJ0579

BJ0579.The Laplace correction was computed from DEFLEC09 derived deflections.

BJ0579

BJ0579.The ellipsoidal height was determined by GPS observations

BJ0579.and is referenced to NAD 83.

BJ0579

BJ0579.The geoid height was determined by GEOID09.

BJ0579

BJ0579;		North	East	Units	Scale Factor	Converg.
BJ0579;SPC LA S	-	198,253.402	1,009,847.802	MT	0.99993830	+0 03 04.3
BJ0579;SPC LA S	-	650,436.37	3,313,142.33	sFT	0.99993830	+0 03 04.3
BJ0579;UTM 15	-	3,352,082.359	670,136.953	MT	0.99995712	+0 53 32.8

BJ0579

BJ0579!		Elev Factor	x	Scale Factor	=	Combined Factor
BJ0579!SPC LA S	-	1.00000302	x	0.99993830	=	0.99994132
BJ0579!UTM 15	-	1.00000302	x	0.99995712	=	0.99996014

BJ0579

BJ0579

SUPERSEDED SURVEY CONTROL

BJ0579

BJ0579	ELLIP H (02/10/07)	-19.220	(m)		GP()
BJ0579	NAD 83(1992)-	30 17 18.70393(N)		091 13 51.47482(W)	AD() B
BJ0579	ELLIP H (12/29/04)	-19.224	(m)		GP() 4 1
BJ0579	NGVD 29 (??/??/??)	8.076	(m)	26.50	(f) ADJUSTED 1 1

BJ0579

BJ0579.Superseded values are not recommended for survey control.

BJ0579.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

BJ0579.[See file dsdata.txt](#) to determine how the superseded data were derived.

BJ0579

BJ0579_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXP7013652082(NAD 83)

BJ0579_MARKER: DV = VERTICAL CONTROL DISK

BJ0579_SETTING: 46 = COPPER-CLAD STEEL ROD W/O SLEEVE (10 FT.+)

BJ0579_SP_SET: COPPER-CLAD STEEL ROD

BJ0579_STAMPING: X 290 1976

BJ0579_MARK LOGO: NGS

BJ0579_PROJECTION: RECESSED 10 CENTIMETERS

BJ0579_MAGNETIC: O = OTHER; SEE DESCRIPTION

BJ0579_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

BJ0579_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

BJ0579+SATELLITE: SATELLITE OBSERVATIONS - November 29, 2010

BJ0579_ROD/PIPE-DEPTH: 3.0 meters

BJ0579

BJ0579	HISTORY	-	Date	Condition	Report By
BJ0579	HISTORY	-	1976	MONUMENTED	NGS
BJ0579	HISTORY	-	20021031	GOOD	3001
BJ0579	HISTORY	-	20050316	POOR	AERODA
BJ0579	HISTORY	-	20050817	GOOD	JCLS
BJ0579	HISTORY	-	20060518	GOOD	NGS
BJ0579	HISTORY	-	20090404	GOOD	WOOLPT
BJ0579	HISTORY	-	20101129	GOOD	3001

BJ0579

BJ0579

STATION DESCRIPTION

BJ0579

BJ0579'DESCRIBED BY NATIONAL GEODETIC SURVEY 1976

BJ0579'IN PLAQUEMINE.

BJ0579'AT THE JUNCTION OF SEMINERY AND HAASE STREETS, 21.5 FT. NORTHEAST OF
 BJ0579'THE CENTER LINE OF SEMINERY STREET, 7 FT. SOUTHEAST OF THE EXTENDED
 BJ0579'CENTER LINE OF HAASE STREET, 2 FT. SOUTHEAST OF A 12-INCH WATER PIPE
 BJ0579'LINE, 4.2 FT. NORTHEAST OF THE EAST CORNER OF A CONCRETE PIPE SUPPORT.
 BJ0579'THE DISK IS 0.7 FT. BELOW THE LEVEL OF THE GROUND. ACCESS IS HAD
 BJ0579'THROUGH A 4-INCH PLASTIC SCREW CAP. A WRENCH COULD BE NEEDED FOR
 BJ0579'ACCESS.

BJ0579
BJ0579 STATION RECOVERY (2002)
BJ0579
BJ0579'RECOVERY NOTE BY 3001, INC 2002 (KC)
BJ0579'THE STATION IS LOCATED IN PLAQUEMINE JUST UPSTREAM OF THE PLAQUEMINE
BJ0579'FERRY 2700' ALONG THE MISSISSIPPI RIVER LEVEE. 2000' DOWNSTREAM ALONG
BJ0579'RIVER LEVEE OF THE PLAQUEMINE BAYOU.
BJ0579'
BJ0579'OWNERSHIP- UNKNOWN
BJ0579'
BJ0579'TO REACH THE STATION FROM THE INTERSECTION OF HWY 1 AND HAASE STREET
BJ0579'GO NORTHEAST ON HAASE TO THE RIVER LEVEE AND SEMINARY STREET AND THE
BJ0579'STATION IS STRAIGHT AHEAD AT THE TOE OF THE LEVEE.
BJ0579'
BJ0579'THE STATION IS 21.5' NORTHEAST OF THE CENTERLINE OF SEMINARY STREET,
BJ0579'AND 7' SOUTHEAST OF THE EXTENDED CENTERLINE OF HAASE STREET 30.7'
BJ0579'SOUTH SOUTHEAST OF A GUIDE POLE WITH GUY WIRE.
BJ0579
BJ0579 STATION RECOVERY (2005)
BJ0579
BJ0579'RECOVERY NOTE BY AERO DATA CORPORATION 2005 (RJG)
BJ0579'MONUMENT REQUIRES MAINTENANCE. DISK SLIGHTLY MUTILATED, UNPROTECTED,
BJ0579'AND PARTLY UNSUPPORTED. SETTING VULNERABLE TO DAMAGE BY VEHICLES AND
BJ0579'MACHINERY.
BJ0579
BJ0579 STATION RECOVERY (2005)
BJ0579
BJ0579'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2005 (MRY)
BJ0579'RECOVERED IN GOOD CONDITION.
BJ0579
BJ0579 STATION RECOVERY (2006)
BJ0579
BJ0579'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
BJ0579'MARK RECOVERED IN GOOD CONDITION. MARK IS 2 FT (0.6 M) NORTHEAST OF A
BJ0579'CONCRETE EMBEDDED EYE BOLT AND 1 FT (0.3 M) SOUTHWEST OF AN ORANGE
BJ0579'FIBERGLASS WITNESS POST.
BJ0579
BJ0579 STATION RECOVERY (2009)
BJ0579
BJ0579'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2009 (JPD)
BJ0579'RECOVERED AS DESCRIBED
BJ0579
BJ0579 STATION RECOVERY (2010)
BJ0579
BJ0579'RECOVERY NOTE BY 3001, INC 2010 (JCP)
BJ0579'RECOVERED IN GOOD CONDITION.

```

1      National Geodetic Survey,  Retrieval Date = JANUARY 11, 2011
AU3388 *****
AU3388 HT_MOD      -   This is a Louisiana Height Modernization Survey Station.
AU3388 DESIGNATION -   L010
AU3388 PID        -   AU3388
AU3388 STATE/COUNTY- LA/ST MARY
AU3388 USGS QUAD   -   MORGAN CITY (1994)
AU3388
AU3388                      *CURRENT SURVEY CONTROL
AU3388
AU3388* NAD 83(2007)- 29 40 26.78896(N)    091 13 57.41362(W)    ADJUSTED
AU3388* NAVD 88      -           0.97 (meters)          3.2 (feet)  GPS OBS(2006.81)
AU3388 **This station is located in a suspected subsidence area (see below).
AU3388
AU3388 EPOCH DATE   -           2002.00
AU3388 X           -   -119,307.431 (meters)                COMP
AU3388 Y           -   -5,544,925.420 (meters)             COMP
AU3388 Z           -     3,139,025.225 (meters)             COMP
AU3388 LAPLACE CORR-           0.14 (seconds)              DEFLEC09
AU3388 ELLIP HEIGHT-          -24.482 (meters)            (03/12/08) ADJUSTED
AU3388 GEOID HEIGHT-          -25.46 (meters)              GEOID09
AU3388 HORZ ORDER  -   A
AU3388 ELLP ORDER  -   THIRD      CLASS I
AU3388
AU3388.The horizontal coordinates were established by GPS observations
AU3388.and adjusted by the National Geodetic Survey in March 2008.
AU3388
AU3388.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AU3388.See National Readjustment for more information.
AU3388.The horizontal coordinates are valid at the epoch date displayed above.
AU3388.The epoch date for horizontal control is a decimal equivalence
AU3388.of Year/Month/Day.
AU3388
AU3388 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
AU3388 ** and geoid heights are valid at the date of observation. These heights
AU3388 ** must always be validated when used as control.
AU3388 ** The orthometric height was determined by GPS observations using
AU3388 ** precise GPS observation and processing techniques and a new
AU3388 ** realization of GEOID03. It supersedes any height that may have been
AU3388 ** previously determined for this station.
AU3388 ** The geoid height was determined by a new realization of GEOID03 for the
AU3388 ** epoch indicated which incorporates improved geoid heights for the
AU3388 ** Southern Louisiana Subsidence area.
AU3388 ** (see www.ngs.noaa.gov/PC\_PROD/GEOID03).
AU3388
AU3388.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AU3388
AU3388.The Laplace correction was computed from DEFLEC09 derived deflections.
AU3388
AU3388.The ellipsoidal height was determined by GPS observations
AU3388.and is referenced to NAD 83.
AU3388
AU3388.The geoid height was determined by GEOID09.
AU3388
AU3388;
AU3388;          North      East      Units Scale Factor Converg.
AU3388;SPC LA S   -   130,148.158 1,009,748.975  MT  0.99994190 +0 03 01.3
AU3388;SPC LA S   -   426,994.42 3,312,818.10  sFT 0.99994190 +0 03 01.3
AU3388;UTM 15    -   3,283,980.939 671,028.333  MT  0.99996092 +0 52 30.7

```


AU3388
AU3388! - Elev Factor x Scale Factor = Combined Factor
AU3388!SPC LA S - 1.00000385 x 0.99994190 = 0.99994574
AU3388!UTM 15 - 1.00000385 x 0.99996092 = 0.99996476
AU3388
AU3388 SUPERSEDED SURVEY CONTROL
AU3388
AU3388 NAD 83(2007)- 29 40 26.78907(N) 091 13 57.41473(W) AD() 0
AU3388 ELLIP H (02/10/07) -24.382 (m) GP()
AU3388 ELLIP H (02/20/02) -24.447 (m) GP() 4 1
AU3388 NAD 83(1992)- 29 40 26.78901(N) 091 13 57.41271(W) AD() 1
AU3388 ELLIP H (07/31/00) -24.392 (m) GP() 4 1
AU3388 NAD 83(1992)- 29 40 26.78856(N) 091 13 57.41107(W) AD() 2
AU3388 ELLIP H (01/21/93) -24.332 (m) GP() 4 2
AU3388 NAD 83(1986)- 29 40 26.81196(N) 091 13 57.40842(W) AD() 2
AU3388 NGVD 29 (11/27/91) 1.6 (m) 5. (f) GPS OBS
AU3388
AU3388.Superseded values are not recommended for survey control.
AU3388.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AU3388.[See file dsdata.txt](#) to determine how the superseded data were derived.
AU3388
AU3388_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXN7102883980(NAD 83)
AU3388_MARKER: DD = SURVEY DISK
AU3388_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AU3388_SP_SET: CONCRETE POST
AU3388_STAMPING: L010 1990
AU3388_MARK LOGO: LA-101
AU3388_PROJECTION: FLUSH
AU3388_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT
AU3388_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AU3388+STABILITY: SURFACE MOTION
AU3388_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AU3388+SATELLITE: SATELLITE OBSERVATIONS - May 09, 2006
AU3388
AU3388 HISTORY - Date Condition Report By
AU3388 HISTORY - 1990 MONUMENTED GWMSI
AU3388 HISTORY - 19991130 GOOD CDSMS
AU3388 HISTORY - 20060509 GOOD NGS
AU3388
AU3388 STATION DESCRIPTION
AU3388
AU3388'DESCRIBED BY GEORGE W MUERY AND SON INCORPORATED 1990
AU3388'THE MONUMENT IS LOCATED ON THE SOUTH SIDE OF RIVER ROAD,
AU3388'APPROXIMATELY 365.0 FEET SOUTHWEST OF THE INTERSECTION OF RIVER ROAD
AU3388'AND THURGESOND ROAD, SOUTH OF BERWICK, LA.
AU3388'THE MONUMENT IS LOCATED 23 FEET SOUTH OF THE CENTERLINE OF RIVER
AU3388'ROAD AND 1.6 FEET NORTH OF AN ORANGE FIBERGLASS WITNESS POST.
AU3388'THE MONUMENT IS AN ALUMINUM DISK SET IN THE TOP OF A CONCRETE POST
AU3388'FLUSH WITH THE GROUND.
AU3388
AU3388 STATION RECOVERY (1999)
AU3388
AU3388'RECOVERY NOTE BY CDS/MUERY SERVICES 1999 (REG)
AU3388'RECOVERED IN GOOD CONDITION.
AU3388
AU3388 STATION RECOVERY (2006)
AU3388

AU3388'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
AU3388'RECOVERED IN GOOD CONDITION. UPDATED DESCRIPTION, MARK IS 1 FT (0.3
AU3388'M) WEST OF ORANGE FIBERGLASS WITNESS POST AND 11 FT (3.4 M) NORTHEAST
AU3388'OF A UTILITY POLE, AND 1.4 FT (0.4 M) NORTHEAST OF A SECURITY TIE DOWN
AU3388'CONSISTING OF AN EYE BOLT IMBEDDED IN CONCRETE.

```

1      National Geodetic Survey,  Retrieval Date = JANUARY 11, 2011
AU3412 *****
AU3412 DESIGNATION - L031
AU3412 PID - AU3412
AU3412 STATE/COUNTY- LA/ST MARY
AU3412 USGS QUAD - CENTERVILLE (1994)
AU3412
AU3412 *CURRENT SURVEY CONTROL
AU3412
AU3412* NAD 83(2007)- 29 48 53.01274(N) 091 27 07.37069(W) ADJUSTED
AU3412* NAVD 88 - *(meters) *(feet) NOT PUB
AU3412 **This station is located in a suspected subsidence area (see below).
AU3412
AU3412 EPOCH DATE - 2002.00
AU3412 X - -140,346.654 (meters) COMP
AU3412 Y - -5,536,698.897 (meters) COMP
AU3412 Z - 3,152,559.793 (meters) COMP
AU3412 LAPLACE CORR- 0.84 (seconds) DEFLEC09
AU3412 ELLIP HEIGHT- -22.331 (meters) (02/10/07) ADJUSTED
AU3412 GEOID HEIGHT- -25.94 (meters) GEOID09
AU3412
AU3412 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----
AU3412 Type PID Designation North East Ellip
AU3412 -----
AU3412 NETWORK AU3412 L031 3.84 5.55 8.47
AU3412 -----
AU3412
AU3412.The horizontal coordinates were established by GPS observations
AU3412.and adjusted by the National Geodetic Survey in February 2007.
AU3412
AU3412.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AU3412.See National Readjustment for more information.
AU3412.The horizontal coordinates are valid at the epoch date displayed above.
AU3412.The epoch date for horizontal control is a decimal equivalence
AU3412.of Year/Month/Day.
AU3412
AU3412.The NAVD 88 height was computed by applying the VERTCON shift value to
AU3412.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)
AU3412
AU3412.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AU3412
AU3412.The Laplace correction was computed from DEFLEC09 derived deflections.
AU3412
AU3412.The ellipsoidal height was determined by GPS observations
AU3412.and is referenced to NAD 83.
AU3412
AU3412.The geoid height was determined by GEOID09.
AU3412
AU3412; North East Units Scale Factor Converg.
AU3412;SPC LA S - 145,736.033 988,525.297 MT 0.99993099 -0 03 33.7
AU3412;SPC LA S - 478,135.63 3,243,186.75 sFT 0.99993099 -0 03 33.7
AU3412;UTM 15 - 3,299,260.557 649,582.259 MT 0.99987607 +0 46 11.2
AU3412
AU3412! - Elev Factor x Scale Factor = Combined Factor
AU3412!SPC LA S - 1.00000351 x 0.99993099 = 0.99993450
AU3412!UTM 15 - 1.00000351 x 0.99987607 = 0.99987958
AU3412

```

AU3412 SUPERSEDED SURVEY CONTROL
 AU3412
 AU3412 ELLIP H (06/26/02) -22.358 (m) GP() 4 2
 AU3412 NAD 83(1992)- 29 48 53.01304(N) 091 27 07.36467(W) AD() 2
 AU3412 ELLIP H (01/21/93) -22.363 (m) GP() 4 2
 AU3412 NAD 83(1986)- 29 48 53.03396(N) 091 27 07.35797(W) AD() 2
 AU3412 NGVD 29 (11/27/91) 4.0 (m) 13. (f) GPS OBS

AU3412
 AU3412.Superseded values are not recommended for survey control.
 AU3412.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 AU3412.[See file dsdata.txt](#) to determine how the superseded data were derived.

AU3412
 AU3412_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXN4958299260(NAD 83)
 AU3412_MARKER: DO = NOT SPECIFIED OR SEE DESCRIPTION
 AU3412_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 AU3412_SP_SET: CONCRETE POST
 AU3412_STAMPING: L031 1990
 AU3412_MARK LOGO: LA-101
 AU3412_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT
 AU3412_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 AU3412+STABILITY: SURFACE MOTION
 AU3412_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 AU3412+SATELLITE: SATELLITE OBSERVATIONS - November 29, 2010

AU3412

AU3412	HISTORY	- Date	Condition	Report By
AU3412	HISTORY	- 1990	MONUMENTED	GWMSI
AU3412	HISTORY	- 20101129	GOOD	3001

AU3412
 AU3412 STATION DESCRIPTION
 AU3412
 AU3412'DESCRIBED BY GEORGE W MUERY AND SON INCORPORATED 1990
 AU3412'THE MONUMENT IS LOCATED NORTHEAST OF FRANKLIN, LA., AT THE ENTRANCE
 AU3412'TO THE BELLEVIEW COUNTRY CLUB, ON THE NORTH SIDE OF BELLEVIEW ROAD
 AU3412'AND APPROXIMATELY 300 FEET EAST OF ST. MARY PARISH ROAD 28.
 AU3412'THE MONUMENT IS LOCATED 29.0 FEET NORTH OF THE CENTERLINE OF
 AU3412'BELLEVIEW ROAD, 17.4 FEET NORTHEAST OF POWER POLE NO. 320 AND 1.5
 AU3412'FEET SOUTH OF AN ORANGE FIBERGLASS WITNESS POST.
 AU3412'THE MONUMENT IS AN ALUMINUM DISK SET IN THE TOP OF A CONCRETE POST
 AU3412'FLUSH WITH THE GROUND.

AU3412
 AU3412 STATION RECOVERY (2010)
 AU3412
 AU3412'RECOVERY NOTE BY 3001, INC 2010 (JCP)
 AU3412'RECOVERED IN GOOD CONDITION.

```

1      National Geodetic Survey,  Retrieval Date = JANUARY 11, 2011
AU3415 *****
AU3415 HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
AU3415 DESIGNATION -  L034
AU3415 PID        -  AU3415
AU3415 STATE/COUNTY-  LA/ST MARY
AU3415 USGS QUAD   -  FRANKLIN (1994)
AU3415
AU3415                      *CURRENT SURVEY CONTROL
AU3415 _____
AU3415* NAD 83(2007)- 29 51 58.97013(N)    091 31 38.20126(W)    ADJUSTED
AU3415* NAVD 88      -           3.95 (meters)    13.0 (feet)  GPS OBS(2006.81)
AU3415 **This station is located in a suspected subsidence area (see below).
AU3415 _____
AU3415 EPOCH DATE   -           2002.00
AU3415 X            -    -147,540.412 (meters)                COMP
AU3415 Y            -    -5,533,661.810 (meters)                COMP
AU3415 Z            -     3,157,526.574 (meters)                COMP
AU3415 LAPLACE CORR-           0.76 (seconds)                DEFLEC09
AU3415 ELLIP HEIGHT-    -22.223 (meters)                (03/12/08) ADJUSTED
AU3415 GEOID HEIGHT-    -26.17 (meters)                GEOID09
AU3415 HORZ ORDER   -  A
AU3415 ELLP ORDER   -  THIRD      CLASS I
AU3415
AU3415.The horizontal coordinates were established by GPS observations
AU3415.and adjusted by the National Geodetic Survey in March 2008.
AU3415
AU3415.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AU3415.See National Readjustment for more information.
AU3415.The horizontal coordinates are valid at the epoch date displayed above.
AU3415.The epoch date for horizontal control is a decimal equivalence
AU3415.of Year/Month/Day.
AU3415
AU3415 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
AU3415 ** and geoid heights are valid at the date of observation. These heights
AU3415 ** must always be validated when used as control.
AU3415 ** The orthometric height was determined by GPS observations using
AU3415 ** precise GPS observation and processing techniques and a new
AU3415 ** realization of GEOID03. It supersedes any height that may have been
AU3415 ** previously determined for this station.
AU3415 ** The geoid height was determined by a new realization of GEOID03 for the
AU3415 ** epoch indicated which incorporates improved geoid heights for the
AU3415 ** Southern Louisiana Subsidence area.
AU3415 ** (see www.ngs.noaa.gov/PC\_PROD/GEOID03).
AU3415
AU3415.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AU3415
AU3415.The Laplace correction was computed from DEFLEC09 derived deflections.
AU3415
AU3415.The ellipsoidal height was determined by GPS observations
AU3415.and is referenced to NAD 83.
AU3415
AU3415.The geoid height was determined by GEOID09.
AU3415
AU3415;
AU3415;          North      East      Units Scale Factor Converg.
AU3415;SPC LA S   -   151,471.468   981,263.319   MT   0.99992848   -0 05 49.1
AU3415;SPC LA S   -   496,952.64   3,219,361.41   sFT  0.99992848   -0 05 49.1
AU3415;UTM 15    -   3,304,889.841   642,238.470   MT   0.99984962   +0 44 00.6

```

AU3415
AU3415! - Elev Factor x Scale Factor = Combined Factor
AU3415!SPC LA S - 1.00000349 x 0.99992848 = 0.99993197
AU3415!UTM 15 - 1.00000349 x 0.99984962 = 0.99985311
AU3415
AU3415 SUPERSEDED SURVEY CONTROL
AU3415
AU3415 NAD 83(2007)- 29 51 58.96952(N) 091 31 38.20266(W) AD() 0
AU3415 ELLIP H (02/10/07) -22.202 (m) GP()
AU3415 ELLIP H (06/26/02) -22.327 (m) GP() 4 2
AU3415 NAD 83(1992)- 29 51 58.97048(N) 091 31 38.19720(W) AD() 2
AU3415 ELLIP H (01/21/93) -22.243 (m) GP() 4 2
AU3415 NAD 83(1986)- 29 51 58.99159(N) 091 31 38.19057(W) AD() 2
AU3415 NGVD 29 (11/27/91) 4.3 (m) 14. (f) GPS OBS
AU3415
AU3415.Superseded values are not recommended for survey control.
AU3415.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AU3415.[See file dsdata.txt](#) to determine how the superseded data were derived.
AU3415
AU3415_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXP4223804889(NAD 83)
AU3415_MARKER: DH = HORIZONTAL CONTROL DISK
AU3415_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AU3415_SP_SET: CONCRETE POST
AU3415_STAMPING: L034 1990
AU3415_MARK LOGO: LA-101
AU3415_PROJECTION: FLUSH
AU3415_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT
AU3415_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AU3415+STABILITY: SURFACE MOTION
AU3415_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AU3415+SATELLITE: SATELLITE OBSERVATIONS - May 08, 2006
AU3415
AU3415 HISTORY - Date Condition Report By
AU3415 HISTORY - 1990 MONUMENTED GWMSI
AU3415 HISTORY - 20060508 GOOD NGS
AU3415
AU3415 STATION DESCRIPTION
AU3415
AU3415'DESCRIBED BY GEORGE W MUERY AND SON INCORPORATED 1990
AU3415'THE MONUMENT IS LOCATED ON THE EAST SIDE OF STATE HIGHWAY 326,
AU3415'APPROXIMATELY 190 FEET SOUTH OF THE INTERSECTION OF STATE HIGHWAY
AU3415'326 AND FLATTOWN ROAD, 2.2 MILES NORTHEAST OF BALDWIN, LA.
AU3415'THE MONUMENT IS LOCATED 20.5 FEET EAST OF THE CENTERLINE OF STATE
AU3415'HIGHWAY 326 AND 1.5 FEET WEST OF AN ORANGE FIBERGLASS WITNESS POST.
AU3415'THE MONUMENT IS AN ALUMINUM DISK SET IN THE TOP OF A CONCRETE POST
AU3415'FLUSH WITH THE GROUND.
AU3415
AU3415 STATION RECOVERY (2006)
AU3415
AU3415'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
AU3415'RECOVERED IN GOOD CONDITION 4.8 FT (1.5 M) SOUTHEAST OF A UTILITY
AU3415'POLE.

```

1      National Geodetic Survey,  Retrieval Date = JANUARY 11, 2011
AU0077 *****
AU0077 HT_MOD      -   This is a Louisiana Height Modernization Survey Station.
AU0077 DESIGNATION -   X 293
AU0077 PID         -   AU0077
AU0077 STATE/COUNTY- LA/ST MARTIN
AU0077 USGS QUAD   -   PIERRE PART (1980)
AU0077
AU0077                      *CURRENT SURVEY CONTROL
AU0077
AU0077* NAD 83(2007)- 29 54 29.78119(N)    091 12 58.22231(W)    ADJUSTED
AU0077* NAVD 88      -           2.29 (meters)           7.5 (feet)  GPS OBS(2006.81)
AU0077 **This station is located in a suspected subsidence area (see below).
AU0077
AU0077 EPOCH DATE   -           2002.00
AU0077 X           -   -117,442.504 (meters)                COMP
AU0077 Y           -   -5,532,066.520 (meters)              COMP
AU0077 Z           -   3,161,551.916 (meters)              COMP
AU0077 LAPLACE CORR-           0.37 (seconds)              DEFLEC09
AU0077 ELLIP HEIGHT-          -23.836 (meters)             (03/12/08) ADJUSTED
AU0077 GEOID HEIGHT-          -26.14 (meters)              GEOID09
AU0077 HORZ ORDER  -   A
AU0077 ELLP ORDER  -   THIRD      CLASS I
AU0077
AU0077.The horizontal coordinates were established by GPS observations
AU0077.and adjusted by the National Geodetic Survey in March 2008.
AU0077
AU0077.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AU0077.See National Readjustment for more information.
AU0077.The horizontal coordinates are valid at the epoch date displayed above.
AU0077.The epoch date for horizontal control is a decimal equivalence
AU0077.of Year/Month/Day.
AU0077
AU0077 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
AU0077 ** and geoid heights are valid at the date of observation. These heights
AU0077 ** must always be validated when used as control.
AU0077 ** The orthometric height was determined by GPS observations using
AU0077 ** precise GPS observation and processing techniques and a new
AU0077 ** realization of GEOID03. It supersedes any height that may have been
AU0077 ** previously determined for this station.
AU0077 ** The geoid height was determined by a new realization of GEOID03 for the
AU0077 ** epoch indicated which incorporates improved geoid heights for the
AU0077 ** Southern Louisiana Subsidence area.
AU0077 ** (see www.ngs.noaa.gov/PC\_PROD/GEOID03).
AU0077
AU0077.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AU0077
AU0077.The Laplace correction was computed from DEFLEC09 derived deflections.
AU0077
AU0077.The ellipsoidal height was determined by GPS observations
AU0077.and is referenced to NAD 83.
AU0077
AU0077.The geoid height was determined by GEOID09.
AU0077
AU0077;
AU0077;          North      East      Units Scale Factor Converg.
AU0077;SPC LA S   -   156,104.806 1,011,313.932  MT  0.99992704  +0 03 30.9
AU0077;SPC LA S   -   512,153.85 3,317,952.46  sFT 0.99992704  +0 03 30.9
AU0077;UTM 15    -   3,309,958.278 672,218.094  MT  0.99996594  +0 53 22.8

```

AU0077
AU0077! - Elev Factor x Scale Factor = Combined Factor
AU0077!SPC LA S - 1.00000374 x 0.99992704 = 0.99993078
AU0077!UTM 15 - 1.00000374 x 0.99996594 = 0.99996968
AU0077
AU0077 SUPERSEDED SURVEY CONTROL
AU0077
AU0077 NGVD 29 (??/??/??) 2.646 (m) 8.68 (f) ADJUSTED 1 1
AU0077
AU0077.Superseded values are not recommended for survey control.
AU0077.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AU0077.[See file dsdata.txt](#) to determine how the superseded data were derived.
AU0077
AU0077_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXP7221809958(NAD 83)
AU0077_MARKER: DV = VERTICAL CONTROL DISK
AU0077_SETTING: 36 = SET IN A MASSIVE STRUCTURE
AU0077_SP_SET: BRIDGE
AU0077_STAMPING: X 293 1976
AU0077_MARK LOGO: NGS
AU0077_MAGNETIC: O = OTHER; SEE DESCRIPTION
AU0077_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AU0077_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AU0077+SATELLITE: SATELLITE OBSERVATIONS - May 02, 2006
AU0077
AU0077 HISTORY - Date Condition Report By
AU0077 HISTORY - 1976 MONUMENTED NGS
AU0077 HISTORY - 1985 GOOD LADTD
AU0077 HISTORY - 20060502 GOOD NGS
AU0077
AU0077 STATION DESCRIPTION
AU0077
AU0077'DESCRIBED BY NATIONAL GEODETIC SURVEY 1976
AU0077'IN BELLE RIVER.
AU0077'AT BELLE RIVER, AT THE STATE HIGHWAY 70 DRAWBRIDGE OVER THE BELLE
AU0077'RIVER, 16 FT EAST OF THE CENTER LINE OF THE HIGHWAY, IN THE TOP OF THE
AU0077'EAST END OF THE SOUTH CONCRETE ABUTMENT, 0.9 FT WEST OF THE EAST END
AU0077'OF THE ABUTMENT.
AU0077
AU0077 STATION RECOVERY (1985)
AU0077
AU0077'RECOVERY NOTE BY LA TRANSP AND DEV 1985
AU0077'RECOVERED IN GOOD CONDITION.
AU0077
AU0077 STATION RECOVERY (2006)
AU0077
AU0077'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
AU0077'RECOVERED AS DESCRIBED.


```

1      National Geodetic Survey,  Retrieval Date = JANUARY 11, 2011
DJ9344 *****
DJ9344 HT_MOD      -   This is a Louisiana Height Modernization Survey Station.
DJ9344 DESIGNATION -   C 394
DJ9344 PID        -   DJ9344
DJ9344 STATE/COUNTY- LA/WEST BATON ROUGE
DJ9344 USGS QUAD   -   LOBDELL (1992)
DJ9344
DJ9344                      *CURRENT SURVEY CONTROL
DJ9344 _____
DJ9344* NAD 83(2007)- 30 28 07.13438(N)    091 16 43.07617(W)    ADJUSTED
DJ9344* NAVD 88      -           5.18 (meters)           17.0 (feet)  GPS OBS(2006.81)
DJ9344 **This station is located in a suspected subsidence area (see below).
DJ9344 _____
DJ9344 EPOCH DATE   -           2002.00
DJ9344 X           -   -122,776.059 (meters)                COMP
DJ9344 Y           -   -5,500,707.572 (meters)             COMP
DJ9344 Z           -     3,215,248.163 (meters)             COMP
DJ9344 LAPLACE CORR-           0.81 (seconds)              DEFLEC09
DJ9344 ELLIP HEIGHT-          -22.039 (meters)             (03/12/08) ADJUSTED
DJ9344 GEOID HEIGHT-          -27.22 (meters)              GEOID09
DJ9344 HORZ ORDER  -   A
DJ9344 ELLP ORDER  -   THIRD      CLASS I
DJ9344
DJ9344.The horizontal coordinates were established by GPS observations
DJ9344.and adjusted by the National Geodetic Survey in March 2008.
DJ9344
DJ9344.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
DJ9344.See National Readjustment for more information.
DJ9344.The horizontal coordinates are valid at the epoch date displayed above.
DJ9344.The epoch date for horizontal control is a decimal equivalence
DJ9344.of Year/Month/Day.
DJ9344
DJ9344 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
DJ9344 ** and geoid heights are valid at the date of observation. These heights
DJ9344 ** must always be validated when used as control.
DJ9344 ** The orthometric height was determined by GPS observations using
DJ9344 ** precise GPS observation and processing techniques and a new
DJ9344 ** realization of GEOID03. It supersedes any height that may have been
DJ9344 ** previously determined for this station.
DJ9344 ** The geoid height was determined by a new realization of GEOID03 for the
DJ9344 ** epoch indicated which incorporates improved geoid heights for the
DJ9344 ** Southern Louisiana Subsidence area.
DJ9344 ** (see www.ngs.noaa.gov/PC\_PROD/GEOID03).
DJ9344
DJ9344.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DJ9344
DJ9344.The Laplace correction was computed from DEFLEC09 derived deflections.
DJ9344
DJ9344.The ellipsoidal height was determined by GPS observations
DJ9344.and is referenced to NAD 83.
DJ9344
DJ9344.The geoid height was determined by GEOID09.
DJ9344
DJ9344;
DJ9344;          North      East      Units Scale Factor Converg.
DJ9344;SPC LA S   -   218,217.063 1,005,252.711  MT  0.99995896  +0 01 38.5
DJ9344;SPC LA S   -   715,933.81 3,298,066.60  sFT 0.99995896  +0 01 38.5
DJ9344;UTM 15    -   3,371,976.194 665,248.474  MT  0.99993688  +0 52 23.0

```

DJ9344

DJ9344! - Elev Factor x Scale Factor = Combined Factor
DJ9344!SPC LA S - 1.00000346 x 0.99995896 = 0.99996242
DJ9344!UTM 15 - 1.00000346 x 0.99993688 = 0.99994034

DJ9344

DJ9344 SUPERSEDED SURVEY CONTROL

DJ9344

DJ9344.No superseded survey control is available for this station.

DJ9344

DJ9344_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXP6524871976(NAD 83)

DJ9344_MARKER: F = FLANGE-ENCASED ROD

DJ9344_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)

DJ9344_STAMPING: C 394 2006

DJ9344_MARK LOGO: NGS

DJ9344_PROJECTION: RECESSED 3 CENTIMETERS

DJ9344_MAGNETIC: I = MARKER IS A STEEL ROD

DJ9344_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

DJ9344_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DJ9344+SATELLITE: SATELLITE OBSERVATIONS - September 02, 2006

DJ9344_ROD/PIPE-DEPTH: 23.8 meters

DJ9344_SLEEVE-DEPTH : 0.9 meters

DJ9344

DJ9344 HISTORY - Date Condition Report By

DJ9344 HISTORY - 20060902 MONUMENTED NGS

DJ9344

DJ9344 STATION DESCRIPTION

DJ9344

DJ9344'DESCRIBED BY NATIONAL GEODETIC SURVEY 2006

DJ9344'TO REACH FROM I-10 EXIT 151, STATE HIGHWAY 415, IN LOBDELL, GO 1.0

DJ9344'MILE NORTH ALONG STATE HIGHWAY 415 TO JUNCTION OF STATE HIGHWAY 76,

DJ9344'THENCE LEFT (WEST) 2.0 MI (3.2 KM) ALONG SR 76 TO THE MARK ON RIGHT AT

DJ9344'PORT ALLEN FIRE STATION NUMBER 3 (5080 ROSEDALE ROAD) JUST BEFORE THE

DJ9344'INTERSECTION OF SILVERY LANE-CALUMET ROAD, AT THE SOUTHEAST CORNER OF

DJ9344'THE PROPERTY, NEXT TO A FENCE LINE AND 2 FT (0.6 M) NORTHEAST OF THE

DJ9344'CORNER FENCE POST.

DJ9344'

DJ9344'MARK IS 86.0 FT (26.2 M) NORTH OF THE CENTERLINE OF STATE HIGHWAY 76,

DJ9344'43.6 FT (13.3 M) SOUTHEAST OF THE SOUTHEAST CORNER OF FIRE DEPARTMENT

DJ9344'BUILDING, 15.2 FT (4.65 M) EAST-SOUTHEAST OF CENTER OF A WATER METER

DJ9344'BOX, 2.3 FT (0.7 M) NORTHWEST OF A WOODEN FENCE POST CORNER, AND 3.0

DJ9344'FT (0.9 M) BELOW CONCRETE DRIVEWAY FOR FIRE DEPARTMENT.

DJ9344'

DJ9344'ACCESS TO MARK IS THROUGH A 5 INCH (13 CM) PVC PIPE AND LOGO CAP.

DJ9344'SLEEVE DEPTH DOES NOT MEET SPECIFICATIONS FOR A CLASS A MARK.

1 National Geodetic Survey, Retrieval Date = JANUARY 11, 2011

DJ9347 *****

DJ9347 HT_MOD - This is a Louisiana Height Modernization Survey Station.

DJ9347 DESIGNATION - D 394

DJ9347 PID - DJ9347

DJ9347 STATE/COUNTY- LA/ST MARTIN

DJ9347 USGS QUAD - CATAHOULA (1994)

DJ9347

DJ9347 *CURRENT SURVEY CONTROL

DJ9347

DJ9347*	NAD 83(2007)-	30 12 57.81831(N)	091 41 34.65055(W)	ADJUSTED
DJ9347*	NAVD 88	- 9.49 (meters)	31.1 (feet)	GPS OBS(2006.81)

DJ9347 **This station is located in a suspected subsidence area (see below).

DJ9347

DJ9347	EPOCH DATE	-	2002.00	
DJ9347	X	-	-162,968.090 (meters)	COMP
DJ9347	Y	-	-5,513,818.738 (meters)	COMP
DJ9347	Z	-	3,191,084.548 (meters)	COMP
DJ9347	LAPLACE CORR-		0.15 (seconds)	DEFLEC09
DJ9347	ELLIP HEIGHT-		-17.772 (meters)	(03/12/08) ADJUSTED
DJ9347	GEOID HEIGHT-		-27.25 (meters)	GEOID09

DJ9347 HORZ ORDER - A

DJ9347 ELLP ORDER - THIRD CLASS I

DJ9347

DJ9347.The horizontal coordinates were established by GPS observations
DJ9347.and adjusted by the National Geodetic Survey in March 2008.

DJ9347

DJ9347.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
DJ9347.See [National Readjustment](#) for more information.

DJ9347.The horizontal coordinates are valid at the epoch date displayed above.
DJ9347.The epoch date for horizontal control is a decimal equivalence
DJ9347.of Year/Month/Day.

DJ9347

DJ9347 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
DJ9347 ** and geoid heights are valid at the date of observation. These heights
DJ9347 ** must always be validated when used as control.

DJ9347 ** The orthometric height was determined by GPS observations using
DJ9347 ** precise GPS observation and processing techniques and a new
DJ9347 ** realization of GEOID03. It supersedes any height that may have been
DJ9347 ** previously determined for this station.

DJ9347 ** The geoid height was determined by a new realization of GEOID03 for the
DJ9347 ** epoch indicated which incorporates improved geoid heights for the
DJ9347 ** Southern Louisiana Subsidence area.

DJ9347 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).

DJ9347

DJ9347.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DJ9347

DJ9347.The Laplace correction was computed from DEFLEC09 derived deflections.
DJ9347

DJ9347.The ellipsoidal height was determined by GPS observations
DJ9347.and is referenced to NAD 83.

DJ9347

DJ9347.The geoid height was determined by GEOID09.
DJ9347

1 National Geodetic Survey, Retrieval Date = JANUARY 11, 2011

DJ9381 *****

DJ9381 HT_MOD - This is a Louisiana Height Modernization Survey Station.

DJ9381 DESIGNATION - X 393

DJ9381 PID - DJ9381

DJ9381 STATE/COUNTY- LA/IBERVILLE

DJ9381 USGS QUAD - MARINGOUIN (1992)

DJ9381

DJ9381 *CURRENT SURVEY CONTROL

DJ9381

DJ9381*	NAD 83(2007)-	30 28 03.04529(N)	091 32 42.86006(W)	ADJUSTED
DJ9381*	NAVD 88	- 6.01 (meters)	19.7 (feet)	GPS OBS(2006.81)

DJ9381 **This station is located in a suspected subsidence area (see below).

DJ9381

DJ9381	EPOCH DATE	-	2002.00	
DJ9381	X	-	-148,372.068 (meters)	COMP
DJ9381	Y	-	-5,500,141.139 (meters)	COMP
DJ9381	Z	-	3,215,139.975 (meters)	COMP
DJ9381	LAPLACE CORR-		0.54 (seconds)	DEFLEC09
DJ9381	ELLIP HEIGHT-		-21.359 (meters)	(03/12/08) ADJUSTED
DJ9381	GEOID HEIGHT-		-27.37 (meters)	GEOID09

DJ9381

DJ9381 HORZ ORDER - A

DJ9381 ELLP ORDER - THIRD CLASS I

DJ9381

DJ9381.The horizontal coordinates were established by GPS observations
DJ9381.and adjusted by the National Geodetic Survey in March 2008.

DJ9381

DJ9381.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
DJ9381.See [National Readjustment](#) for more information.

DJ9381.The horizontal coordinates are valid at the epoch date displayed above.
DJ9381.The epoch date for horizontal control is a decimal equivalence
DJ9381.of Year/Month/Day.

DJ9381

DJ9381 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
DJ9381 ** and geoid heights are valid at the date of observation. These heights
DJ9381 ** must always be validated when used as control.

DJ9381 ** The orthometric height was determined by GPS observations using
DJ9381 ** precise GPS observation and processing techniques and a new
DJ9381 ** realization of GEOID03. It supersedes any height that may have been
DJ9381 ** previously determined for this station.

DJ9381 ** The geoid height was determined by a new realization of GEOID03 for the
DJ9381 ** epoch indicated which incorporates improved geoid heights for the
DJ9381 ** Southern Louisiana Subsidence area.

DJ9381 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).

DJ9381

DJ9381.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DJ9381

DJ9381.The Laplace correction was computed from DEFLEC09 derived deflections.
DJ9381

DJ9381.The ellipsoidal height was determined by GPS observations
DJ9381.and is referenced to NAD 83.

DJ9381

DJ9381.The geoid height was determined by GEOID09.
DJ9381

	North	East	Units	Scale Factor	Converg.
DJ9381; SPC LA S	- 218,108.708	979,651.385	MT	0.99995880	-0 06 21.4
DJ9381; SPC LA S	- 715,578.32	3,214,072.92	sFT	0.99995880	-0 06 21.4
DJ9381; UTM 15	- 3,371,490.463	639,653.358	MT	0.99984060	+0 44 15.9

DJ9381

	Elev Factor	x	Scale Factor	=	Combined Factor
DJ9381! SPC LA S	- 1.00000335	x	0.99995880	=	0.99996215
DJ9381! UTM 15	- 1.00000335	x	0.99984060	=	0.99984395

DJ9381

SUPERSEDED SURVEY CONTROL

DJ9381

DJ9381.No superseded survey control is available for this station.

DJ9381

DJ9381_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXP3965371490(NAD 83)

DJ9381_MARKER: F = FLANGE-ENCASED ROD

DJ9381_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)

DJ9381_STAMPING: X 393 2006

DJ9381_MARK LOGO: NGS

DJ9381_PROJECTION: RECESSED 3 CENTIMETERS

DJ9381_MAGNETIC: I = MARKER IS A STEEL ROD

DJ9381_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

DJ9381_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DJ9381+SATELLITE: SATELLITE OBSERVATIONS - June 24, 2006

DJ9381_ROD/PIPE-DEPTH: 20.1 meters

DJ9381_SLEEVE-DEPTH : 0.9 meters

DJ9381

	Date	Condition	Report By
DJ9381 HISTORY	- 20060624	MONUMENTED	NGS

DJ9381

STATION DESCRIPTION

DJ9381

DJ9381'DESCRIBED BY NATIONAL GEODETIC SURVEY 2006

DJ9381'TO REACH FROM I-10 WESTBOUND LANES AND STATE HIGHWAY 3000 AT EXIT 135,

DJ9381'GO 1.15 MI (1.9 KM) NORTH ALONG STATE HIGHWAY 3000 TO THE T JUNCTION

DJ9381'OF STATE HIGHWAY 76. CONTINUE NORTH 4.6 MI (7.4 KM) ALONG STATE

DJ9381'HIGHWAY 76 TO THE T-JUNCTION OF MUSSON LANE, THENCE LEFT (WESTERLY)

DJ9381'1.30 MI (2.1 KM) ALONG MUSSON LANE TO WHERE THE PAVEMENT ENDS JUST

DJ9381'AFTER CROSSING A BRIDGE AT THE BOTTOM OF THE LEVEE AND THE MARK ON THE

DJ9381'RIGHT AT A FENCE CORNER AND CATTLE GUARD CROSSING.

DJ9381'

DJ9381'MARK IS 177.3 FT (54.0 M) NORTH-NORTHWEST OF THE EXTENDED CENTERLINE

DJ9381'OF MUSSON LANE, 28.8 FT (8.8 M) WEST OF THE CENTERLINE OF A GRAVEL

DJ9381'ROAD PARALLELING THE LEVEE, 20.0 FT (6.0 M) SOUTHWEST OF THE WEST

DJ9381'SIXTH RAIL OF AN 11-RAIL GUARD CROSSING, 8.3 FT (2.52 M) SOUTHEAST OF

DJ9381'A CORNER POST, 6.2 FT (1.83 M) SOUTH-SOUTHEAST OF A BARBED WIRE FENCE,

DJ9381'AND 5.9 FT (1.8 M) EAST OF A BARBED WIRE FENCE.

DJ9381'

DJ9381'ACCESS TO MARK IS THROUGH A 5 INCH (13 CM) PVC PIPE AND LOGO CAP.

DJ9381'SLEEVE DEPTH DOES NOT MEET SPECIFICATIONS FOR A CLASS A MARK.

```

1      National Geodetic Survey,  Retrieval Date = JANUARY 11, 2011
AU3275 *****
AU3275 CBN          -   This is a Cooperative Base Network Control Station.
AU3275 PACS         -   This is a Primary Airport Control Station.
AU3275 DESIGNATION -   H P WILLIAMS
AU3275 PID          -   AU3275
AU3275 STATE/COUNTY-   LA/ST MARY
AU3275 USGS QUAD    -   PATTERSON (1994)
AU3275
AU3275                      *CURRENT SURVEY CONTROL
AU3275
AU3275* NAD 83(2007)- 29 42 40.24395(N)    091 20 16.16808(W)    ADJUSTED
AU3275* NAVD 88      -                      *(meters)                *(feet)    NOT PUB
AU3275 **This station is located in a suspected subsidence area (see below).
AU3275
AU3275 EPOCH DATE   -           2002.00
AU3275 X            -   -129,441.600 (meters)                                COMP
AU3275 Y            -   -5,542,662.503 (meters)                            COMP
AU3275 Z            -     3,142,595.098 (meters)                            COMP
AU3275 LAPLACE CORR-           0.21 (seconds)                                DEFLECO9
AU3275 ELLIP HEIGHT-          -23.989 (meters)                (02/10/07) ADJUSTED
AU3275 GEOID HEIGHT-          -25.57 (meters)                                GEOID09
AU3275 DYNAMIC HT   -           1.8 (meters)                6. (feet)    COMP
AU3275
AU3275 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----
AU3275 Type      PID      Designation                North   East   Ellip
AU3275 -----
AU3275 NETWORK AU3275 H P WILLIAMS                1.33   1.16   2.25
AU3275 -----
AU3275 MODELED GRAV-          979,308.6 (mgal)                                NAVD 88
AU3275
AU3275 VERT ORDER   -   THIRD (See Below)
AU3275
AU3275.This mark is at Harry P Williams Mem Airport (PTN)
AU3275
AU3275.The horizontal coordinates were established by GPS observations
AU3275.and adjusted by the National Geodetic Survey in February 2007.
AU3275
AU3275.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AU3275.See National Readjustment for more information.
AU3275.The horizontal coordinates are valid at the epoch date displayed above.
AU3275.The epoch date for horizontal control is a decimal equivalence
AU3275.of Year/Month/Day.
AU3275
AU3275.The orthometric height was scaled from a topographic map.
AU3275

```

AU3275.GPS derived orthometric heights for airport stations designated as AU3275.PACS or SACS are published to 2 decimal places. This maintains AU3275.centimeter relative accuracy between the PACS and SACS. It does AU3275.not indicate centimeter accuracy relative to other marks which are AU3275.part of the NAVD 88 network.

AU3275.The vertical order pertains to the first NAVD 88 superseded value.

AU3275

AU3275.[Photographs](#) are available for this station.

AU3275

AU3275.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AU3275

AU3275.The Laplace correction was computed from DEFLEC09 derived deflections.

AU3275

AU3275.The ellipsoidal height was determined by GPS observations

AU3275.and is referenced to NAD 83.

AU3275

AU3275.The geoid height was determined by GEOID09.

AU3275

AU3275.The dynamic height is computed by dividing the NAVD 88

AU3275.geopotential number by the normal gravity value computed on the

AU3275.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AU3275.degrees latitude (g = 980.6199 gals.).

AU3275

AU3275.The modeled gravity was interpolated from observed gravity values.

AU3275

AU3275;		North	East	Units	Scale Factor	Converg.
AU3275;SPC LA S	-	134,252.837	999,565.445	MT	0.99993845	-0 00 08.1
AU3275;SPC LA S	-	440,461.18	3,279,407.63	sFT	0.99993845	-0 00 08.1
AU3275;UTM 15	-	3,287,938.466	660,786.724	MT	0.99991898	+0 49 26.4

AU3275

AU3275! Elev Factor x Scale Factor = Combined Factor

AU3275!SPC LA S - 1.00000377 x 0.99993845 = 0.99994222

AU3275!UTM 15 - 1.00000377 x 0.99991898 = 0.99992275

AU3275

AU3275:		Primary Azimuth Mark	Grid Az
AU3275:SPC LA S	-	H P WILLIAMS AZ MK	239 40 16.9
AU3275:UTM 15	-	H P WILLIAMS AZ MK	238 50 42.4

AU3275

AU3275	PID	Reference Object	Distance	Geod. Az
AU3275				dddmmss.s
AU3275	AI3580	PTN A	APPROX. 0.5 KM	0585243.4
AU3275	AU3276	H P WILLIAMS AZ MK	APPROX. 0.6 KM	2394008.8

AU3275

SUPERSEDED SURVEY CONTROL

AU3275

AU3275	ELLIP H (02/12/02)	-24.039 (m)		GP()	4 2
AU3275	ELLIP H (01/21/93)	-23.985 (m)		GP()	4 2
AU3275	NAD 83(1992)-	29 42 40.24324(N)	091 20 16.16575(W)	AD()	B
AU3275	ELLIP H (09/10/92)	-23.985 (m)		GP()	4 1
AU3275	NAD 83(1986)-	29 42 40.26743(N)	091 20 16.16562(W)	AD()	3
AU3275	NAD 27	- 29 42 39.51758(N)	091 20 15.78502(W)	AD()	3
AU3275	NGVD 29 (11/20/87)	2.1 (m)	7. (f)	GPS OBS	

AU3275

AU3275.Superseded values are not recommended for survey control.

AU3275.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AU3275.[See file dsdata.txt](#) to determine how the superseded data were derived.

AU3275

AU3275_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RXN6078687938(NAD 83)
 AU3275_MARKER: DH = HORIZONTAL CONTROL DISK
 AU3275_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 AU3275_SP_SET: CONCRETE POST
 AU3275_STAMPING: H P WILLIAMS 1986
 AU3275_MARK LOGO: NGS
 AU3275_PROJECTION: FLUSH
 AU3275_MAGNETIC: O = OTHER; SEE DESCRIPTION
 AU3275_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 AU3275+STABILITY: SURFACE MOTION
 AU3275_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 AU3275+SATELLITE: SATELLITE OBSERVATIONS - November 30, 1999

AU3275

AU3275	HISTORY	- Date	Condition	Report By
AU3275	HISTORY	- 1986	MONUMENTED	NGS
AU3275	HISTORY	- 1986	GOOD	LADTD
AU3275	HISTORY	- 19860615	GOOD	NGS
AU3275	HISTORY	- 19861231	GOOD	LADTD
AU3275	HISTORY	- 19870304	GOOD	
AU3275	HISTORY	- 19911015	GOOD	LADTD
AU3275	HISTORY	- 19920227	GOOD	
AU3275	HISTORY	- 19930305	GOOD	NGS
AU3275	HISTORY	- 19990429	GOOD	NGS
AU3275	HISTORY	- 19991130	GOOD	CDSMS

AU3275

STATION DESCRIPTION

AU3275

AU3275'DESCRIBED BY NATIONAL GEODETIC SURVEY 1986 (SLC)
 AU3275'THE STATION IS LOCATED ABOUT 3.2 KM (2 MI) NORTHWEST OF PATTERSON
 AU3275'AND AT THE PATTERSON, H.P. WILLIAMS MEMORIAL AIRPORT ACROSS THE
 AU3275'RUNWAY FROM THE TIBBS FLYING SERVICE HANGAR.
 AU3275'OWNERSHIP--LOUISIANA DEPT. OF PUBLIC WORKS, FOR ENTRANCE INTO THE
 AU3275'AIRPORT, CONTACT MR. AUBREY BERGERON, PHONE 504-395-3921.
 AU3275'
 AU3275'TO REACH THE STATION FROM THE CENTER OF THE EAST BOUND BRIDGE OVER
 AU3275'WAX LAKE OUTLET CHANNEL WEST OF PATTERSON, GO EAST ON U.S. HIGHWAY
 AU3275'90 FOR 2.8 KM (1.75 MI) TO ZENOR ROAD. TURN LEFT AND GO NORTH FOR
 AU3275'1 KM (0.6 MI) TO THE SOUTH ENTRANCE, THEN TURN RIGHT AND GO 0.8 KM
 AU3275'(1.1 MI) EAST TO TERMINAL BUILDING, GO NORTHWEST FOR 0.1 KM (0.05
 AU3275'MI) TO THE TAXIWAY, THEN SOUTHWEST ON THE TAXIWAY FOR 0.3 KM (0.25
 AU3275'MI) TO THE STATION ON THE RIGHT AT RUNWAY APPROACH.
 AU3275'
 AU3275'THE STATION IS A STANDARD NGS DISK
 AU3275'STAMPED---H P WILLIAMS 1986---,
 AU3275'SET INTO THE TOP OF A ROUND CONCRETE MONUMENT
 AU3275'30 CM IN DIAMETER FLUSH WITH GROUND. LOCATED
 AU3275'79.2 METERS (260 FT) NORTH FROM A WIND TEE ON THE EAST SIDE OF THE
 AU3275'TAXIWAY,
 AU3275'37.2 METERS (122 FT) SOUTH-SOUTHEAST FROM THE SOUTH EDGE OF THE
 AU3275'RUNWAY,
 AU3275'17.7 METERS (58 FT) EAST-NORTHEAST FROM THE CENTER OF AN APPROACH
 AU3275'TO RUNWAY AND
 AU3275'16.5 METERS (54 FT) NORTH-NORTHWEST FROM THE CENTER OF THE TAXIWAY.
 AU3275'THE UNDERGROUND MARK IS A STANDARD NGS DISK
 AU3275'STAMPED---H P WILLIAMS 1986---,
 AU3275'SET INTO AN IRREGULAR MASS OF CONCRETE 1.1 METERS BELOW THE SURFACE.
 AU3275'

AU3275'DESCRIBED BY S.L. CRAIN, TYPED BY DEW.
AU3275
AU3275 STATION RECOVERY (1986)
AU3275
AU3275'RECOVERY NOTE BY LA TRANSP AND DEV 1986
AU3275'RECOVERED IN GOOD CONDITION.
AU3275
AU3275 STATION RECOVERY (1986)
AU3275
AU3275'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1986
AU3275'STATION IS LOCATED ABOUT MIDFIELD BETWEEN THE RUNWAY AND PARALLEL
AU3275'TAXIWAY AT THE SOUTH SIDE OF THE THIRD TAXIWAY SOUTH OF END 23. IT IS
AU3275'123.6 FT (37.7 M) SOUTHEAST OF THE POINT OF CURVE WHERE THE TAXIWAY
AU3275'MEETS THE RUNWAY, 39.0 FT (11.9 M) SOUTHWEST OF THE TAXIWAY LIGHT
AU3275'ADJACENT TO THE HOLD BAR, 18.0 FT (5.5 M) NORTHWEST OF THE SECOND
AU3275'TAXIWAY LIGHT SOUTH OF THE HOLD BAR AND 13.6 FT (4.1 M) WEST OF THE
AU3275'TAXIWAY LIGHT AT THE CENTER OF THE CURVE. A NGS HORIZONTAL CONTROL
AU3275'MARK DISK SET IN THE TOP OF A CONCRETE MONUMENT FLUSH WITH THE GROUND
AU3275'AND STAMPED HP WILLIAMS 1986.
AU3275
AU3275 STATION RECOVERY (1986)
AU3275
AU3275'RECOVERY NOTE BY LA TRANSP AND DEV 1986 (SLC)
AU3275'RECOVERED AS DESCRIBED.
AU3275
AU3275 STATION RECOVERY (1987)
AU3275
AU3275'RECOVERED 1987
AU3275'RECOVERED IN GOOD CONDITION.
AU3275
AU3275 STATION RECOVERY (1991)
AU3275
AU3275'RECOVERY NOTE BY LA TRANSP AND DEV 1991
AU3275'THE STATION IS LOCATED ABOUT 12.5 MI (20.1 KM) SOUTHEAST OF FRANKLIN,
AU3275'5.0 MI (8.0 KM) WEST OF MORGAN CITY, 2.0 MI (3.2 KM) NORTHWEST OF
AU3275'PATTERSON, AT THE PATTERSON-H.P. WILLIAMS MEMORIAL AIRPORT ACROSS THE
AU3275'RUNWAY FROM THE TIBBS FLYING SERVICE HANGER. OWNERSHIP--MR. M. C.
AU3275'PERRY, PHONE 504-395-4501.
AU3275'TO REACH THE STATION FROM THE CENTER OF THE EAST BOUND BRIDGE OVER WAX
AU3275'LAKE OUTLET CHANNEL, WEST OF PATTERSON, GO EAST FOR 1.75 MI
AU3275'(2.82 KM) ON U.S. HIGHWAY 90 TO THE JUNCTION WITH ZENOR ROAD, TURN
AU3275'LEFT AND GO NORTH FOR 0.6 MI (1.0 KM) TO THE SOUTH ENTRANCE OF THE
AU3275'AIRPORT, TURN RIGHT AND GO EAST FOR 1.1 MI (1.8 KM) ON THE ENTRANCE
AU3275'ROAD TO THE TERMINAL BUILDING, THEN GO NORTHWEST FOR 0.05 MI
AU3275'(0.08 KM) TO THE TAXIWAY, THEN GO SOUTHWEST FOR 0.25 MI (0.40 KM) ON
AU3275'THE TAXIWAY TO THE STATION SET ON THE RIGHT AT A RUNWAY APPROACH.
AU3275'THE STATION IS 260.0 FT (79.2 M) NORTH-NORTHWEST FROM A WIND TEE ON
AU3275'THE EAST SIDE OF THE TAXIWAY, 122.0 FT (37.2 M) WEST-SOUTHWEST FROM
AU3275'THE SOUTH EDGE OF THE RUNWAY, 58.0 FT (17.7 M) WEST-SOUTHWEST FROM
AU3275'THE CENTER OF AN RUNWAY APPROACH, 54.0 FT (16.5 M) NORTHWEST FROM THE
AU3275'CENTER OF THE TAXIWAY, 42.0 FT (12.8 M) SOUTH-SOUTHEAST FROM A GUIDE
AU3275'SIGN NUMBER 5-23, 1.0 FT (0.3 M) EAST FROM A FIBERGLASS WITNESS POST,
AU3275'FLUSH WITH THE GROUND SURFACE AND ABOUT LEVEL WITH THE RUNWAY.
AU3275'NOTE--CALL IN ADVANCE.
AU3275
AU3275 STATION RECOVERY (1992)
AU3275
AU3275'RECOVERED 1992
AU3275'RECOVERED IN GOOD CONDITION.

AU3275

AU3275

STATION RECOVERY (1993)

AU3275

AU3275'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1993

AU3275'0.4 KM (0.25 MI) NORTHEASTERLY ALONG CATHERINE STREET FROM THE POST
AU3275'OFFICE IN PATTERSON, THENCE 6.6 KM (4.10 MI) WESTERLY ALONG STATE
AU3275'HIGHWAY 182, THENCE 0.2 KM (0.10 MI) SOUTHERLY ALONG A TAXIWAY OF THE
AU3275'WILLIAMS MEMORIAL AIRPORT, 59.7 M (195.9 FT) SOUTHEAST OF THE
AU3275'CENTERLINE OF A RUNWAY, 17.7 M (58.1 FT) SOUTHWEST OF THE CENTERLINE
AU3275'OF THE TAXIWAY, 16.7 M (54.8 FT) NORTHWEST OF THE CENTERLINE OF A
AU3275'TAXIWAY, 12.9 M (42.3 FT) SOUTHEAST OF THE SOUTHWEST SUPPORT POST OF
AU3275'A SIGN (5-23), 0.3 M (1.0 FT) BELOW THE LEVEL OF THE TAXIWAY, 0.3 M
AU3275'(1.0 FT) EAST-SOUTHEAST OF A WITNESS POST, AND THE MONUMENT IS FLUSH
AU3275'WITH THE GROUND SURFACE. NOTE--THE MARK IS ON PROPERTY OWNED BY
AU3275'WILLIAMS MEMORIAL AIRPORT, P.O. BOX 85, PATTERSON, LA 70392,
AU3275'CONTACT--CONNIE FOURNET--MANAGER, TELEPHONE NUMBER (504) 385-2520.

AU3275

AU3275

STATION RECOVERY (1999)

AU3275

AU3275'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1999 (AJL)

AU3275'THE STATION IS LOCATED ABOUT 3 KM (1.85 MI) NORTHWEST OF PATTERSON AT
AU3275'THE HARRY P. WILLIAMS MEMORIAL AIRPORT, NEAR MIDFIELD, BETWEEN THE
AU3275'RUNWAY AND THE PARALLEL TAXI, IN THE WEST QUADRANT OF THE JUNCTION OF
AU3275'THE PARALLEL TAXI AND THE MIDFIELD CONNECTOR TAXI, NORTH OF AND ACROSS
AU3275'THE PARALLEL TAXI FROM A WIND TEE AND A WINDSOCK. OWNERSHIP--KEN
AU3275'PERRY, VICE PRESIDENT AND GENERAL MANAGER, HARRY P. WILLIAMS MEMORIAL
AU3275'AIRPORT, P.O. BOX 85, PATTERSON, LA 70392. PHONE 504-395-4501. FAX
AU3275'504-395-5648. FBO IS DONNEY DORSEY. PHONE 504-395 5401. CONTACT ONE
AU3275'OF THEM FOR PERMISSION TO OCCUPY THIS STATION AND ACCESS THROUGH THE
AU3275'LOCKED GATE. TO REACH FROM THE JUNCTION OF U.S. HIGHWAY 90 AND STATE
AU3275'HIGHWAY 182 ABOUT 3 KM (1.85 MI) NORTHWEST OF PATTERSON, GO SOUTHEAST
AU3275'ON HIGHWAY 90 FOR 1.61 KM (1.00 MI) TO THE JUNCTION OF ZENOR ROAD ON
AU3275'THE LEFT. TURN LEFT, NORTHERLY, ON THE ROAD FOR 0.90 KM (0.55 MI) TO
AU3275'THE SOUTH AIRPORT ENTRANCE ROAD ON THE RIGHT. TURN RIGHT, NORTHEAST,
AU3275'ON THE ROAD PASSING THE OLD TERMINAL FOR 1.61 KM (1.00 MI) TO A LOCKED
AU3275'GATE. PASS THROUGH THE GATE, NORTHEAST, FOR 50 M (164.0 FT) TO A GATE
AU3275'AT THE APRON. TURN LEFT, NORTH, ACROSS THE APRON PASSING THE OFFICE
AU3275'AND HANGAR FOR 0.20 KM (0.10 MI) TO THE JUNCTION OF THE NORTHEAST
AU3275'CONNECTOR TAXI FROM THE RAMP AND THE PARALLEL TAXI. TURN LEFT,
AU3275'SOUTHWEST, ALONG THE PARALLEL TAXI FOR 0.40 KM (0.25 MI) TO THE
AU3275'STATION ON THE RIGHT. THE STATION IS SET IN THE TOP OF A 30 CM ROUND
AU3275'CONCRETE POST SET FLUSH WITH THE GROUND. IT IS 59.9 M (196.5 FT)
AU3275'SOUTHEAST OF THE RUNWAY CENTER, 16.6 M (54.5 FT) SOUTHWEST OF THE
AU3275'CONNECTOR TAXI CENTER, 16.6 M (54.5 FT) NORTHWEST OF THE PARALLEL TAXI
AU3275'CENTER, 12.9 M (42.3 FT) SOUTHEAST OF THE SOUTHWEST POST FOR RUNWAY
AU3275'SIGN 6-24, 6.1 M (20.0 FT) SOUTHEAST OF THE EXTENDED STOP LINE CENTER,
AU3275'AND 0.3 M (1.0 FT) EAST-SOUTHEAST OF A FIBERGLASS WITNESS POST.
AU3275'NOTE--THIS IS THE PRIMARY AIRPORT CONTROL STATION (PACS) .

AU3275

AU3275

STATION RECOVERY (1999)

AU3275

AU3275'RECOVERY NOTE BY CDS/MUERY SERVICES 1999 (REG)

AU3275'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:01

Appendix B

Fundamental Vertical Accuracy Point List

Point ID	LAT	LONG	Easting	Northing	Elevation	Ellipsoid	Feature Code
2_12	30°19'03.996001020"	91°47'20.246446274"	616432.615	3354619.643	2.552	-24.822	FVA
2_14	30°19'03.886707353"	91°47'20.225325836"	616433.215	3354616.284	2.583	-24.79	FVA
3_4	29°48'54.916903427"	91°27'06.777799352"	649597.388	3299319.39	3.779	-22.166	FVA
3_5	29°48'54.816960860"	91°27'06.870028423"	649594.953	3299316.28	3.799	-22.146	FVA
3_6	29°48'54.721298211"	91°27'06.957670330"	649592.64	3299313.303	3.822	-22.123	FVA
8_4	29°54'04.906971762"	91°31'09.263717784"	642964.971	3308776.737	1.945	-24.349	FVA
8_6	29°54'04.762032638"	91°31'08.852989568"	642976.045	3308772.417	1.927	-24.367	FVA
9_17	29°41'57.601403103"	91°21'45.145567405"	658414.142	3286591.576	2.276	-23.267	FVA
10_8	29°54'07.747815157"	91°12'30.329348091"	672976.824	3309291.575	1.926	-24.19	FVA
11_4	29°43'01.356312620"	91°12'09.015805521"	673868.607	3288784.405	-0.278	-25.84	FVA
11_6	29°43'01.175814100"	91°12'08.928390998"	673871.043	3288778.885	-0.268	-25.83	FVA
12_27	30°13'04.242578275"	91°41'37.716974877"	625708.327	3343646.006	4.001	-23.253	FVA
14_7	30°26'58.220312458"	91°45'24.790904224"	619356.001	3369252.168	7.779	-19.65	FVA
14_9	30°26'58.103237621"	91°45'24.659565995"	619359.544	3369248.602	7.813	-19.616	FVA
15_5	30°07'54.641168855"	91°19'17.451787265"	661683.188	3334584.03	1.63	-25.249	FVA
16_5	29°58'37.007335277"	91°32'51.386157482"	640119.854	3317118.317	1.425	-25.16	FVA
19_13	30°27'58.264385035"	91°32'44.159370949"	639620.602	3371342.827	4.792	-22.583	FVA
19_15	30°27'58.185176051"	91°32'44.194776858"	639619.689	3371340.377	4.789	-22.585	FVA
19_17	30°27'58.080125885"	91°32'44.158849066"	639620.689	3371337.155	4.755	-22.619	FVA
19_19	30°27'57.960646333"	91°32'44.129215698"	639621.527	3371333.486	4.746	-22.629	FVA

Appendix C

Ground Truth Point Comparisons

Ground Truth point comparisons: Horizontal =Meters [UTM Zone 16 North, NAD83]
 Vertical units = Meters [NAVD88]

Survey X	Survey Y	Survey Z	LiDAR X	LiDAR Y	LiDAR Z	dx	dy	dz	dist	FeatureCode
645727.3	3326373	-23.33	645728	3326373	-22.84	-0.65	0.05	-0.5	0.65	High Veg.
643030.6	3308871	-25.01	643029.8	3308871	-24.56	0.83	0.52	-0.45	0.98	High Veg.
645738.1	3326394	-23.41	645738.5	3326394	-23.02	-0.41	0.8	-0.39	0.9	High Veg.
645738.2	3326395	-23.41	645738.5	3326394	-23.02	-0.35	0.92	-0.39	0.99	High Veg.
645735.7	3326390	-23.46	645736.2	3326390	-23.09	-0.49	-0.02	-0.38	0.49	High Veg.
645735.9	3326390	-23.44	645736.2	3326390	-23.09	-0.36	-0.05	-0.36	0.37	High Veg.
640117.2	3317085	-25.61	640117.6	3317086	-25.31	-0.4	-0.89	-0.3	0.98	High Veg.
645731	3326380	-23.32	645730.3	3326380	-23.04	0.65	-0.21	-0.29	0.68	High Veg.
661745.5	3334579	-25.2	661745.2	3334579	-24.93	0.34	-0.01	-0.27	0.34	High Veg.
645733.9	3326386	-23.41	645733.9	3326387	-23.15	0.03	-0.26	-0.26	0.26	High Veg.
645736.9	3326393	-23.43	645736.3	3326392	-23.18	0.52	0.71	-0.25	0.88	High Veg.
645726.5	3326370	-23.26	645725.8	3326370	-23.03	0.69	-0.07	-0.23	0.7	High Veg.
661753.3	3334586	-24.87	661752.8	3334587	-24.66	0.48	-0.73	-0.22	0.88	High Veg.
661747.2	3334582	-25.2	661747.5	3334581	-25	-0.26	0.44	-0.21	0.51	High Veg.
645734.6	3326387	-23.38	645734.7	3326387	-23.17	-0.1	0.24	-0.21	0.26	High Veg.
645737	3326392	-23.39	645736.3	3326392	-23.18	0.72	0.44	-0.21	0.84	High Veg.
645734.7	3326388	-23.38	645734.7	3326387	-23.17	0.02	0.78	-0.21	0.78	High Veg.
643034.3	3308879	-25.03	643034.6	3308878	-24.82	-0.38	0.79	-0.21	0.87	High Veg.
645733.6	3326386	-23.39	645734	3326386	-23.19	-0.43	-0.78	-0.2	0.9	High Veg.
640129.2	3317093	-25.44	640129	3317093	-25.25	0.18	-0.02	-0.19	0.18	High Veg.
661750.5	3334588	-24.9	661749.9	3334588	-24.72	0.56	0.53	-0.18	0.77	High Veg.
631644.4	3360471	-20.75	631645.3	3360471	-20.57	-0.89	0.43	-0.18	0.98	High Veg.
643035.6	3308883	-25.01	643035.5	3308883	-24.84	0.05	0.12	-0.18	0.13	High Veg.
643038	3308884	-25.01	643037.3	3308884	-24.83	0.75	0.46	-0.18	0.88	High Veg.
631657.3	3360490	-20.95	631657.6	3360490	-20.78	-0.27	-0.19	-0.17	0.33	High Veg.
667331.6	3325523	-25.11	667330.8	3325524	-24.96	0.82	-0.49	-0.16	0.96	High Veg.
667332	3325527	-25.15	667331.3	3325528	-24.99	0.7	-0.37	-0.16	0.79	High Veg.
640119.6	3317087	-25.54	640119.4	3317086	-25.38	0.21	0.97	-0.15	0.99	High Veg.
640123.8	3317092	-25.63	640123.8	3317093	-25.49	-0.05	-0.87	-0.15	0.87	High Veg.
640120.2	3317091	-25.68	640121.2	3317091	-25.52	-0.94	0.3	-0.15	0.99	High Veg.

645732.4	3326383	-23.36	645732.3	3326383	-23.21	0.08	-0.23	-0.15	0.25	High Veg.
643040.2	3308887	-25.04	643040.9	3308887	-24.89	-0.67	-0.33	-0.15	0.75	High Veg.
643042.3	3308888	-25.04	643042.7	3308888	-24.89	-0.46	-0.35	-0.15	0.58	High Veg.
609303.2	3380162	-21.79	609303.6	3380163	-21.65	-0.39	-0.53	-0.14	0.66	High Veg.
640123.9	3317087	-25.65	640123.6	3317087	-25.51	0.3	-0.55	-0.14	0.62	High Veg.
640118.5	3317081	-25.66	640118.1	3317082	-25.52	0.44	-0.57	-0.14	0.72	High Veg.
640123.8	3317092	-25.63	640123.8	3317093	-25.49	-0.02	-0.88	-0.14	0.88	High Veg.
631652.2	3360482	-20.88	631652.9	3360481	-20.75	-0.75	0.56	-0.14	0.94	High Veg.
631658.9	3360491	-20.93	631659.1	3360490	-20.8	-0.19	0.33	-0.14	0.38	High Veg.
631654.7	3360486	-20.93	631654.2	3360487	-20.79	0.5	-0.37	-0.14	0.62	High Veg.
640124.7	3317095	-25.57	640125.4	3317095	-25.43	-0.74	0.51	-0.13	0.9	High Veg.
631642.8	3360469	-20.75	631643.3	3360468	-20.62	-0.42	0.88	-0.13	0.97	High Veg.
631657.3	3360488	-20.91	631656.7	3360488	-20.78	0.56	-0.15	-0.13	0.58	High Veg.
631658.9	3360491	-20.93	631659.1	3360490	-20.8	-0.21	0.31	-0.13	0.38	High Veg.
643041.4	3308883	-25.03	643041.7	3308882	-24.91	-0.22	0.94	-0.13	0.97	High Veg.
643040.4	3308880	-25.02	643040.7	3308880	-24.9	-0.29	0.38	-0.13	0.48	High Veg.
609294.1	3380157	-21.7	609293.4	3380157	-21.58	0.67	0.61	-0.12	0.9	High Veg.
640126.2	3317090	-25.57	640126.4	3317090	-25.45	-0.22	-0.39	-0.12	0.45	High Veg.
645728.8	3326376	-23.21	645729.5	3326376	-23.09	-0.73	0.04	-0.12	0.73	High Veg.
631655	3360486	-20.91	631654.5	3360486	-20.8	0.51	-0.01	-0.12	0.51	High Veg.
631659.3	3360493	-20.98	631659.7	3360492	-20.86	-0.38	0.64	-0.12	0.75	High Veg.
643032.4	3308875	-25.03	643032.2	3308875	-24.91	0.17	-0.17	-0.12	0.24	High Veg.
643040.4	3308880	-25.02	643040.7	3308880	-24.9	-0.29	0.39	-0.12	0.48	High Veg.
643041.8	3308878	-25.02	643041.8	3308878	-24.9	0.01	-0.47	-0.12	0.47	High Veg.
643036.8	3308868	-25.05	643036.6	3308868	-24.93	0.19	0.48	-0.12	0.52	High Veg.
609304.9	3380162	-21.8	609304.5	3380163	-21.69	0.41	-0.67	-0.11	0.79	High Veg.
661742.9	3334577	-25.15	661743	3334577	-25.05	-0.1	-0.23	-0.11	0.25	High Veg.
640121.2	3317084	-25.61	640121.6	3317084	-25.5	-0.31	0.34	-0.11	0.46	High Veg.
640116.7	3317082	-25.55	640117.2	3317082	-25.44	-0.45	0.79	-0.11	0.91	High Veg.
667338.2	3325533	-25.44	667338.3	3325533	-25.33	-0.04	-0.1	-0.11	0.1	High Veg.
667342.7	3325539	-25.64	667342.3	3325540	-25.53	0.41	-0.58	-0.11	0.71	High Veg.
643040.3	3308875	-25	643040.4	3308876	-24.89	-0.04	-0.66	-0.11	0.66	High Veg.
609299.7	3380157	-21.73	609300.2	3380157	-21.63	-0.45	0.7	-0.1	0.84	High Veg.
667329.5	3325526	-25.07	667329	3325526	-24.96	0.46	0.48	-0.1	0.66	High Veg.
631641	3360467	-20.8	631640.8	3360467	-20.71	0.19	-0.03	-0.09	0.19	High Veg.
643043.1	3308886	-25.03	643044	3308885	-24.94	-0.89	0.42	-0.09	0.99	High Veg.
609304.1	3380160	-21.81	609303.8	3380159	-21.73	0.23	0.68	-0.08	0.72	High Veg.
640121.5	3317089	-25.66	640121.2	3317090	-25.58	0.31	-0.72	-0.08	0.78	High Veg.
661753.3	3334591	-24.85	661753.8	3334591	-24.78	-0.47	-0.17	-0.07	0.5	High Veg.
643038.6	3308872	-25.01	643038.9	3308873	-24.94	-0.38	-0.75	-0.07	0.84	High Veg.
640118.2	3317089	-25.48	640118.5	3317089	-25.42	-0.32	0.44	-0.06	0.55	High Veg.
667334.9	3325528	-25.3	667335.5	3325528	-25.24	-0.56	0	-0.06	0.56	High Veg.
667337.7	3325536	-25.45	667338.4	3325536	-25.39	-0.64	0.38	-0.06	0.74	High Veg.

667330.8	3325525	-25.09	667330.9	3325525	-25.03	-0.05	0.51	-0.06	0.51	High Veg.
609302.4	3380163	-21.7	609302.2	3380163	-21.65	0.19	-0.09	-0.05	0.21	High Veg.
661749.2	3334584	-24.93	661749.7	3334585	-24.88	-0.54	-0.55	-0.05	0.77	High Veg.
667338.9	3325538	-25.54	667338.4	3325538	-25.5	0.5	-0.12	-0.05	0.52	High Veg.
667333.4	3325529	-25.25	667333.6	3325529	-25.21	-0.24	-0.02	-0.05	0.24	High Veg.
609297.5	3380157	-21.69	609297.5	3380157	-21.64	0.05	-0.35	-0.04	0.36	High Veg.
609303	3380159	-21.77	609303.8	3380159	-21.73	-0.81	-0.05	-0.04	0.81	High Veg.
609303	3380159	-21.77	609303.8	3380159	-21.73	-0.81	-0.03	-0.04	0.81	High Veg.
609305.4	3380164	-21.81	609305.3	3380164	-21.76	0.12	0.72	-0.04	0.73	High Veg.
661741.5	3334574	-25.1	661741.4	3334574	-25.06	0.1	-0.22	-0.04	0.24	High Veg.
640122.3	3317094	-25.67	640122.2	3317093	-25.63	0.06	0.73	-0.04	0.74	High Veg.
667336.6	3325531	-25.38	667335.9	3325531	-25.34	0.63	-0.57	-0.04	0.85	High Veg.
667336.3	3325534	-25.39	667336.1	3325534	-25.35	0.27	-0.1	-0.04	0.29	High Veg.
609294.7	3380160	-21.67	609294.8	3380160	-21.64	-0.11	-0.23	-0.03	0.25	High Veg.
661753.9	3334589	-24.87	661753.5	3334590	-24.84	0.38	-0.8	-0.03	0.88	High Veg.
661747.8	3334588	-24.93	661748.8	3334588	-24.91	-0.95	-0.15	-0.02	0.96	High Veg.
667335	3325532	-25.33	667335.3	3325532	-25.31	-0.32	-0.45	-0.02	0.55	High Veg.
631646	3360474	-20.75	631646.3	3360474	-20.74	-0.35	-0.09	-0.01	0.36	High Veg.
631647.3	3360476	-20.83	631647.9	3360475	-20.83	-0.61	0.6	-0.01	0.86	High Veg.
609292.4	3380159	-21.71	609291.7	3380159	-21.71	0.68	-0.51	0	0.85	High Veg.
661753.6	3334584	-24.92	661753	3334585	-24.94	0.57	-0.54	0.02	0.79	High Veg.
661748.9	3334586	-24.92	661749.4	3334585	-24.94	-0.48	0.83	0.02	0.96	High Veg.
667340.8	3325537	-25.55	667340.7	3325536	-25.57	0.12	0.32	0.02	0.34	High Veg.
667340.4	3325541	-25.58	667340.7	3325540	-25.6	-0.29	0.53	0.02	0.6	High Veg.
609300.3	3380160	-21.7	609300.9	3380159	-21.74	-0.57	0.54	0.04	0.78	High Veg.
661749.4	3334590	-24.87	661749.5	3334589	-24.91	-0.09	0.8	0.04	0.8	High Veg.
667333.6	3325526	-25.18	667333.2	3325526	-25.21	0.42	-0.6	0.04	0.73	High Veg.
609300.8	3380162	-21.68	609300.5	3380162	-21.73	0.3	0.56	0.05	0.64	High Veg.
609298.4	3380161	-21.65	609298	3380160	-21.73	0.37	0.57	0.09	0.68	High Veg.
625724.1	3343540	-23.8	625724.7	3343540	-23.71	-0.62	0.59	-0.09	0.86	Low Veg.
625725.1	3343545	-23.83	625724.9	3343545	-23.75	0.14	0.44	-0.08	0.46	Low Veg.
625724	3343536	-23.82	625724.6	3343536	-23.74	-0.58	0.12	-0.08	0.59	Low Veg.
640119.1	3317118	-25.19	640119.9	3317117	-25.11	-0.78	0.35	-0.08	0.85	Low Veg.
639620.4	3371339	-22.62	639619.7	3371339	-22.56	0.68	0	-0.07	0.68	Low Veg.
658410.6	3286589	-23.27	658410.1	3286590	-23.2	0.58	-0.68	-0.07	0.89	Low Veg.
639622	3371334	-22.64	639621.1	3371334	-22.57	0.88	-0.16	-0.06	0.89	Low Veg.
639621.2	3371337	-22.63	639620.5	3371337	-22.57	0.74	-0.41	-0.06	0.84	Low Veg.
642969.7	3308774	-24.36	642970.6	3308775	-24.3	-0.86	-0.35	-0.06	0.93	Low Veg.
639619.8	3371341	-22.63	639620.4	3371342	-22.58	-0.64	-0.73	-0.05	0.97	Low Veg.
673868.5	3288784	-25.82	673868.3	3288784	-25.79	0.27	0.17	-0.04	0.32	Low Veg.
640122.5	3317119	-25.09	640123.3	3317119	-25.05	-0.85	0.07	-0.04	0.86	Low Veg.
639621.9	3371338	-22.59	639621.2	3371338	-22.55	0.7	0.13	-0.04	0.71	Low Veg.
658413.9	3286591	-23.26	658413.4	3286592	-23.22	0.56	-0.73	-0.04	0.93	Low Veg.

658416.9	3286593	-23.28	658416.4	3286594	-23.24	0.48	-0.43	-0.04	0.64	Low Veg.
640116.4	3317117	-25.2	640116.5	3317116	-25.17	-0.05	0.44	-0.03	0.44	Low Veg.
639623.5	3371330	-22.65	639623.2	3371330	-22.63	0.26	-0.06	-0.03	0.27	Low Veg.
639622.7	3371332	-22.65	639622.1	3371331	-22.62	0.59	0.73	-0.03	0.94	Low Veg.
616433	3354618	-24.8	616433.7	3354617	-24.76	-0.72	0.69	-0.03	1	Low Veg.
642973.5	3308773	-24.36	642973.8	3308773	-24.33	-0.31	0.3	-0.03	0.43	Low Veg.
639619.2	3371343	-22.59	639619.6	3371343	-22.58	-0.48	-0.23	-0.02	0.53	Low Veg.
639620.7	3371342	-22.56	639621.3	3371342	-22.54	-0.6	0.35	-0.02	0.69	Low Veg.
616432.6	3354621	-24.81	616432.9	3354620	-24.8	-0.3	0.65	-0.01	0.71	Low Veg.
642965	3308777	-24.34	642965.2	3308777	-24.34	-0.16	-0.25	-0.01	0.3	Low Veg.
673870	3288781	-25.84	673869.8	3288782	-25.84	0.25	-0.44	0	0.51	Low Veg.
616432.4	3354622	-24.8	616432.2	3354622	-24.79	0.2	0.02	0	0.2	Low Veg.
616433.2	3354616	-24.77	616434	3354617	-24.77	-0.83	-0.25	0	0.86	Low Veg.
649595.7	3299316	-22.15	649595.6	3299317	-22.15	0.1	-0.45	0	0.46	Low Veg.
639621.3	3371340	-22.57	639620.6	3371340	-22.58	0.73	0.01	0.01	0.73	Low Veg.
616432.8	3354619	-24.79	616432.9	3354620	-24.8	-0.14	-0.85	0.01	0.86	Low Veg.
673871.4	3288778	-25.82	673870.6	3288778	-25.84	0.81	-0.25	0.02	0.84	Low Veg.
616434.3	3354606	-24.73	616434.4	3354607	-24.75	-0.11	-0.61	0.02	0.62	Low Veg.
616434	3354608	-24.75	616434.5	3354609	-24.77	-0.57	-0.45	0.02	0.72	Low Veg.
616433.6	3354611	-24.76	616434.1	3354611	-24.78	-0.49	-0.24	0.02	0.54	Low Veg.
616433.4	3354613	-24.77	616432.8	3354613	-24.79	0.55	0.45	0.02	0.71	Low Veg.
616433.3	3354615	-24.77	616433.9	3354615	-24.79	-0.55	-0.34	0.02	0.65	Low Veg.
649593.9	3299313	-22.11	649594.2	3299313	-22.13	-0.23	-0.35	0.02	0.42	Low Veg.
661682.3	3334589	-25.26	661683.2	3334589	-25.3	-0.9	-0.24	0.03	0.93	Low Veg.
661683.1	3334585	-25.23	661682.5	3334585	-25.26	0.58	-0.4	0.03	0.7	Low Veg.
661684	3334580	-25.27	661683.6	3334579	-25.29	0.41	0.59	0.03	0.72	Low Veg.
649597.4	3299319	-22.16	649596.7	3299319	-22.19	0.74	0.47	0.03	0.87	Low Veg.
619361.4	3369247	-19.64	619360.6	3369246	-19.68	0.84	0.08	0.04	0.84	Low Veg.
619359.8	3369248	-19.62	619360.5	3369249	-19.67	-0.63	-0.63	0.04	0.89	Low Veg.
619358	3369250	-19.61	619358.9	3369250	-19.66	-0.9	0.3	0.05	0.95	Low Veg.
619356.3	3369252	-19.65	619356.6	3369252	-19.7	-0.34	-0.09	0.05	0.35	Low Veg.
619354.2	3369254	-19.68	619354.1	3369253	-19.73	0.07	0.83	0.05	0.83	Low Veg.
672974.2	3309294	-24.13	672973.5	3309294	-24.21	0.72	-0.42	0.08	0.83	Low Veg.
672975.1	3309292	-24.13	672975.1	3309293	-24.23	0.01	-0.41	0.1	0.41	Low Veg.
672975.9	3309290	-24.06	672976.1	3309290	-24.2	-0.17	0.35	0.14	0.39	Low Veg.
628734.8	3381138	-20.66	628733.9	3381138	-20.49	0.93	-0.07	-0.18	0.93	Low Veg.
628734.2	3381145	-20.64	628733.6	3381145	-20.46	0.58	0.56	-0.18	0.81	Low Veg.
628734.8	3381138	-20.64	628733.9	3381138	-20.49	0.89	-0.07	-0.16	0.89	Low Veg.
628733.5	3381153	-20.61	628732.7	3381153	-20.45	0.74	0.15	-0.16	0.75	Low Veg.
628733.9	3381145	-20.58	628733.2	3381146	-20.43	0.71	-0.64	-0.15	0.96	Low Veg.
628733.5	3381148	-20.6	628732.9	3381148	-20.45	0.61	-0.01	-0.15	0.61	Low Veg.
628733.8	3381149	-20.63	628734.5	3381149	-20.49	-0.64	0.04	-0.14	0.64	Low Veg.
628733.2	3381152	-20.59	628732.4	3381152	-20.47	0.83	-0.06	-0.12	0.84	Low Veg.

628734.6	3381142	-20.64	628734.9	3381142	-20.53	-0.35	-0.42	-0.11	0.55	Low Veg.
625723	3343583	-23.89	625723.3	3343583	-23.79	-0.32	0.23	-0.1	0.4	Low Veg.
628734.3	3381142	-20.62	628734.9	3381142	-20.53	-0.61	-0.32	-0.1	0.69	Low Veg.
658277	3286455	-23.88	658277.6	3286454	-23.78	-0.55	0.61	-0.1	0.82	Low Veg.
639612.3	3371346	-22.73	639613.2	3371346	-22.64	-0.9	-0.26	-0.09	0.93	Low Veg.
658280.3	3286457	-23.9	658280	3286458	-23.81	0.25	-0.84	-0.09	0.88	Low Veg.
625723	3343587	-23.84	625723	3343587	-23.77	0	-0.27	-0.08	0.27	Low Veg.
640115.4	3317135	-24.16	640115.3	3317135	-24.08	0.06	0.61	-0.08	0.61	Low Veg.
639615.8	3371332	-22.81	639615.6	3371332	-22.73	0.22	0.4	-0.08	0.45	Low Veg.
639613.6	3371340	-22.77	639614.2	3371341	-22.69	-0.61	-0.69	-0.08	0.92	Low Veg.
616412.9	3354608	-25.38	616413.6	3354609	-25.3	-0.69	-0.58	-0.08	0.9	Low Veg.
616451.6	3355691	-21.67	616450.8	3355691	-21.59	0.84	-0.5	-0.08	0.98	Low Veg.
658284	3286459	-23.86	658284	3286459	-23.77	-0.06	-0.19	-0.08	0.2	Low Veg.
658284	3286459	-23.85	658284	3286459	-23.77	-0.04	-0.21	-0.08	0.21	Low Veg.
658274.7	3286455	-23.86	658275.2	3286454	-23.78	-0.5	0.49	-0.08	0.7	Low Veg.
639613.9	3371338	-22.77	639613.2	3371339	-22.7	0.75	-0.54	-0.07	0.93	Low Veg.
639611.3	3371342	-22.75	639612.1	3371342	-22.67	-0.84	-0.21	-0.07	0.86	Low Veg.
639612.8	3371342	-22.75	639612.1	3371342	-22.67	0.74	0.35	-0.07	0.82	Low Veg.
639613.8	3371337	-22.75	639613.3	3371337	-22.68	0.45	-0.03	-0.07	0.45	Low Veg.
616452.4	3355698	-21.73	616452	3355699	-21.66	0.38	-0.24	-0.07	0.45	Low Veg.
658279.8	3286457	-23.88	658280	3286458	-23.81	-0.2	-0.69	-0.07	0.72	Low Veg.
639615.1	3371334	-22.77	639615.1	3371335	-22.71	0.07	-0.84	-0.06	0.84	Low Veg.
639612.9	3371342	-22.74	639612.1	3371342	-22.67	0.82	0.08	-0.06	0.83	Low Veg.
639613.2	3371339	-22.76	639613.2	3371339	-22.7	0.09	0.4	-0.06	0.41	Low Veg.
639614.3	3371335	-22.77	639614.9	3371336	-22.7	-0.56	-0.14	-0.06	0.57	Low Veg.
641883.9	3365787	-24.55	641883	3365787	-24.48	0.9	0.34	-0.06	0.96	Low Veg.
625723	3343580	-23.92	625722.8	3343580	-23.87	0.23	-0.93	-0.05	0.95	Low Veg.
625723	3343580	-23.92	625722.8	3343580	-23.87	0.22	-0.93	-0.05	0.95	Low Veg.
640112.5	3317142	-24.06	640111.7	3317142	-24.01	0.77	-0.63	-0.05	1	Low Veg.
640112.5	3317142	-24.06	640111.7	3317142	-24.01	0.76	-0.62	-0.05	0.98	Low Veg.
639614.6	3371336	-22.76	639614.9	3371336	-22.7	-0.27	0.57	-0.05	0.63	Low Veg.
639610.3	3371345	-22.77	639610.1	3371346	-22.72	0.25	-0.96	-0.05	0.99	Low Veg.
639612.2	3371335	-22.75	639612.1	3371334	-22.7	0.07	0.55	-0.05	0.56	Low Veg.
616413.5	3354604	-25.42	616413.7	3354605	-25.37	-0.12	-0.39	-0.05	0.41	Low Veg.
641877.7	3365784	-24.39	641878.3	3365784	-24.34	-0.57	0.7	-0.05	0.9	Low Veg.
641885.2	3365788	-24.59	641884.5	3365788	-24.55	0.63	-0.62	-0.05	0.88	Low Veg.
641875.5	3365784	-24.37	641875.4	3365783	-24.32	0.11	0.35	-0.05	0.37	Low Veg.
625722.8	3343587	-23.81	625723	3343587	-23.77	-0.26	-0.04	-0.04	0.26	Low Veg.
640114.2	3317139	-24.09	640113.4	3317139	-24.05	0.85	-0.01	-0.04	0.85	Low Veg.
667379.4	3325407	-23.54	667378.6	3325407	-23.51	0.8	-0.42	-0.04	0.91	Low Veg.
667379.4	3325406	-23.54	667378.6	3325407	-23.51	0.79	-0.45	-0.04	0.91	Low Veg.
639610.9	3371343	-22.73	639611	3371343	-22.69	-0.14	-0.22	-0.04	0.26	Low Veg.
639613.5	3371333	-22.76	639614.1	3371334	-22.72	-0.63	-0.69	-0.04	0.94	Low Veg.

641888.8	3365790	-24.71	641887.9	3365790	-24.66	0.89	0.03	-0.04	0.89	Low Veg.
609263.9	3380078	-21.79	609263.9	3380077	-21.75	0.03	0.47	-0.03	0.47	Low Veg.
625722.9	3343584	-23.88	625722.7	3343585	-23.85	0.22	-0.61	-0.03	0.65	Low Veg.
639612.4	3371344	-22.72	639611.9	3371344	-22.69	0.43	-0.07	-0.03	0.44	Low Veg.
639610.9	3371343	-22.72	639611	3371343	-22.69	-0.16	-0.2	-0.03	0.26	Low Veg.
649528.8	3299247	-22.15	649528.6	3299248	-22.12	0.22	-0.93	-0.03	0.96	Low Veg.
641883.4	3365787	-24.51	641883	3365787	-24.48	0.42	-0.13	-0.03	0.43	Low Veg.
641886.9	3365789	-24.63	641887.2	3365789	-24.6	-0.26	-0.56	-0.03	0.62	Low Veg.
641876.8	3365784	-24.4	641876.2	3365784	-24.36	0.58	0.34	-0.03	0.68	Low Veg.
609279	3380080	-21.56	609278.8	3380080	-21.54	0.14	0.01	-0.02	0.14	Low Veg.
640114.8	3317138	-24.12	640114.6	3317138	-24.11	0.16	-0.36	-0.02	0.4	Low Veg.
640113.9	3317138	-24.07	640113.4	3317139	-24.05	0.52	-0.8	-0.02	0.95	Low Veg.
639612.2	3371344	-22.7	639611.6	3371345	-22.69	0.64	-0.63	-0.02	0.9	Low Veg.
639615.1	3371334	-22.73	639615	3371334	-22.71	0.09	-0.64	-0.02	0.65	Low Veg.
616412.6	3354610	-25.32	616413	3354610	-25.3	-0.44	-0.04	-0.02	0.44	Low Veg.
616451.9	3355694	-21.67	616451.3	3355693	-21.65	0.53	0.17	-0.02	0.56	Low Veg.
616452.7	3355701	-21.76	616452.1	3355701	-21.73	0.63	0.1	-0.02	0.64	Low Veg.
649531.3	3299250	-22.11	649532	3299250	-22.09	-0.78	-0.27	-0.02	0.82	Low Veg.
641890.3	3365791	-24.7	641889.5	3365791	-24.67	0.79	-0.39	-0.02	0.88	Low Veg.
641888.3	3365789	-24.68	641887.9	3365790	-24.66	0.38	-0.31	-0.02	0.49	Low Veg.
641878.5	3365785	-24.4	641878.6	3365784	-24.38	-0.14	0.83	-0.02	0.84	Low Veg.
641874.1	3365783	-24.33	641874.6	3365783	-24.31	-0.54	0.62	-0.02	0.83	Low Veg.
616413.7	3354602	-25.41	616414.5	3354602	-25.4	-0.78	0.13	-0.01	0.79	Low Veg.
616451.2	3355688	-21.67	616450.5	3355687	-21.66	0.63	0.36	-0.01	0.72	Low Veg.
649528.9	3299247	-22.14	649528.1	3299247	-22.13	0.78	0.18	-0.01	0.8	Low Veg.
641875.9	3365783	-24.33	641875.4	3365783	-24.32	0.45	0.06	-0.01	0.45	Low Veg.
641881.6	3365786	-24.45	641881.4	3365786	-24.44	0.22	0.22	-0.01	0.31	Low Veg.
641890.3	3365791	-24.68	641889.5	3365791	-24.67	0.8	-0.4	-0.01	0.89	Low Veg.
641880.1	3365786	-24.41	641879.3	3365786	-24.4	0.78	-0.36	-0.01	0.86	Low Veg.
609275.3	3380079	-21.63	609276.2	3380080	-21.63	-0.84	-0.19	0	0.86	Low Veg.
609271.3	3380079	-21.71	609272.1	3380078	-21.71	-0.76	0.59	0	0.97	Low Veg.
609271.3	3380079	-21.71	609272.1	3380078	-21.71	-0.81	0.56	0	0.98	Low Veg.
661748.7	3334494	-22.54	661748.4	3334495	-22.54	0.32	-0.34	0	0.47	Low Veg.
667375.2	3325412	-23.56	667374.8	3325412	-23.56	0.39	0.4	0	0.56	Low Veg.
616413.2	3354606	-25.36	616413	3354606	-25.36	0.16	0.07	0	0.18	Low Veg.
616411.4	3354616	-25.31	616411.9	3354616	-25.31	-0.48	0.53	0	0.71	Low Veg.
616411.7	3354614	-25.32	616411.4	3354615	-25.32	0.24	-0.88	0	0.91	Low Veg.
616412.4	3354609	-25.35	616412.7	3354609	-25.35	-0.33	0.28	0	0.43	Low Veg.
616449.9	3355685	-21.57	616449.3	3355685	-21.57	0.55	-0.17	0	0.57	Low Veg.
616452.9	3355703	-21.76	616452.4	3355703	-21.76	0.45	0.01	0	0.45	Low Veg.
616453.7	3355708	-21.8	616453.6	3355707	-21.8	0.07	0.69	0	0.69	Low Veg.
649531.6	3299250	-22.09	649531.2	3299250	-22.1	0.46	0.61	0	0.77	Low Veg.
641874.2	3365782	-24.29	641873.9	3365782	-24.3	0.32	0.2	0	0.38	Low Veg.

641879.7	3365785	-24.42	641879.8	3365785	-24.42	-0.16	0.33	0	0.37	Low Veg.
641885.9	3365788	-24.61	641885.6	3365788	-24.61	0.36	0.28	0	0.46	Low Veg.
641882	3365787	-24.45	641881.4	3365786	-24.44	0.62	0.72	0	0.95	Low Veg.
667377.4	3325409	-23.52	667377.6	3325408	-23.52	-0.2	0.98	0.01	1	Low Veg.
616411.9	3354614	-25.31	616411.4	3354615	-25.32	0.42	-0.66	0.01	0.78	Low Veg.
616411.1	3354618	-25.26	616411.6	3354618	-25.27	-0.49	0.37	0.01	0.61	Low Veg.
616411.1	3354616	-25.31	616410.9	3354616	-25.32	0.2	0.17	0.01	0.26	Low Veg.
609268.1	3380078	-21.74	609267.9	3380079	-21.76	0.19	-0.59	0.02	0.62	Low Veg.
661750.2	3334489	-22.54	661749.6	3334489	-22.56	0.68	-0.02	0.02	0.68	Low Veg.
616410.6	3354620	-25.25	616411.3	3354619	-25.27	-0.64	0.7	0.02	0.95	Low Veg.
616410.6	3354620	-25.25	616411.3	3354619	-25.27	-0.64	0.68	0.02	0.93	Low Veg.
616452.1	3355696	-21.72	616452.9	3355696	-21.73	-0.76	0.08	0.02	0.77	Low Veg.
649526.8	3299244	-22.21	649526.4	3299243	-22.23	0.37	0.72	0.02	0.81	Low Veg.
649526.8	3299244	-22.2	649526.4	3299243	-22.23	0.37	0.77	0.02	0.86	Low Veg.
667374.6	3325413	-23.55	667374.1	3325413	-23.58	0.5	0.22	0.03	0.54	Low Veg.
667377	3325410	-23.55	667376.7	3325410	-23.58	0.32	0.1	0.03	0.33	Low Veg.
616412.2	3354612	-25.3	616412.6	3354612	-25.32	-0.34	-0.16	0.03	0.37	Low Veg.
616453	3355706	-21.77	616452.7	3355706	-21.8	0.28	-0.93	0.03	0.97	Low Veg.
661751.8	3334484	-22.53	661752.3	3334484	-22.57	-0.55	-0.34	0.04	0.64	Low Veg.
661751.8	3334484	-22.53	661752	3334483	-22.58	-0.28	0.83	0.04	0.87	Low Veg.
661749.4	3334494	-22.51	661748.8	3334494	-22.56	0.61	-0.09	0.05	0.62	Low Veg.
616412	3354611	-25.27	616412.6	3354612	-25.32	-0.58	-0.67	0.05	0.89	Low Veg.
661751	3334488	-22.5	661750.2	3334488	-22.57	0.79	-0.06	0.07	0.8	Low Veg.
645034.1	3351781	-23.25	645034.5	3351782	-23.11	-0.46	-0.28	-0.14	0.53	Low Veg.
653461.9	3342602	-18.25	653462.1	3342601	-18.12	-0.1	0.7	-0.14	0.71	Low Veg.
653477.6	3342592	-18.19	653477.6	3342591	-18.07	-0.02	0.99	-0.12	0.99	Low Veg.
653459.9	3342603	-18.26	653459.2	3342603	-18.14	0.73	0.3	-0.12	0.79	Low Veg.
645029.8	3351788	-23.29	645029.6	3351788	-23.18	0.18	0.34	-0.11	0.38	Low Veg.
653480	3342590	-18.2	653479.4	3342590	-18.09	0.67	0.16	-0.11	0.69	Low Veg.
653472.1	3342595	-18.22	653471.5	3342594	-18.12	0.69	0.71	-0.11	0.99	Low Veg.
653469.1	3342597	-18.24	653468.8	3342597	-18.14	0.31	0.47	-0.11	0.56	Low Veg.
653466.8	3342599	-18.25	653466.4	3342598	-18.14	0.42	0.29	-0.11	0.52	Low Veg.
628704.8	3381157	-14.54	628705.6	3381157	-14.44	-0.75	0.4	-0.1	0.85	Low Veg.
645032	3351785	-23.29	645031.3	3351784	-23.19	0.65	0.58	-0.1	0.87	Low Veg.
653457.7	3342604	-18.24	653457.5	3342605	-18.15	0.15	-0.67	-0.1	0.69	Low Veg.
653474.9	3342593	-18.21	653475.6	3342593	-18.11	-0.7	0.52	-0.1	0.87	Low Veg.
628704.5	3381161	-14.57	628705.2	3381161	-14.49	-0.7	-0.08	-0.09	0.7	Low Veg.
645038	3351774	-23.24	645037.7	3351774	-23.16	0.25	0.51	-0.09	0.57	Low Veg.
653464.3	3342600	-18.25	653463.5	3342600	-18.16	0.76	0.22	-0.09	0.79	Low Veg.
628705.1	3381154	-14.52	628705.4	3381153	-14.43	-0.25	0.43	-0.08	0.5	Low Veg.
645036.3	3351777	-23.23	645035.4	3351777	-23.14	0.86	-0.42	-0.08	0.95	Low Veg.
616446.5	3355658	-21.25	616446.1	3355658	-21.19	0.37	0.05	-0.07	0.37	Low Veg.
628705.6	3381145	-14.48	628705.6	3381145	-14.43	0.09	0.22	-0.06	0.23	Low Veg.

625725.4	3343596	-23.7	625725.6	3343596	-23.66	-0.14	0.09	-0.05	0.17	Low Veg.
625725.6	3343603	-23.58	625725	3343603	-23.53	0.55	-0.53	-0.05	0.76	Low Veg.
616445.9	3355653	-21.25	616445.1	3355652	-21.19	0.86	0.51	-0.05	1	Low Veg.
645673.2	3326307	-22.4	645673.7	3326306	-22.34	-0.46	0.67	-0.05	0.81	Low Veg.
641824.4	3365713	-16.27	641824	3365714	-16.22	0.36	-0.42	-0.05	0.55	Low Veg.
645681.3	3326310	-22.44	645680.6	3326310	-22.4	0.7	0.32	-0.04	0.78	Low Veg.
645678.1	3326309	-22.42	645678.7	3326309	-22.39	-0.62	-0.44	-0.04	0.76	Low Veg.
625725.5	3343599	-23.63	625724.7	3343599	-23.6	0.81	0.14	-0.03	0.83	Low Veg.
645671.1	3326306	-22.4	645671.4	3326305	-22.37	-0.26	0.37	-0.03	0.45	Low Veg.
658379	3286566	-23.11	658378.6	3286566	-23.08	0.34	0.02	-0.03	0.34	Low Veg.
628705.4	3381149	-14.48	628705	3381150	-14.46	0.43	-0.46	-0.02	0.63	Low Veg.
645675.4	3326308	-22.39	645676.2	3326308	-22.38	-0.77	0	-0.02	0.77	Low Veg.
609305.8	3380116	-21.09	609304.9	3380116	-21.08	0.85	-0.27	-0.01	0.9	Low Veg.
616447.2	3355663	-21.32	616446.5	3355663	-21.31	0.71	-0.57	-0.01	0.91	Low Veg.
649528.5	3299231	-22.31	649529.2	3299232	-22.3	-0.7	-0.27	-0.01	0.75	Low Veg.
616446.8	3355660	-21.28	616446.5	3355660	-21.29	0.28	0.31	0	0.42	Low Veg.
616446.1	3355655	-21.26	616445.2	3355655	-21.26	0.91	0.04	0	0.91	Low Veg.
641822.8	3365717	-16.27	641822.8	3365718	-16.27	-0.02	-0.83	0	0.83	Low Veg.
641817.6	3365729	-16.24	641817.7	3365729	-16.24	-0.17	0.22	0	0.27	Low Veg.
658378.8	3286570	-23.1	658379	3286569	-23.1	-0.17	0.93	0	0.94	Low Veg.
609295.5	3380111	-20.95	609295.7	3380111	-20.95	-0.21	-0.23	0.01	0.31	Low Veg.
649533.2	3299233	-22.3	649533.8	3299234	-22.31	-0.64	-0.44	0.01	0.78	Low Veg.
641823.8	3365715	-16.28	641823.9	3365714	-16.29	-0.16	0.52	0.01	0.55	Low Veg.
641821.6	3365720	-16.27	641821	3365719	-16.28	0.57	0.64	0.01	0.86	Low Veg.
649523	3299229	-22.28	649523.5	3299230	-22.3	-0.45	-0.32	0.02	0.55	Low Veg.
641816.6	3365731	-16.23	641816.4	3365731	-16.25	0.23	0.29	0.02	0.37	Low Veg.
641820.5	3365722	-16.27	641820	3365722	-16.29	0.45	-0.11	0.02	0.47	Low Veg.
641819.4	3365725	-16.25	641819.4	3365725	-16.27	-0.09	-0.23	0.02	0.24	Low Veg.
658378.8	3286573	-23.05	658378.5	3286573	-23.07	0.28	-0.44	0.02	0.52	Low Veg.
661674.9	3334588	-24.97	661675.4	3334588	-25.01	-0.42	0.81	0.03	0.92	Low Veg.
641825.3	3365711	-16.27	641825	3365710	-16.3	0.37	0.77	0.03	0.85	Low Veg.
661675.8	3334584	-24.99	661676.3	3334584	-25.03	-0.41	0.44	0.04	0.6	Low Veg.
661677	3334579	-25.01	661676.7	3334579	-25.05	0.3	0.75	0.04	0.81	Low Veg.
641818.3	3365727	-16.25	641817.5	3365726	-16.28	0.77	0.45	0.04	0.89	Low Veg.
609302.6	3380115	-21.03	609303.2	3380115	-21.1	-0.62	-0.57	0.07	0.84	Low Veg.
609292.1	3380110	-20.89	609292.5	3380110	-20.97	-0.39	-0.19	0.08	0.43	Low Veg.
609298.6	3380113	-20.94	609299	3380113	-21.03	-0.47	0.22	0.09	0.52	Low Veg.
653486.6	3342634	-23.37	653486.6	3342634	-23.09	0.08	0.95	-0.29	0.95	Med Veg.
645082.2	3351705	-23.68	645082.3	3351704	-23.4	-0.11	0.71	-0.28	0.72	Med Veg.
653487.3	3342634	-23.35	653486.6	3342634	-23.09	0.78	0.52	-0.27	0.94	Med Veg.
645088.5	3351699	-23.63	645087.9	3351699	-23.39	0.59	0.56	-0.25	0.82	Med Veg.
645074.4	3351711	-23.67	645073.8	3351711	-23.42	0.56	0.7	-0.25	0.9	Med Veg.
645080.2	3351706	-23.67	645080.2	3351706	-23.43	0.08	0.93	-0.24	0.94	Med Veg.

645084.4	3351703	-23.66	645084	3351704	-23.42	0.42	-0.84	-0.24	0.94	Med Veg.
653477.1	3342641	-23.37	653476.7	3342640	-23.15	0.49	0.45	-0.23	0.66	Med Veg.
653468.4	3342646	-23.34	653467.9	3342646	-23.11	0.43	0.37	-0.23	0.57	Med Veg.
645086.5	3351701	-23.63	645085.8	3351700	-23.41	0.67	0.63	-0.22	0.92	Med Veg.
645086.7	3351701	-23.64	645086.4	3351700	-23.42	0.25	0.61	-0.22	0.66	Med Veg.
653470.6	3342645	-23.36	653470.3	3342644	-23.13	0.25	0.2	-0.22	0.32	Med Veg.
653468.4	3342646	-23.33	653467.9	3342646	-23.11	0.46	0.44	-0.22	0.64	Med Veg.
653470.7	3342645	-23.36	653470.3	3342644	-23.13	0.34	0.24	-0.22	0.41	Med Veg.
653480.2	3342639	-23.39	653479.3	3342638	-23.17	0.88	0.41	-0.22	0.97	Med Veg.
645070.5	3351715	-23.66	645070.6	3351716	-23.45	-0.05	-0.85	-0.21	0.86	Med Veg.
645084.4	3351703	-23.64	645084	3351704	-23.42	0.4	-0.82	-0.21	0.91	Med Veg.
645081.8	3351705	-23.66	645082.3	3351704	-23.45	-0.42	0.51	-0.21	0.66	Med Veg.
645077.6	3351708	-23.64	645076.8	3351708	-23.43	0.84	0.3	-0.21	0.89	Med Veg.
645075.9	3351710	-23.65	645075	3351710	-23.45	0.9	0.27	-0.21	0.94	Med Veg.
645089	3351699	-23.63	645088.3	3351699	-23.42	0.67	0.34	-0.21	0.75	Med Veg.
653479.9	3342639	-23.38	653479.3	3342638	-23.17	0.63	0.46	-0.21	0.78	Med Veg.
653477.8	3342640	-23.39	653477.5	3342640	-23.18	0.3	0.4	-0.21	0.5	Med Veg.
645079.7	3351707	-23.68	645079.1	3351708	-23.48	0.6	-0.72	-0.2	0.94	Med Veg.
653484.3	3342636	-23.38	653484.1	3342635	-23.18	0.16	0.7	-0.2	0.72	Med Veg.
653473	3342643	-23.36	653472.7	3342643	-23.17	0.4	0.2	-0.2	0.45	Med Veg.
653489.7	3342633	-23.34	653489.3	3342633	-23.14	0.42	0.13	-0.2	0.44	Med Veg.
653482.1	3342637	-23.36	653482.2	3342637	-23.18	-0.04	0.55	-0.19	0.55	Med Veg.
653482.3	3342637	-23.37	653482.2	3342637	-23.18	0.15	0.48	-0.19	0.51	Med Veg.
645073.1	3351713	-23.63	645073.6	3351714	-23.46	-0.47	-0.71	-0.18	0.85	Med Veg.
645075.4	3351711	-23.67	645074.8	3351712	-23.49	0.55	-0.54	-0.18	0.77	Med Veg.
653472.8	3342643	-23.35	653472.8	3342642	-23.17	0.04	0.81	-0.18	0.81	Med Veg.
643086.1	3308730	-24.74	643086.4	3308731	-24.55	-0.3	-0.7	-0.18	0.76	Med Veg.
645072.3	3351713	-23.65	645071.4	3351713	-23.48	0.9	-0.12	-0.17	0.91	Med Veg.
653474.9	3342642	-23.37	653474.5	3342642	-23.2	0.48	-0.24	-0.17	0.53	Med Veg.
653475.3	3342642	-23.38	653475.1	3342641	-23.21	0.22	0.74	-0.17	0.77	Med Veg.
645077.7	3351709	-23.63	645078.2	3351709	-23.47	-0.41	-0.22	-0.16	0.47	Med Veg.
653489.3	3342633	-23.3	653489.3	3342633	-23.14	0.01	0.19	-0.16	0.19	Med Veg.
653485.1	3342636	-23.39	653485.1	3342635	-23.23	0.02	0.77	-0.16	0.77	Med Veg.
631644.5	3360376	-21.21	631644.9	3360376	-21.07	-0.45	-0.54	-0.14	0.71	Med Veg.
643086.1	3308730	-24.77	643086.4	3308731	-24.63	-0.35	-0.74	-0.14	0.82	Med Veg.
645653.6	3326330	-22.73	645653.1	3326330	-22.6	0.54	0	-0.13	0.54	Med Veg.
631647.8	3360366	-21.18	631648.8	3360366	-21.05	-0.91	0.06	-0.13	0.91	Med Veg.
645652.6	3326329	-22.72	645653.1	3326330	-22.6	-0.47	-0.61	-0.12	0.77	Med Veg.
631647.9	3360366	-21.17	631648.8	3360366	-21.05	-0.89	0.06	-0.12	0.89	Med Veg.
653482.1	3342637	-23.36	653481.7	3342637	-23.24	0.39	0.48	-0.12	0.62	Med Veg.
653468.4	3342646	-23.34	653468.1	3342646	-23.22	0.28	0.26	-0.12	0.38	Med Veg.
653468.4	3342646	-23.33	653468.1	3342646	-23.22	0.31	0.33	-0.12	0.45	Med Veg.
653477.8	3342640	-23.39	653477.5	3342641	-23.27	0.29	-0.31	-0.12	0.43	Med Veg.

653489.7	3342633	-23.34	653490.5	3342633	-23.21	-0.78	-0.04	-0.12	0.79	Med Veg.
643079.3	3308732	-24.76	643079.7	3308733	-24.64	-0.41	-0.86	-0.12	0.96	Med Veg.
645075.9	3351710	-23.65	645075.9	3351710	-23.54	0.06	-0.32	-0.11	0.33	Med Veg.
645075.4	3351711	-23.67	645075.5	3351712	-23.57	-0.15	-0.72	-0.11	0.74	Med Veg.
645651.3	3326330	-22.72	645651.7	3326330	-22.6	-0.47	-0.29	-0.11	0.55	Med Veg.
645651.2	3326330	-22.71	645651.7	3326330	-22.6	-0.49	-0.31	-0.11	0.58	Med Veg.
631645.1	3360373	-21.18	631645.8	3360373	-21.07	-0.76	0.55	-0.11	0.94	Med Veg.
653489.3	3342633	-23.3	653490.1	3342633	-23.19	-0.83	-0.31	-0.11	0.88	Med Veg.
653486.6	3342634	-23.37	653486.5	3342635	-23.26	0.14	-0.64	-0.11	0.66	Med Veg.
653477.1	3342641	-23.37	653477.2	3342641	-23.26	-0.02	-0.68	-0.11	0.68	Med Veg.
653468.4	3342646	-23.34	653467.6	3342646	-23.23	0.74	-0.49	-0.11	0.89	Med Veg.
653468.4	3342646	-23.33	653468.5	3342647	-23.22	-0.06	-0.92	-0.11	0.92	Med Veg.
653480.2	3342639	-23.39	653481.1	3342639	-23.28	-0.94	0.25	-0.11	0.97	Med Veg.
643077.4	3308733	-24.73	643077.8	3308734	-24.62	-0.45	-0.67	-0.11	0.81	Med Veg.
631642.3	3360376	-21.2	631641.9	3360376	-21.1	0.34	0.22	-0.1	0.41	Med Veg.
631645	3360371	-21.17	631644.9	3360371	-21.07	0.15	-0.49	-0.1	0.51	Med Veg.
653489.3	3342633	-23.3	653488.7	3342633	-23.2	0.65	0.08	-0.1	0.66	Med Veg.
653477.1	3342641	-23.37	653477.5	3342641	-23.27	-0.35	-0.05	-0.1	0.36	Med Veg.
653468.4	3342646	-23.33	653467.6	3342646	-23.23	0.77	-0.42	-0.1	0.88	Med Veg.
643071.5	3308735	-24.64	643071.6	3308736	-24.54	-0.16	-0.42	-0.1	0.45	Med Veg.
643060.4	3308739	-24.68	643061	3308739	-24.58	-0.52	-0.51	-0.1	0.73	Med Veg.
609241.1	3380099	-21.77	609240.7	3380100	-21.68	0.39	-0.8	-0.09	0.89	Med Veg.
609241.1	3380099	-21.76	609240.7	3380100	-21.68	0.39	-0.81	-0.09	0.9	Med Veg.
645651.3	3326330	-22.72	645650.9	3326330	-22.63	0.36	0.23	-0.09	0.43	Med Veg.
645651.2	3326330	-22.71	645650.9	3326330	-22.63	0.34	0.2	-0.09	0.4	Med Veg.
645653.6	3326330	-22.73	645653.4	3326329	-22.65	0.25	0.88	-0.09	0.91	Med Veg.
645655.1	3326330	-22.66	645654.8	3326329	-22.57	0.29	0.6	-0.09	0.67	Med Veg.
631642.3	3360376	-21.2	631642.3	3360377	-21.1	-0.08	-0.69	-0.09	0.7	Med Veg.
631644.5	3360376	-21.21	631645	3360375	-21.12	-0.5	0.35	-0.09	0.61	Med Veg.
631646.3	3360368	-21.18	631646.9	3360369	-21.09	-0.54	-0.48	-0.09	0.73	Med Veg.
631647.8	3360366	-21.18	631646.9	3360366	-21.1	0.95	0.09	-0.09	0.96	Med Veg.
631645.7	3360371	-21.16	631644.9	3360371	-21.07	0.81	-0.42	-0.09	0.91	Med Veg.
653489.3	3342633	-23.3	653489.9	3342632	-23.2	-0.55	0.58	-0.09	0.8	Med Veg.
653486.6	3342634	-23.37	653487.5	3342634	-23.28	-0.89	0.26	-0.09	0.92	Med Veg.
653484.3	3342636	-23.38	653485.1	3342636	-23.3	-0.82	0.35	-0.09	0.89	Med Veg.
653477.1	3342641	-23.37	653476.5	3342641	-23.28	0.7	-0.04	-0.09	0.7	Med Veg.
653474.9	3342642	-23.37	653475	3342642	-23.28	-0.04	0.26	-0.09	0.26	Med Veg.
653472.8	3342643	-23.35	653472.3	3342644	-23.27	0.52	-0.38	-0.09	0.64	Med Veg.
653468.4	3342646	-23.34	653468.9	3342646	-23.25	-0.56	0.37	-0.09	0.67	Med Veg.
653475.3	3342642	-23.38	653475.9	3342642	-23.29	-0.54	0.12	-0.09	0.56	Med Veg.
653477.8	3342640	-23.39	653478.5	3342640	-23.3	-0.74	0.68	-0.09	1	Med Veg.
653480.2	3342639	-23.39	653480.2	3342639	-23.3	-0.03	0.17	-0.09	0.17	Med Veg.
653482.3	3342637	-23.37	653481.7	3342638	-23.28	0.65	-0.73	-0.09	0.98	Med Veg.

653485.1	3342636	-23.39	653485.1	3342636	-23.3	0.02	-0.12	-0.09	0.12	Med Veg.
643071.7	3308735	-24.7	643071.4	3308735	-24.6	0.37	-0.54	-0.09	0.65	Med Veg.
643079.3	3308732	-24.76	643079.1	3308733	-24.67	0.23	-0.9	-0.09	0.93	Med Veg.
643064.1	3308738	-24.64	643063.8	3308739	-24.55	0.27	-0.79	-0.09	0.84	Med Veg.
643057.4	3308740	-24.69	643057.5	3308741	-24.6	-0.13	-0.91	-0.09	0.92	Med Veg.
645652.3	3326333	-22.66	645653.2	3326333	-22.59	-0.92	0.1	-0.08	0.93	Med Veg.
645655.1	3326330	-22.66	645655.1	3326330	-22.58	0	-0.16	-0.08	0.16	Med Veg.
631645	3360371	-21.17	631644.5	3360370	-21.09	0.5	0.72	-0.08	0.88	Med Veg.
631647.8	3360366	-21.18	631648	3360365	-21.11	-0.11	0.65	-0.08	0.66	Med Veg.
631645.1	3360373	-21.18	631644.8	3360374	-21.09	0.24	-0.71	-0.08	0.74	Med Veg.
653482.1	3342637	-23.36	653481.7	3342638	-23.28	0.45	-0.66	-0.08	0.8	Med Veg.
653470.6	3342645	-23.36	653470	3342645	-23.27	0.59	-0.42	-0.08	0.72	Med Veg.
653470.7	3342645	-23.36	653470	3342645	-23.27	0.67	-0.38	-0.08	0.77	Med Veg.
643092	3308728	-24.78	643092.4	3308729	-24.7	-0.48	-0.41	-0.08	0.64	Med Veg.
643074.9	3308734	-24.65	643074	3308735	-24.57	0.82	-0.51	-0.08	0.97	Med Veg.
643068.1	3308737	-24.62	643067.8	3308737	-24.54	0.34	-0.6	-0.08	0.69	Med Veg.
643060.5	3308739	-24.66	643061	3308739	-24.58	-0.47	-0.21	-0.08	0.52	Med Veg.
609245.1	3380099	-21.73	609245.9	3380099	-21.66	-0.75	0.1	-0.07	0.76	Med Veg.
645657.5	3326326	-22.67	645657.8	3326325	-22.61	-0.34	0.68	-0.07	0.76	Med Veg.
645654.2	3326328	-22.69	645655.2	3326328	-22.62	-0.98	0.02	-0.07	0.98	Med Veg.
631642.3	3360376	-21.2	631641.6	3360377	-21.13	0.71	-0.11	-0.07	0.72	Med Veg.
631643.8	3360374	-21.15	631643.3	3360373	-21.09	0.48	0.16	-0.07	0.51	Med Veg.
631646.3	3360368	-21.18	631646.1	3360368	-21.1	0.25	0.11	-0.07	0.28	Med Veg.
631647.9	3360366	-21.17	631646.9	3360366	-21.1	0.97	0.08	-0.07	0.98	Med Veg.
631646.4	3360368	-21.16	631646.9	3360369	-21.09	-0.43	-0.5	-0.07	0.66	Med Veg.
643084	3308731	-24.69	643083.6	3308732	-24.62	0.48	-0.48	-0.07	0.68	Med Veg.
643092	3308728	-24.77	643091.8	3308729	-24.7	0.19	-0.41	-0.07	0.46	Med Veg.
643082.7	3308731	-24.79	643082.7	3308731	-24.73	-0.02	-0.39	-0.07	0.39	Med Veg.
609250.5	3380100	-21.65	609249.8	3380100	-21.59	0.69	-0.05	-0.06	0.69	Med Veg.
645655.1	3326330	-22.66	645655.6	3326330	-22.6	-0.54	0.08	-0.06	0.55	Med Veg.
631645	3360371	-21.17	631644.1	3360371	-21.1	0.94	0.1	-0.06	0.95	Med Veg.
631647.9	3360366	-21.17	631647.7	3360367	-21.11	0.18	-0.51	-0.06	0.54	Med Veg.
631645.7	3360371	-21.16	631646.6	3360370	-21.09	-0.9	0.39	-0.06	0.98	Med Veg.
643064.6	3308737	-24.69	643064.7	3308737	-24.63	-0.1	-0.15	-0.06	0.18	Med Veg.
645654.2	3326328	-22.69	645654.4	3326327	-22.64	-0.15	0.54	-0.05	0.56	Med Veg.
645655.1	3326330	-22.66	645654.2	3326329	-22.6	0.83	0.35	-0.05	0.9	Med Veg.
631642.3	3360376	-21.2	631642.7	3360377	-21.15	-0.45	-0.36	-0.05	0.58	Med Veg.
631644.5	3360376	-21.21	631644.2	3360376	-21.16	0.33	0.04	-0.05	0.33	Med Veg.
631643.8	3360374	-21.15	631644	3360373	-21.11	-0.27	0.35	-0.05	0.44	Med Veg.
631646.4	3360368	-21.16	631646.1	3360368	-21.1	0.36	0.09	-0.05	0.37	Med Veg.
631646.4	3360368	-21.16	631646.2	3360368	-21.11	0.23	0.53	-0.05	0.58	Med Veg.
631645.7	3360371	-21.16	631645.3	3360371	-21.11	0.36	0.2	-0.05	0.41	Med Veg.
653480.2	3342639	-23.39	653480.9	3342638	-23.34	-0.78	0.39	-0.05	0.88	Med Veg.

643074.6	3308734	-24.74	643074.9	3308734	-24.69	-0.36	-0.15	-0.05	0.39	Med Veg.
643080.7	3308732	-24.73	643081.3	3308732	-24.68	-0.6	0.15	-0.05	0.62	Med Veg.
643068.1	3308736	-24.68	643068.8	3308736	-24.62	-0.69	-0.1	-0.05	0.7	Med Veg.
645656	3326327	-22.68	645655.6	3326327	-22.64	0.37	-0.02	-0.04	0.37	Med Veg.
631646.3	3360368	-21.18	631647	3360368	-21.14	-0.68	-0.05	-0.04	0.68	Med Veg.
631645.7	3360371	-21.16	631646.1	3360371	-21.12	-0.44	-0.38	-0.04	0.58	Med Veg.
631645.7	3360371	-21.16	631645.8	3360370	-21.12	-0.11	0.98	-0.04	0.98	Med Veg.
653477.8	3342640	-23.39	653478.3	3342641	-23.35	-0.55	-0.81	-0.04	0.97	Med Veg.
643082.7	3308731	-24.79	643083.1	3308731	-24.75	-0.39	-0.2	-0.04	0.44	Med Veg.
643071.5	3308735	-24.64	643071.4	3308735	-24.6	0.09	0.11	-0.04	0.15	Med Veg.
643060.4	3308739	-24.68	643060.1	3308739	-24.65	0.34	-0.01	-0.04	0.34	Med Veg.
645653.8	3326332	-22.67	645653.3	3326332	-22.63	0.43	-0.59	-0.03	0.73	Med Veg.
631643.8	3360374	-21.15	631643.4	3360374	-21.12	0.39	-0.69	-0.03	0.79	Med Veg.
631646.4	3360368	-21.16	631647	3360368	-21.14	-0.57	-0.06	-0.02	0.57	Med Veg.
643071.7	3308735	-24.7	643072.4	3308734	-24.69	-0.71	0.36	-0.01	0.8	Med Veg.
645651.3	3326330	-22.72	645650.8	3326331	-22.71	0.44	-0.8	0	0.91	Med Veg.
645651.2	3326330	-22.71	645650.8	3326331	-22.71	0.42	-0.82	0	0.92	Med Veg.
643086.1	3308730	-24.77	643085.6	3308730	-24.77	0.49	-0.25	0	0.55	Med Veg.
643074.9	3308734	-24.65	643075.8	3308735	-24.64	-0.94	-0.09	0	0.95	Med Veg.
609240.5	3380102	-21.62	609240.1	3380102	-21.63	0.36	0.2	0.01	0.41	Med Veg.
609236.5	3380101	-21.59	609236.8	3380102	-21.63	-0.3	-0.03	0.04	0.3	Med Veg.
625711.8	3343539	-23.94	625711.4	3343540	-23.31	0.38	-0.71	-0.62	0.8	Med Veg.
625711.6	3343539	-23.88	625711.4	3343540	-23.31	0.15	-0.59	-0.57	0.61	Med Veg.
625712.3	3343545	-23.91	625712.2	3343544	-23.49	0.14	0.92	-0.43	0.93	Med Veg.
625712.3	3343545	-23.9	625712.2	3343544	-23.49	0.12	0.8	-0.42	0.81	Med Veg.
625712.2	3343542	-23.84	625711.5	3343542	-23.47	0.68	-0.32	-0.37	0.75	Med Veg.
625711.2	3343535	-23.99	625710.4	3343535	-23.64	0.79	0.41	-0.35	0.88	Med Veg.
625712	3343542	-23.81	625711.5	3343542	-23.47	0.52	-0.15	-0.35	0.54	Med Veg.
643036	3308837	-24.69	643035.6	3308837	-24.35	0.38	-0.27	-0.34	0.47	Med Veg.
643035.6	3308837	-24.68	643035.6	3308837	-24.35	0.07	-0.16	-0.33	0.18	Med Veg.
625712.3	3343549	-24.02	625712.1	3343549	-23.78	0.2	-0.54	-0.25	0.58	Med Veg.
625712.4	3343549	-24.02	625712.1	3343549	-23.78	0.24	-0.53	-0.24	0.59	Med Veg.
643024.4	3308841	-24.81	643024.4	3308840	-24.64	-0.07	0.81	-0.17	0.81	Med Veg.
643026.8	3308840	-24.79	643027.1	3308840	-24.63	-0.3	0.64	-0.16	0.7	Med Veg.
643028.3	3308840	-24.83	643028	3308840	-24.66	0.29	0.18	-0.16	0.34	Med Veg.
625711.4	3343534	-23.97	625711.1	3343534	-23.82	0.27	0.5	-0.15	0.57	Med Veg.
643028.7	3308840	-24.81	643028	3308840	-24.66	0.76	-0.55	-0.15	0.93	Med Veg.
643040.4	3308835	-24.61	643040.9	3308835	-24.46	-0.56	0.71	-0.15	0.9	Med Veg.
643040.4	3308835	-24.61	643040.9	3308835	-24.46	-0.55	0.71	-0.15	0.89	Med Veg.
643026.3	3308841	-24.78	643025.8	3308841	-24.65	0.5	0.47	-0.14	0.68	Med Veg.
622796.6	3357679	-20.38	622797.6	3357679	-20.25	-0.98	0.11	-0.13	0.98	Med Veg.
622785.4	3357680	-20.42	622785	3357680	-20.3	0.47	-0.38	-0.13	0.61	Med Veg.
622788.5	3357683	-20.46	622788.3	3357682	-20.33	0.2	0.95	-0.13	0.97	Med Veg.

622790.7	3357684	-20.56	622790	3357683	-20.43	0.63	0.51	-0.13	0.81	Med Veg.
643031.3	3308839	-24.77	643032.2	3308839	-24.64	-0.88	-0.23	-0.13	0.91	Med Veg.
643037.8	3308836	-24.65	643037.1	3308836	-24.52	0.62	-0.28	-0.13	0.68	Med Veg.
643022.7	3308843	-24.8	643023.2	3308844	-24.67	-0.5	-0.79	-0.13	0.93	Med Veg.
643021	3308844	-24.81	643020.6	3308843	-24.68	0.39	0.5	-0.13	0.64	Med Veg.
625711.4	3343534	-23.97	625712.3	3343534	-23.85	-0.93	0.26	-0.12	0.97	Med Veg.
643019.9	3308843	-24.8	643020.6	3308843	-24.68	-0.64	-0.07	-0.12	0.64	Med Veg.
622790.4	3357679	-20.4	622790.1	3357678	-20.29	0.35	0.83	-0.11	0.91	Med Veg.
622786.9	3357679	-20.44	622786.3	3357679	-20.32	0.52	-0.14	-0.11	0.54	Med Veg.
622786.8	3357681	-20.46	622787.5	3357682	-20.35	-0.72	-0.25	-0.11	0.76	Med Veg.
643030.9	3308839	-24.78	643031.2	3308838	-24.68	-0.36	0.81	-0.11	0.89	Med Veg.
622793	3357679	-20.36	622793.9	3357679	-20.25	-0.9	-0.39	-0.1	0.98	Med Veg.
622791.9	3357678	-20.34	622791.3	3357678	-20.24	0.57	0.21	-0.1	0.61	Med Veg.
622790.7	3357684	-20.56	622790.9	3357684	-20.46	-0.22	0.02	-0.1	0.23	Med Veg.
643024.5	3308842	-24.79	643025	3308842	-24.69	-0.47	-0.28	-0.1	0.55	Med Veg.
622796.6	3357679	-20.38	622795.7	3357678	-20.29	0.93	0.33	-0.09	0.98	Med Veg.
622785.6	3357678	-20.45	622786.3	3357678	-20.36	-0.71	0.64	-0.09	0.95	Med Veg.
625712.3	3343549	-24.02	625712.6	3343549	-23.94	-0.21	-0.07	-0.09	0.22	Med Veg.
645673.4	3326345	-23	645673.3	3326345	-22.91	0.03	0.21	-0.09	0.21	Med Veg.
643019.9	3308843	-24.8	643020.6	3308844	-24.71	-0.65	-0.54	-0.09	0.85	Med Veg.
643022.3	3308842	-24.82	643022.1	3308842	-24.73	0.23	-0.51	-0.09	0.56	Med Veg.
643024.4	3308841	-24.81	643024.5	3308842	-24.72	-0.13	-0.47	-0.09	0.49	Med Veg.
643033.9	3308838	-24.72	643033.7	3308838	-24.63	0.13	-0.59	-0.09	0.61	Med Veg.
643040.4	3308835	-24.61	643040.7	3308836	-24.52	-0.3	-0.95	-0.09	1	Med Veg.
643040.4	3308835	-24.61	643040.7	3308836	-24.52	-0.29	-0.96	-0.09	1	Med Veg.
643033.8	3308838	-24.71	643033.7	3308838	-24.63	0.12	-0.5	-0.09	0.52	Med Veg.
643030.9	3308839	-24.78	643031.3	3308838	-24.7	-0.43	0.55	-0.09	0.7	Med Veg.
643026.3	3308841	-24.78	643026.2	3308841	-24.7	0.05	-0.23	-0.09	0.24	Med Veg.
643024.5	3308842	-24.79	643024.1	3308842	-24.7	0.39	0.22	-0.09	0.45	Med Veg.
622790.4	3357679	-20.4	622790.4	3357679	-20.32	0.08	-0.11	-0.08	0.13	Med Veg.
622785.6	3357678	-20.44	622786.3	3357678	-20.36	-0.73	0.64	-0.08	0.97	Med Veg.
622790.7	3357684	-20.56	622790	3357684	-20.47	0.63	-0.75	-0.08	0.98	Med Veg.
625712.4	3343549	-24.02	625712.6	3343549	-23.94	-0.17	-0.06	-0.08	0.18	Med Veg.
645675.3	3326347	-23	645674.5	3326347	-22.91	0.75	-0.23	-0.08	0.78	Med Veg.
645679.6	3326341	-23.08	645679.8	3326342	-23	-0.24	-0.81	-0.08	0.84	Med Veg.
643031.3	3308839	-24.77	643031.3	3308838	-24.7	-0.01	0.28	-0.08	0.28	Med Veg.
643028.3	3308840	-24.83	643028.7	3308841	-24.75	-0.42	-0.54	-0.08	0.69	Med Veg.
643022.7	3308843	-24.8	643023	3308843	-24.72	-0.23	-0.24	-0.08	0.34	Med Veg.
643021	3308844	-24.81	643021.5	3308844	-24.74	-0.49	-0.48	-0.08	0.69	Med Veg.
622795.7	3357680	-20.35	622796.4	3357680	-20.27	-0.69	-0.49	-0.07	0.84	Med Veg.
622790.4	3357679	-20.4	622790.9	3357678	-20.32	-0.49	0.35	-0.07	0.61	Med Veg.
622787.5	3357681	-20.45	622786.7	3357680	-20.37	0.82	0.33	-0.07	0.88	Med Veg.
645673.3	3326348	-23.02	645672.9	3326348	-22.94	0.32	-0.75	-0.07	0.82	Med Veg.

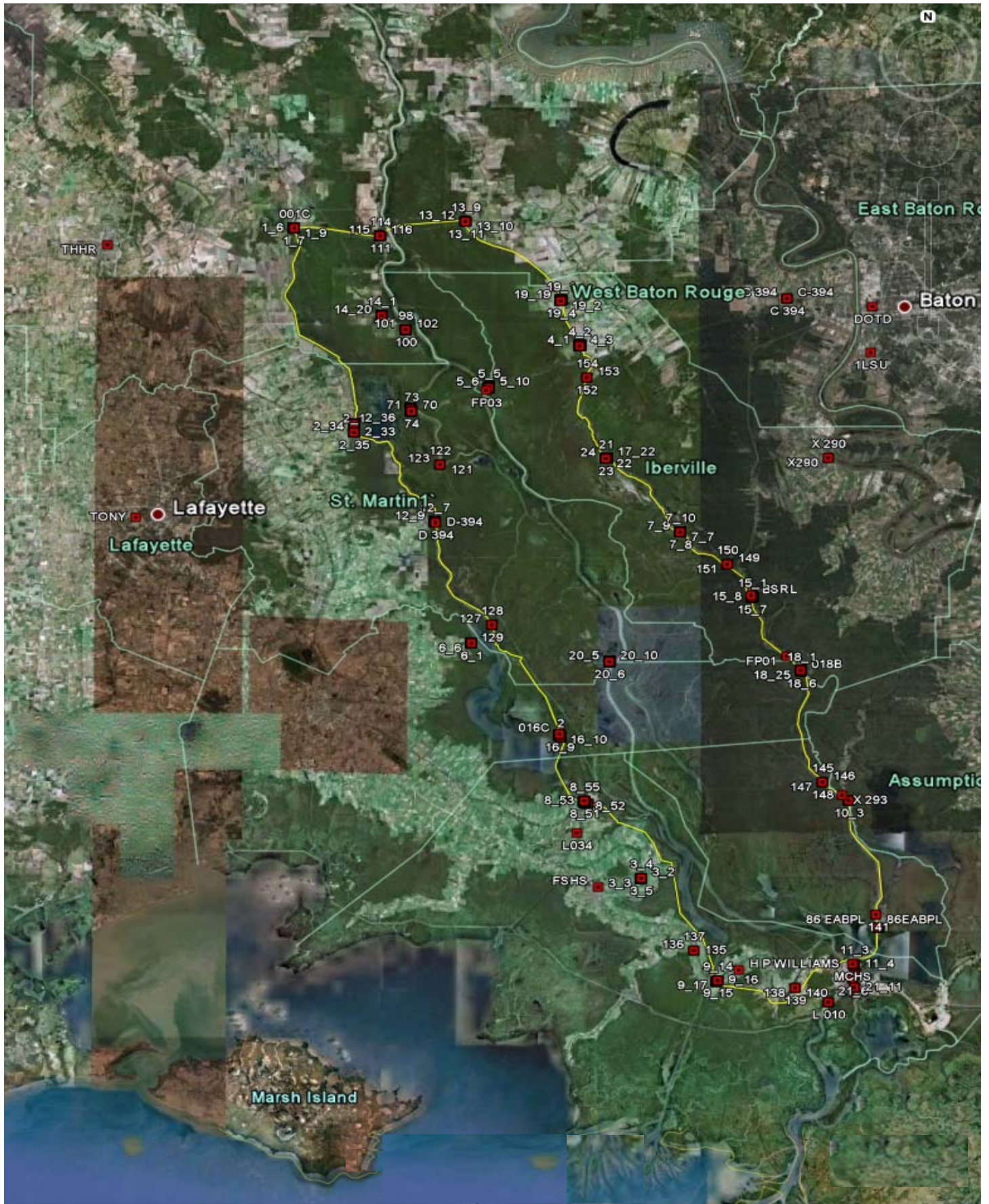
643038.1	3308836	-24.66	643037.2	3308836	-24.59	0.96	0.19	-0.07	0.98	Med Veg.
643037.8	3308836	-24.65	643037.2	3308836	-24.59	0.61	0.22	-0.07	0.64	Med Veg.
622791.8	3357683	-20.41	622792.6	3357684	-20.35	-0.88	-0.17	-0.06	0.9	Med Veg.
622795.6	3357677	-20.38	622796.4	3357677	-20.32	-0.75	-0.09	-0.06	0.76	Med Veg.
622786.8	3357681	-20.46	622786.7	3357681	-20.4	0.12	0.23	-0.06	0.26	Med Veg.
645681.3	3326343	-23.06	645680.7	3326342	-23	0.62	0.67	-0.06	0.91	Med Veg.
645677.1	3326342	-23.09	645676.9	3326341	-23.03	0.15	0.63	-0.06	0.65	Med Veg.
645673.4	3326345	-23	645673.3	3326345	-22.94	0.09	-0.16	-0.06	0.18	Med Veg.
622793	3357682	-20.38	622793.1	3357681	-20.33	-0.14	0.84	-0.05	0.85	Med Veg.
622794.4	3357681	-20.37	622794.6	3357681	-20.31	-0.25	-0.07	-0.05	0.26	Med Veg.
622796.6	3357679	-20.38	622796.7	3357678	-20.33	-0.13	0.59	-0.05	0.61	Med Veg.
622794.2	3357678	-20.37	622794	3357677	-20.32	0.25	0.09	-0.05	0.26	Med Veg.
622793	3357679	-20.36	622792.2	3357678	-20.31	0.78	0.57	-0.05	0.97	Med Veg.
622785.6	3357678	-20.44	622785.5	3357679	-20.4	0.12	-0.48	-0.05	0.5	Med Veg.
622785.6	3357678	-20.45	622785.5	3357679	-20.4	0.14	-0.48	-0.05	0.5	Med Veg.
622785.4	3357680	-20.42	622785.8	3357681	-20.38	-0.37	-0.87	-0.05	0.94	Med Veg.
622788.5	3357683	-20.46	622788.3	3357683	-20.41	0.2	-0.31	-0.05	0.37	Med Veg.
645677.1	3326346	-23.05	645676.8	3326346	-23	0.36	0.05	-0.05	0.37	Med Veg.
645679.2	3326344	-23.06	645678.4	3326344	-23.02	0.81	0.07	-0.05	0.81	Med Veg.
645681.7	3326340	-23.08	645682	3326340	-23.03	-0.35	-0.1	-0.05	0.36	Med Veg.
622791.8	3357683	-20.41	622791.7	3357684	-20.37	0.03	-0.6	-0.04	0.6	Med Veg.
622794.4	3357681	-20.37	622794.3	3357680	-20.32	0.04	0.89	-0.04	0.89	Med Veg.
622796.6	3357679	-20.38	622796.5	3357679	-20.34	0.08	-0.15	-0.04	0.17	Med Veg.
622785.6	3357678	-20.45	622784.6	3357678	-20.41	0.99	0.01	-0.04	0.99	Med Veg.
645681.7	3326340	-23.08	645681.2	3326340	-23.04	0.48	0.41	-0.04	0.64	Med Veg.
645679.6	3326341	-23.08	645678.9	3326340	-23.04	0.69	0.69	-0.04	0.97	Med Veg.
645675.2	3326343	-23.06	645674.8	3326343	-23.01	0.39	0.13	-0.04	0.41	Med Veg.
641876.7	3365828	-25.1	641877.1	3365828	-25.06	-0.39	0.47	-0.04	0.61	Med Veg.
641876.8	3365827	-25.1	641877.1	3365828	-25.06	-0.26	-0.32	-0.04	0.41	Med Veg.
622791.9	3357678	-20.34	622792.2	3357678	-20.31	-0.28	-0.27	-0.03	0.39	Med Veg.
622790.4	3357679	-20.4	622789.7	3357679	-20.36	0.73	-0.67	-0.03	0.99	Med Veg.
622785.6	3357678	-20.44	622784.6	3357678	-20.41	0.97	0.01	-0.03	0.97	Med Veg.
622788.5	3357683	-20.46	622789.2	3357683	-20.43	-0.64	0.47	-0.03	0.79	Med Veg.
641885.2	3365811	-24.96	641885.9	3365811	-24.93	-0.66	-0.06	-0.03	0.67	Med Veg.
622793	3357679	-20.36	622793	3357679	-20.34	-0.07	0.09	-0.02	0.11	Med Veg.
622790.4	3357679	-20.4	622791.2	3357679	-20.38	-0.78	-0.6	-0.02	0.98	Med Veg.
622787.5	3357681	-20.45	622788	3357680	-20.42	-0.49	0.43	-0.02	0.65	Med Veg.
622785.4	3357680	-20.42	622785.9	3357680	-20.4	-0.42	0.04	-0.02	0.42	Med Veg.
641884	3365814	-25.05	641884.7	3365814	-25.03	-0.71	-0.23	-0.02	0.75	Med Veg.
641882.1	3365818	-25.08	641881.5	3365818	-25.05	0.6	0.53	-0.02	0.8	Med Veg.
641882.9	3365817	-25.09	641882.3	3365817	-25.07	0.67	-0.21	-0.02	0.7	Med Veg.
622791.8	3357683	-20.41	622791.8	3357683	-20.4	-0.03	0.31	-0.01	0.31	Med Veg.
622794.2	3357678	-20.37	622794.8	3357678	-20.36	-0.6	-0.4	-0.01	0.72	Med Veg.

622788.9	3357679	-20.37	622789.7	3357679	-20.36	-0.78	0.05	-0.01	0.78	Med Veg.
641885.2	3365811	-24.96	641884.4	3365811	-24.95	0.82	0.17	-0.01	0.84	Med Veg.
641884	3365814	-25.05	641883.7	3365815	-25.04	0.29	-0.92	-0.01	0.97	Med Veg.
641880.9	3365821	-25.08	641880.5	3365820	-25.08	0.38	0.15	-0.01	0.41	Med Veg.
641880.9	3365821	-25.08	641880.2	3365821	-25.07	0.7	-0.59	-0.01	0.91	Med Veg.
641880.1	3365822	-25.07	641879.3	3365822	-25.06	0.75	0.61	-0.01	0.97	Med Veg.
641876.8	3365827	-25.1	641876.3	3365827	-25.09	0.53	0.27	-0.01	0.6	Med Veg.
622794.4	3357681	-20.37	622795.2	3357681	-20.36	-0.81	0.4	0	0.9	Med Veg.
622795.7	3357680	-20.35	622795.6	3357680	-20.34	0.16	-0.01	0	0.16	Med Veg.
622793	3357679	-20.36	622792.6	3357679	-20.36	0.34	-0.76	0	0.83	Med Veg.
622788.9	3357679	-20.37	622788.9	3357679	-20.36	0.06	0.53	0	0.53	Med Veg.
645675.2	3326343	-23.06	645675.9	3326343	-23.06	-0.71	0.55	0	0.9	Med Veg.
641884	3365814	-25.05	641884	3365814	-25.05	-0.04	-0.37	0	0.38	Med Veg.
641882.7	3365817	-25.08	641882.3	3365817	-25.07	0.48	-0.11	0	0.49	Med Veg.
641879	3365824	-25.08	641879.5	3365825	-25.08	-0.46	-0.74	0	0.87	Med Veg.
641878	3365826	-25.07	641877.6	3365825	-25.08	0.36	0.82	0	0.9	Med Veg.
641878.2	3365826	-25.08	641877.6	3365825	-25.08	0.54	0.46	0	0.71	Med Veg.
641880	3365823	-25.06	641879.3	3365822	-25.06	0.67	0.74	0	1	Med Veg.
641883.6	3365815	-25.04	641883.7	3365815	-25.04	-0.04	0.38	0	0.38	Med Veg.
622793	3357682	-20.38	622793.1	3357683	-20.39	-0.14	-0.8	0.01	0.81	Med Veg.
622794.2	3357678	-20.37	622794.2	3357677	-20.38	0.02	0.83	0.01	0.83	Med Veg.
641880.1	3365822	-25.07	641880.1	3365822	-25.08	-0.03	0.02	0.01	0.03	Med Veg.
641875.9	3365829	-25.13	641876.2	3365830	-25.13	-0.33	-0.34	0.01	0.47	Med Veg.
641875.9	3365829	-25.12	641876.2	3365830	-25.13	-0.36	-0.34	0.01	0.5	Med Veg.
641876.8	3365827	-25.1	641877.6	3365827	-25.11	-0.76	0.55	0.01	0.94	Med Veg.
641878.2	3365826	-25.08	641878.4	3365826	-25.09	-0.24	-0.13	0.01	0.27	Med Veg.
641880.6	3365821	-25.06	641880.5	3365820	-25.08	0.1	0.64	0.01	0.64	Med Veg.
641880.6	3365821	-25.06	641880.2	3365821	-25.07	0.42	-0.1	0.01	0.43	Med Veg.
641881.5	3365819	-25.11	641881.2	3365819	-25.12	0.33	0.69	0.01	0.77	Med Veg.
622790.4	3357685	-20.43	622790.9	3357685	-20.45	-0.49	0.09	0.02	0.49	Med Veg.
641884	3365814	-25.05	641883.9	3365814	-25.07	0.07	0.36	0.02	0.37	Med Veg.
641881.7	3365819	-25.1	641881.2	3365819	-25.12	0.5	0.21	0.02	0.55	Med Veg.
641878	3365826	-25.07	641878.4	3365826	-25.09	-0.42	0.23	0.02	0.48	Med Veg.
641879	3365824	-25.06	641879.5	3365825	-25.08	-0.43	-0.84	0.02	0.95	Med Veg.
641880	3365823	-25.06	641880.1	3365822	-25.08	-0.11	0.14	0.02	0.18	Med Veg.
622787.5	3357681	-20.45	622787.2	3357680	-20.48	0.35	0.91	0.03	0.98	Med Veg.
622785.4	3357680	-20.42	622785	3357679	-20.45	0.43	0.52	0.03	0.68	Med Veg.
641885.2	3365811	-24.96	641885.1	3365811	-24.99	0.12	0.53	0.03	0.54	Med Veg.
641882.7	3365817	-25.08	641882.3	3365817	-25.11	0.42	-0.7	0.03	0.81	Med Veg.
641881.7	3365819	-25.1	641882.2	3365818	-25.13	-0.54	0.7	0.03	0.88	Med Veg.
641876.7	3365828	-25.1	641876.9	3365829	-25.13	-0.23	-0.83	0.03	0.86	Med Veg.
641882.1	3365818	-25.08	641882.3	3365817	-25.11	-0.26	0.75	0.03	0.79	Med Veg.
641882.9	3365817	-25.09	641883	3365817	-25.12	-0.11	-0.8	0.03	0.81	Med Veg.

641883.6	3365815	-25.04	641884.5	3365816	-25.07	-0.82	-0.21	0.03	0.85	Med Veg.
622793	3357682	-20.38	622792.3	3357683	-20.42	0.7	-0.31	0.04	0.77	Med Veg.
622794.4	3357681	-20.37	622793.8	3357681	-20.41	0.6	0.41	0.04	0.72	Med Veg.
641880.9	3365821	-25.08	641881	3365820	-25.12	-0.12	0.23	0.04	0.27	Med Veg.
641879	3365824	-25.06	641878.7	3365824	-25.1	0.36	-0.24	0.04	0.43	Med Veg.
641881.5	3365819	-25.11	641882	3365819	-25.15	-0.45	0.1	0.04	0.46	Med Veg.
622791.8	3357683	-20.41	622790.9	3357684	-20.46	0.88	-0.12	0.05	0.89	Med Veg.
641882.7	3365817	-25.08	641883	3365817	-25.12	-0.3	-0.71	0.05	0.77	Med Veg.
641880.6	3365821	-25.06	641881	3365820	-25.12	-0.41	0.72	0.06	0.83	Med Veg.
641879	3365824	-25.08	641879.5	3365824	-25.15	-0.47	0.34	0.07	0.58	Med Veg.
641880.1	3365822	-25.07	641880.9	3365823	-25.17	-0.81	-0.58	0.1	1	Med Veg.
644931.4	3351687	-25.16	644931.2	3351686	-24.92	0.13	0.89	-0.24	0.9	Med Veg.
644944.9	3351680	-25.01	644944.9	3351680	-24.8	0	-0.53	-0.21	0.53	Med Veg.
644936.2	3351684	-25.13	644936	3351684	-24.92	0.23	0.19	-0.21	0.3	Med Veg.
644932.8	3351685	-25.17	644932.5	3351686	-24.96	0.32	-0.57	-0.21	0.65	Med Veg.
644947.5	3351679	-24.95	644947.7	3351680	-24.75	-0.19	-0.69	-0.2	0.71	Med Veg.
644937.8	3351683	-25.14	644938.1	3351683	-24.93	-0.27	-0.68	-0.2	0.73	Med Veg.
644949.4	3351677	-24.96	644949.9	3351677	-24.78	-0.42	0.4	-0.19	0.57	Med Veg.
644942.4	3351680	-25.1	644942.5	3351681	-24.91	-0.1	-0.05	-0.19	0.12	Med Veg.
644934.2	3351685	-25.16	644933.5	3351684	-24.96	0.62	0.7	-0.19	0.94	Med Veg.
641899.3	3365796	-25.1	641899	3365796	-24.91	0.34	-0.21	-0.19	0.4	Med Veg.
644940	3351682	-25.1	644939.5	3351682	-24.93	0.47	0.24	-0.17	0.53	Med Veg.
640268.6	3316814	-24.91	640268.3	3316815	-24.77	0.3	-0.52	-0.14	0.6	Med Veg.
640264.2	3316814	-24.95	640263.7	3316814	-24.81	0.49	-0.08	-0.14	0.5	Med Veg.
622128.5	3367508	-20.77	622127.8	3367508	-20.63	0.66	0.05	-0.14	0.66	Med Veg.
622121.9	3367505	-20.67	622121.8	3367506	-20.53	0.15	-0.95	-0.14	0.96	Med Veg.
640278.2	3316816	-24.5	640278.6	3316817	-24.37	-0.32	-0.81	-0.13	0.87	Med Veg.
640274.8	3316815	-24.69	640274.3	3316816	-24.57	0.44	-0.4	-0.12	0.59	Med Veg.
641903.4	3365789	-25.08	641902.9	3365788	-24.96	0.5	0.85	-0.12	0.99	Med Veg.
622122.8	3367510	-20.74	622123.1	3367511	-20.63	-0.29	-0.84	-0.12	0.89	Med Veg.
622126.4	3367508	-20.78	622127.1	3367509	-20.66	-0.69	-0.2	-0.12	0.72	Med Veg.
622128.5	3367508	-20.77	622127.9	3367508	-20.65	0.55	0.36	-0.12	0.66	Med Veg.
640276.2	3316816	-24.62	640276.3	3316815	-24.51	-0.05	0.78	-0.11	0.78	Med Veg.
640270.1	3316815	-24.83	640270.5	3316815	-24.72	-0.45	-0.23	-0.11	0.51	Med Veg.
641897.9	3365799	-25.07	641897.4	3365798	-24.96	0.53	0.02	-0.11	0.53	Med Veg.
622120.9	3367511	-20.7	622121.7	3367511	-20.59	-0.8	0.18	-0.11	0.82	Med Veg.
622126.4	3367508	-20.78	622126.2	3367508	-20.67	0.19	0.28	-0.11	0.34	Med Veg.
622129.5	3367506	-20.75	622130.1	3367505	-20.64	-0.58	0.46	-0.11	0.74	Med Veg.
640271.9	3316815	-24.8	640271.4	3316815	-24.69	0.52	-0.51	-0.1	0.73	Med Veg.
640267.1	3316814	-24.95	640267	3316815	-24.85	0.13	-0.53	-0.1	0.55	Med Veg.
622122.8	3367510	-20.74	622123.2	3367510	-20.64	-0.38	0.46	-0.1	0.6	Med Veg.
622126.4	3367508	-20.78	622126	3367508	-20.68	0.37	-0.06	-0.1	0.37	Med Veg.
622129.6	3367504	-20.75	622130	3367503	-20.65	-0.31	0.75	-0.1	0.82	Med Veg.

622124.4	3367504	-20.68	622123.6	3367504	-20.58	0.8	0.57	-0.1	0.98	Med Veg.
640273.3	3316815	-24.74	640273.5	3316815	-24.65	-0.16	-0.17	-0.09	0.23	Med Veg.
640268.6	3316814	-24.91	640268.8	3316814	-24.82	-0.13	0.47	-0.09	0.48	Med Veg.
640265.8	3316814	-24.96	640266.1	3316814	-24.87	-0.38	-0.16	-0.09	0.41	Med Veg.
640264.2	3316814	-24.95	640264.4	3316813	-24.86	-0.21	0.67	-0.09	0.7	Med Veg.
641897.9	3365799	-25.07	641898.2	3365799	-24.98	-0.25	-0.56	-0.09	0.62	Med Veg.
641899.3	3365796	-25.1	641899.8	3365796	-25.01	-0.43	0.63	-0.09	0.76	Med Veg.
641902.2	3365791	-25.12	641902.5	3365791	-25.03	-0.28	0.61	-0.09	0.67	Med Veg.
641906.4	3365780	-25.02	641905.6	3365781	-24.93	0.83	-0.22	-0.09	0.85	Med Veg.
622128.5	3367508	-20.77	622128.7	3367509	-20.68	-0.22	-0.42	-0.09	0.47	Med Veg.
622129.6	3367504	-20.75	622129.2	3367504	-20.66	0.41	-0.61	-0.09	0.73	Med Veg.
641901	3365794	-25.07	641901.4	3365793	-24.99	-0.46	0.48	-0.08	0.67	Med Veg.
622124.3	3367509	-20.75	622124	3367510	-20.67	0.32	-0.78	-0.08	0.85	Med Veg.
622128.5	3367508	-20.77	622128.8	3367508	-20.69	-0.33	-0.11	-0.08	0.35	Med Veg.
622126.9	3367504	-20.69	622127.5	3367504	-20.61	-0.55	0.31	-0.08	0.63	Med Veg.
622121.9	3367505	-20.67	622122.5	3367505	-20.59	-0.59	-0.35	-0.08	0.69	Med Veg.
641902.2	3365791	-25.12	641901.9	3365792	-25.05	0.32	-0.62	-0.07	0.69	Med Veg.
622122.8	3367510	-20.74	622122.2	3367510	-20.67	0.6	-0.36	-0.07	0.7	Med Veg.
641896.9	3365801	-25.06	641897.1	3365801	-25	-0.16	-0.58	-0.06	0.6	Med Veg.
641901	3365794	-25.07	641900.6	3365794	-25.01	0.39	-0.47	-0.06	0.61	Med Veg.
622120.9	3367511	-20.7	622120.5	3367512	-20.65	0.45	-0.73	-0.05	0.86	Med Veg.
622120.9	3367511	-20.7	622121.3	3367510	-20.65	-0.35	0.86	-0.05	0.92	Med Veg.
622129.5	3367506	-20.75	622129.4	3367506	-20.7	0.17	-0.55	-0.05	0.58	Med Veg.
622126.9	3367504	-20.69	622126.6	3367503	-20.64	0.34	0.79	-0.05	0.86	Med Veg.
640265.8	3316814	-24.96	640265.3	3316814	-24.92	0.49	0.3	-0.04	0.58	Med Veg.
641904.8	3365786	-25	641905	3365786	-24.96	-0.17	0.3	-0.04	0.35	Med Veg.
622129.5	3367506	-20.75	622128.9	3367506	-20.71	0.67	-0.68	-0.04	0.95	Med Veg.
622129.5	3367506	-20.75	622129.2	3367505	-20.71	0.31	0.94	-0.04	0.99	Med Veg.
622121.9	3367505	-20.67	622122.6	3367505	-20.63	-0.65	-0.04	-0.04	0.65	Med Veg.
641904.8	3365786	-25	641904.8	3365787	-24.98	0.01	-0.95	-0.03	0.95	Med Veg.
622124.4	3367504	-20.68	622124	3367504	-20.65	0.35	0.71	-0.03	0.8	Med Veg.
622121.9	3367505	-20.67	622121.7	3367504	-20.64	0.25	0.44	-0.03	0.51	Med Veg.
641896.9	3365801	-25.06	641896.3	3365801	-25.04	0.63	0.01	-0.02	0.63	Med Veg.
622124.4	3367504	-20.68	622124.5	3367504	-20.66	-0.07	0.11	-0.02	0.13	Med Veg.
622124.4	3367504	-20.68	622124.9	3367504	-20.66	-0.53	0.24	-0.02	0.59	Med Veg.
641904.8	3365786	-25	641904	3365787	-25.02	0.8	-0.36	0.01	0.88	Med Veg.
641904.8	3365786	-25	641905.8	3365787	-25.03	-0.95	-0.29	0.02	0.99	Med Veg.
641907.7	3365775	-24.86	641908	3365774	-24.88	-0.25	0.49	0.02	0.55	Med Veg.

Appendix D



Appendix E

**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:

1

301 Voyager Way
Huntsville, AL 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 015B
PROJ. NO.: B1M958004

STATE LA **COUNTY** IBERVILLE **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

LATITUDE N30 07 53.73538 **HGT. MTS.**
LONGITUDE W91 19 15.77035 **EPOCH DATE**

RECEIVER MODEL TRIMBLE R8 GNSS

RECEIVER S/N 4903163687

EL. -24.036M

SESSION **DATE:** 12/01/10
DAY OF YEAR 335

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

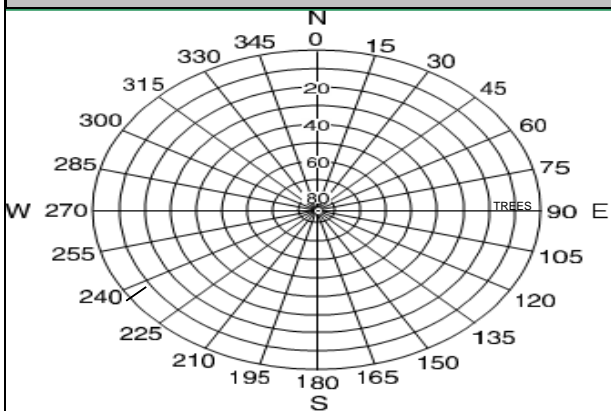
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL X **BASE STATION**

Description: 015B IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND NEAR BAYOU SORRELL LOCKS ON THE OUTSIDE OD ENTRANCE GATE ON NORTH SIDE OF RD.

SKETCH



**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
1

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 015C
PROJ. NO. B1M958004

STATE LA **COUNTY** IBERVILLE **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N30 07 51.95339 **HGT. MTS.**
LONGITUDE W91 19 13.83068 **EPOCH DATE**
EL. -23.309M

SESSION **DATE:** 12/01/10
DAY OF YEAR 335

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

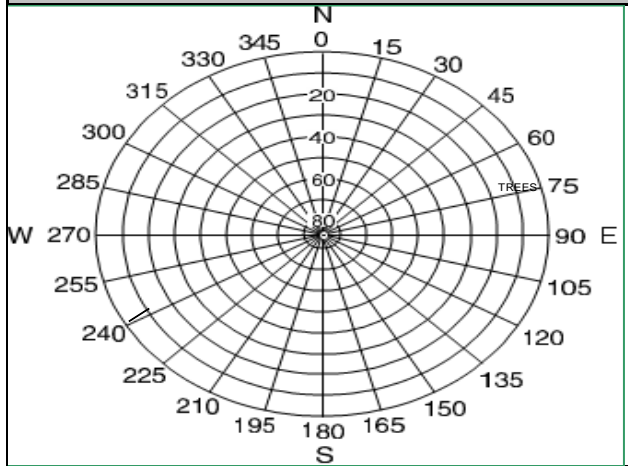
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL **BASE STATION**

Description: 015C IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND NEAR BAYOU SORRELL LOCKS ON THE OUTSIDE OF ENTRANCE GATE ALONG LIMESTONE RD. ON THE EAST SIDE OF RD.

SKETCH

Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 018B
PROJ. NO. B1M958004

STATE LA **COUNTY** IBERIA **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N30 02 57.16282 **HGT. MTS.**
LONGITUDE W91 15 51.99781 **EPOCH DATE**

EL. -24.280M

SESSION **DATE:** 12/01/10
DAY OF YEAR 335

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

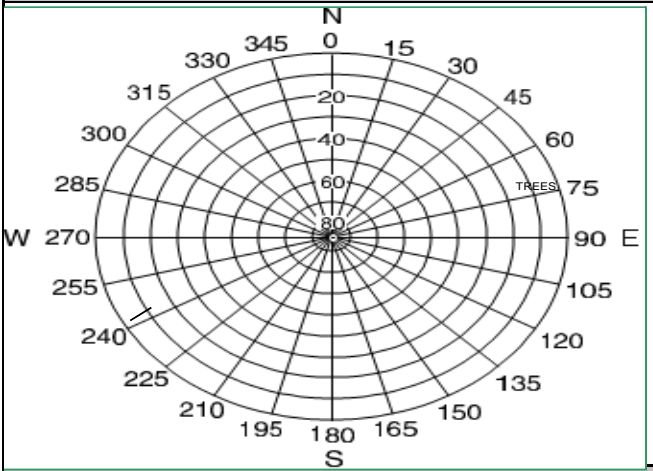
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 **0.000**
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL X **BASE STATION**

Description: 018B IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE SW SIDE OF RD.

SKETCH

Photo



301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 018C
PROJ. NO. B1M958004

STATE LA **COUNTY** IBERIA **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N30 02 54.12883 **HGT. MTS.**
LONGITUDE W91 15 49.49161 **EPOCH DATE**

EL. -24.213M

SESSION **DATE:** 12/01/10
DAY OF YEAR 335

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

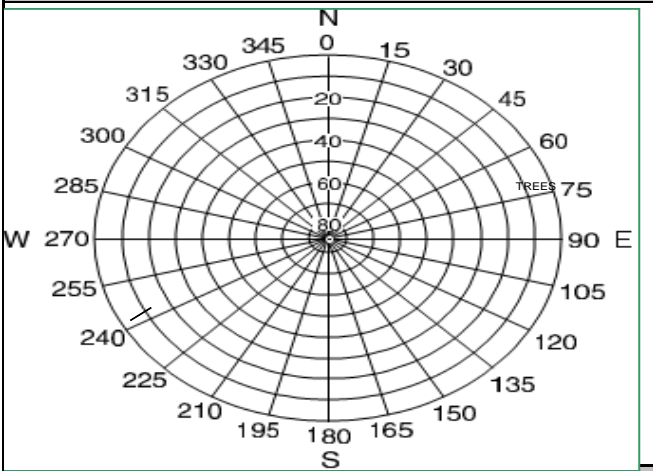
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 **0.000**
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL **BASE STATION**

Description: 018C IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE SW SIDE OF RD.

SKETCH

Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: (AU0092) 86 EABPL
PROJ. NO. B1M958004

STATE LA **COUNTY** ST. MARTIN **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N29 46 22.52652 **HGT. MTS.**
LONGITUDE W91 10 36.97799 **EPOCH DATE**

EL. -22.136M

SESSION **DATE:** 12/01/10
DAY OF YEAR 335

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

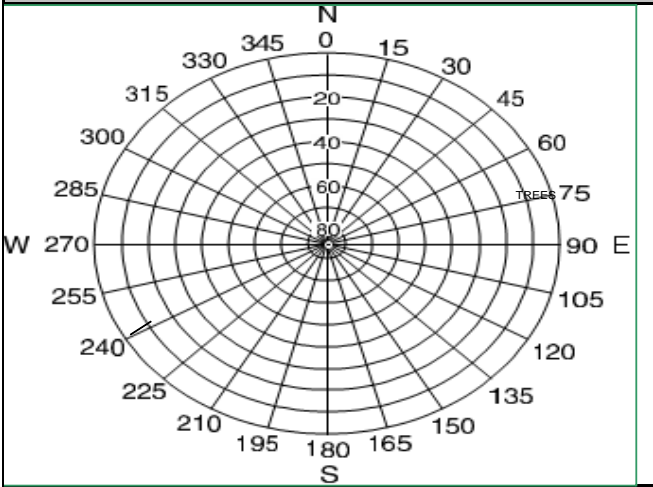
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: FLUSH
METERS/FEET 2' ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



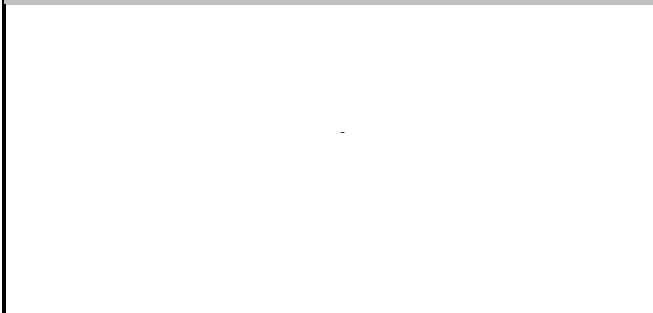
AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK **NEW CONTROL**
X **PUB. CONTROL** **BASE STATION**

Description: REF. DATASHEET AU0092

Photo



SKETCH



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: (AU8388) L 010
PROJ. NO. B1M958004

STATE LA COUNTY ST. MARY COUNTRY USA QUAD

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N29 40 26.78908 HGT. MTS.
LONGITUDE W91 13 57.41344 EPOCH DATE

EL. -24.452M

SESSION DATE: 12/01/10
DAY OF YEAR 335

START TIME Record Interval X U.T.C.
END TIME 1 SEC. LOCAL

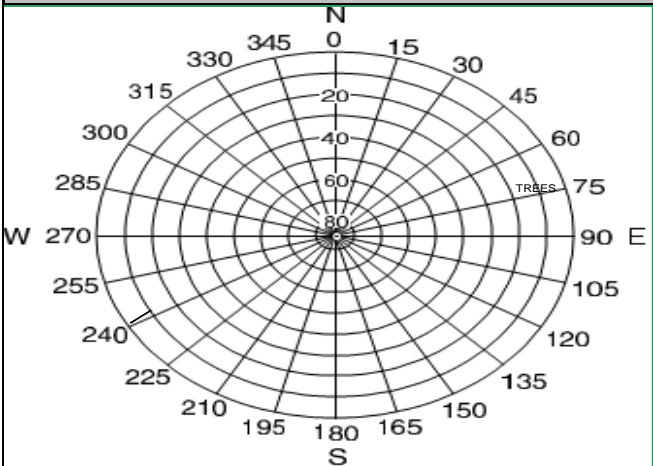
ANTENNA HEIGHT (SLANT)
MTRS/FT MEASURED FIXED HGT.

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X FIXED HGT

TOP OF MONUMENT IS: X FLUSH
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET PHOTO I.D.
PUB. BENCH MARK NEW CONTROL
X PUB. CONTROL BASE STATION

Description: REF. DATASHEET AU8388

SKETCH

Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
1

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: (AU0077) X 293
PROJ. NO. B1M958004

STATE LA **COUNTY** ST. MARTIN **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION
LATITUDE N29 54 29.78145 **HGT. MTS.**
LONGITUDE W91 12 58.22181 **EPOCH DATE**

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

EL. -23.825M

SESSION **DATE:** 12/01/10
DAY OF YEAR 335

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

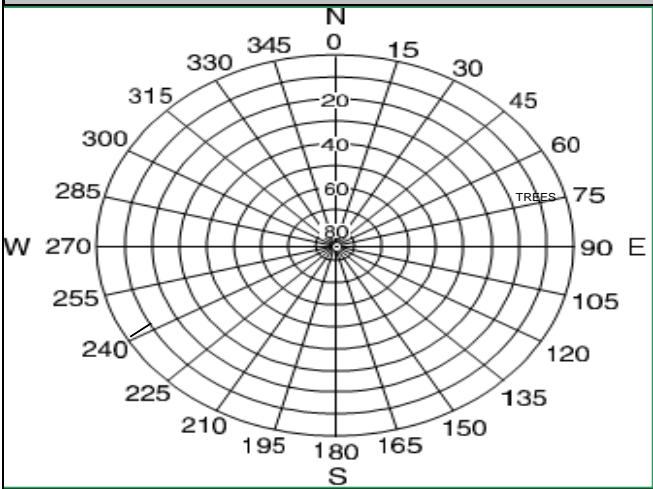
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK **NEW CONTROL**
X **PUB. CONTROL** **BASE STATION**

Description: REF. DATASHEET AU0077

SKETCH

Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 008B
PROJ. NO.: B1M958004

STATE: LA **COUNTY:** ST. MARY **COUNTRY:** USA **QUAD:**

OPERATOR: M. HAVARD

VRS POSITION

RECEIVER MODEL: TRIMBLE R8 GNSS
RECEIVER S/N: 4903163687

LATITUDE: N29 54 05.84429 **HGT. MTS.:**
LONGITUDE: W91 31 07.84570 **EPOCH DATE:**

EL. -18.052M

SESSION: **DATE:** 12/02/10
DAY OF YEAR: 336

START TIME: **Record Interval:** X **U.T.C.:**
END TIME: 1 SEC. **LOCAL:**

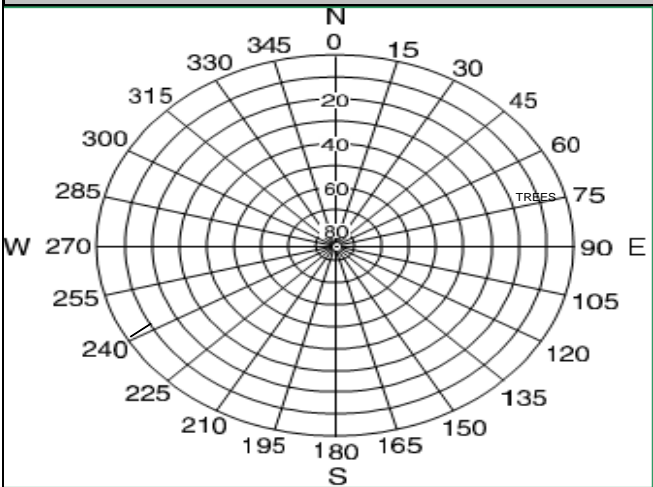
ANTENNA HEIGHT (SLANT)
MTRS/FT: **MEASURED:** **FIXED HGT.:**

ANTENNA INFO
RADIUS (M): 0.000
S/N NUMBER: 60250-66 0.000
ANTENNA TYPE: R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT: 2.000M (UNCORRECTED)
MEASURED: X **FIXED HGT:**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET: ABOVE GROUND
METERS/FEET: BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET: **PHOTO I.D.:**
PUB. BENCH MARK: X **NEW CONTROL:**
PUB. CONTROL: X **BASE STATION:**

Description: 008B IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE FSC OF LEVEE AND ON THE NE SIDE OF RAMP OVER LEVEE AND +- 30' NW OF FP02.

SKETCH

Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 008C
PROJ. NO.: B1M958004

STATE: LA **COUNTY:** ST. MARY **COUNTRY:** USA **QUAD:**

OPERATOR: M. HAVARD

VRS POSITION

RECEIVER MODEL: TRIMBLE R8 GNSS
RECEIVER S/N: 4903163687

LATITUDE: N29 54 05.26480 **HGT. MTS.:**
LONGITUDE: W91 31 13.28973 **EPOCH DATE:**

EL. -24.104M

SESSION: **DATE:** 12/02/10
DAY OF YEAR: 336

START TIME: **Record Interval:** X **U.T.C.:**
END TIME: 1 SEC. **LOCAL:**

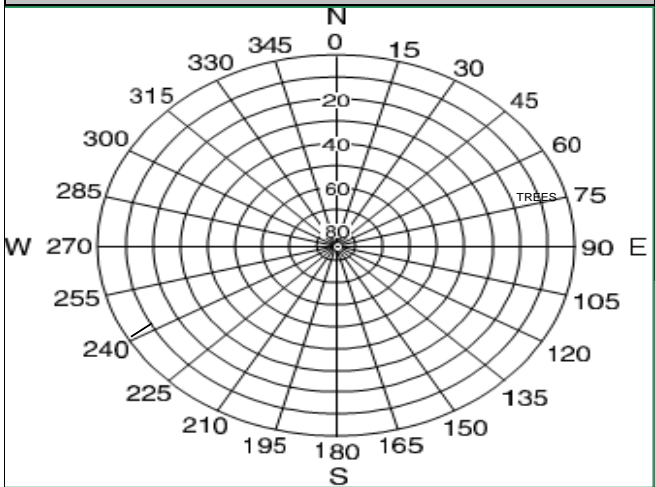
ANTENNA HEIGHT (SLANT)
MTRS/FT: **MEASURED:** **FIXED HGT.:**

ANTENNA INFO
RADIUS (M): 0.000
S/N NUMBER: 60250-66 0.000
ANTENNA TYPE: R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT: 2.000M (UNCORRECTED)
MEASURED: X **FIXED HGT:**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET: ABOVE GROUND
METERS/FEET: BELOW GROUND

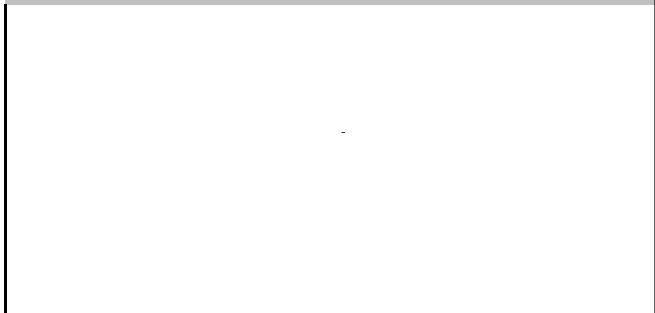
OBSTRUCTION DIAGRAM



AERIAL TARGET: **PHOTO I.D.:**
PUB. BENCH MARK: X **NEW CONTROL:**
PUB. CONTROL: **BASE STATION:**

Description: 008C IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE LS OF LEVEE BETWEEN LEVEE AND CANAL.

SKETCH



Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 016B
PROJ. NO. B1M958004

STATE LA **COUNTY** IBERIA **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N29 58 37.38981 **HGT. MTS.**
LONGITUDE W91 32 49.71130 **EPOCH DATE**

EL. -22.553M

SESSION **DATE:** 12/02/10
DAY OF YEAR 336

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

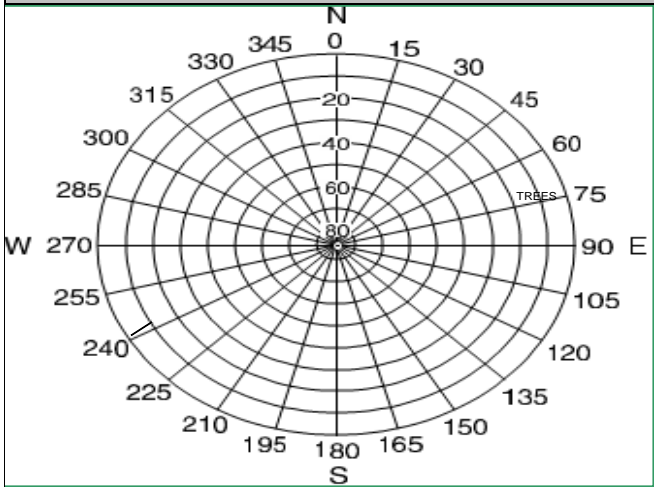
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

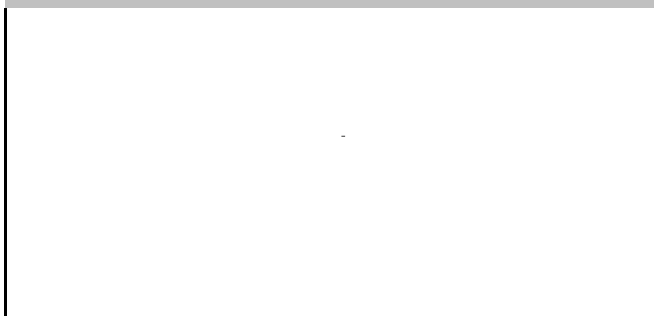
OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL X **BASE STATION**

Description: 016B IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE LS OF LEVEE AND ON THE SW SIDE OF GRAVEL RD. AT A "T" JUNCTION OF A GRASS RD LEADING SW.

SKETCH



Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 016C
PROJ. NO. B1M958004

STATE LA **COUNTY** IBERIA **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N29 58 40.92442 **HGT. MTS.**
LONGITUDE W91 32 51.11022 **EPOCH DATE**

EL. -22.166M

SESSION **DATE:** 12/02/10
DAY OF YEAR 336

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

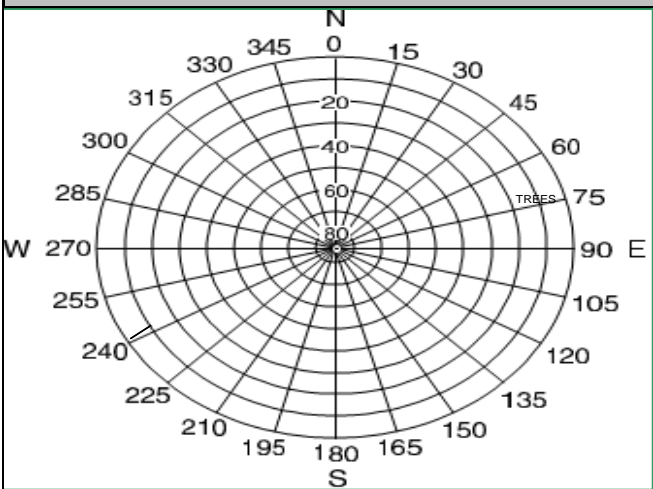
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL **BASE STATION**

Description: 016C IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE LS OF LEVEE AND ON THE NE SIDE OF GRAVEL RD. IN GRASS, +- 20' SW OF THE LST OF LEVEE.

SKETCH

Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: (DJ9347) D 394
PROJ. NO. B1M958004

STATE LA **COUNTY** ST. MARY **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N30 12 57.81885 **HGT. MTS.**
LONGITUDE W91 41 34.65047 **EPOCH DATE**

EL. -17.798M

SESSION **DATE:** 12/02/10
DAY OF YEAR 336

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

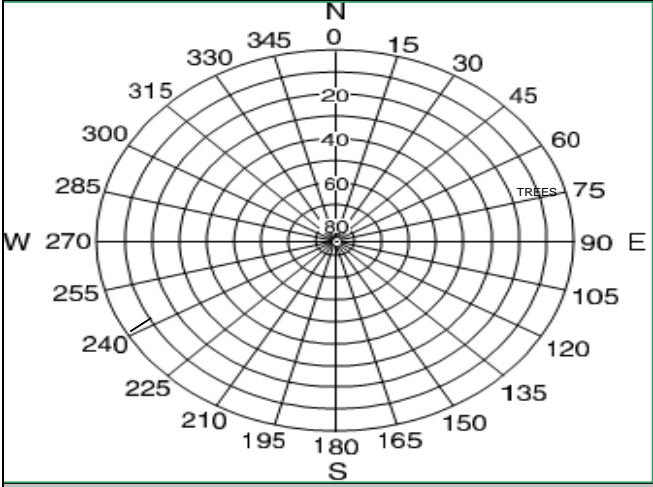
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK **NEW CONTROL**
X **PUB. CONTROL** **BASE STATION**

Description: REF. DATASHEET DJ9347

SKETCH

Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, AL 35806
256-830-3691 Office

JOB REFERENCE
USGS ATCH. BASIN LIDAR

POINT ID: FP02
PROJ. NO.: B1M958004

STATE: LA **COUNTY:** ST. MARY **COUNTRY:** **QUAD:**

OPERATOR: M.HAVARD

APPROXIMATE POSITION (C/A/CODE)

RECEIVER MODEL: TRIMBLE R8 GNSS
RECEIVER S/N: 4903163687

LATITUDE: N29 54 05.61624 **HGT. MTS.:**
LONGITUDE: W91 31 07.58965 **EPOCH DATE:**
EL. -17.957M

SESSION: **DATE:** 12/02/10
DAY OF YEAR: 336

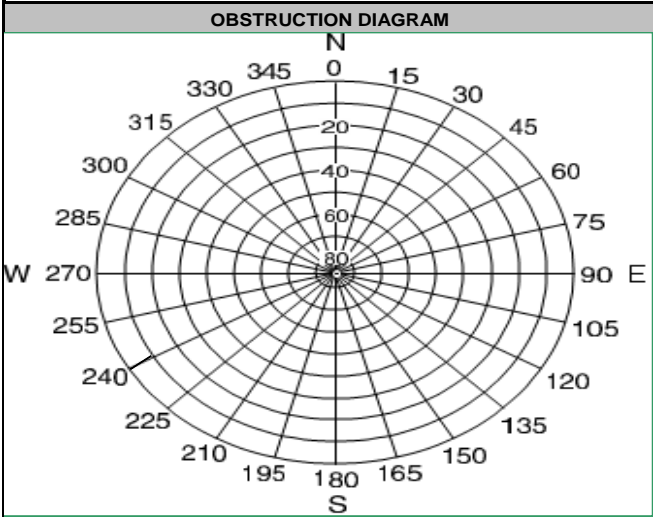
START TIME: **Record Interval:** X **U.T.C.:**
END TIME: 1 SEC. **LOCAL:**

ANTENNA HEIGHT (SLANT)
MTRS/FT: **MEASURED:** **FIXED HGT.:**

ANTENNA INFO
RADIUS (M): 0.000
S/N NUMBER: 60250-66 0.000
ANTENNA TYPE: R8 GNSS/SPS 88X INTERNAL

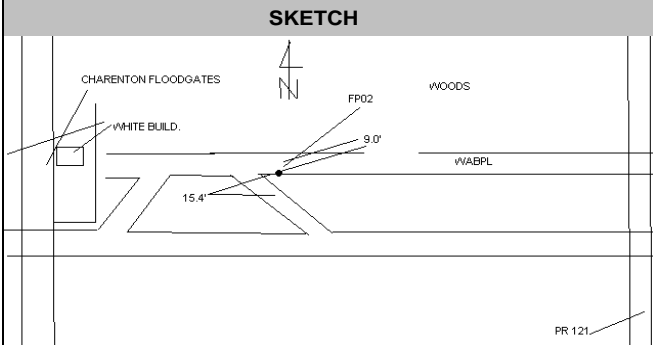
ANTENNA HEIGHT (VERTICAL)
MTRS/FT: 2.000M (UNCORRECTED)
MEASURED: **FIXED HGT:**

TOP OF MONUMENT IS: FLUSH
METERS/FEET: ABOVE GROUND
METERS/FEET: BELOW GROUND



AERIAL TARGET: **PHOTO I.D.:**
PUB. BENCH MARK: x **NEW CONTROL:**
PUB. CONTROL: X **BASE STATION:**

FP02 IS A 1/2" IR WITH AN ORANGE PLASTIC CAP SET FLUSH WITH THE GROUND ON THE LAND SIDE CROWN OF THE WABPL. APPROX 300' EAST OF THE CHARENTON FLOODGATES AND APPROX 1600' WEST OF THE INTERSECTION OF PR 121 AND THE WABPL. 9.0' SOUTH OF THE C/L OF THE LEVEE. 15.4' NORTH OF THE C/L OF THE RAMP LEADING UP THE LEVEE AND 20' SW OF A CORP OF ENGINEERS MARKER IN THE CENTER OF THE LEVEE. PIC LOOKING WEST.



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: (AU3412) L031
PROJ. NO. B1M958004

STATE LA **COUNTY** ST. MARY **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N29 48 53.01127 **HGT. MTS.**
LONGITUDE W91 27 07.36942 **EPOCH DATE**

EL. -22.291M

SESSION **DATE:** 12/02/10
DAY OF YEAR 336

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

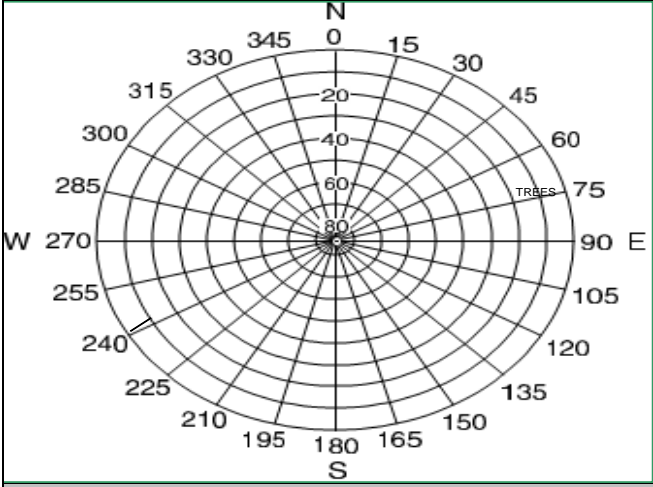
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

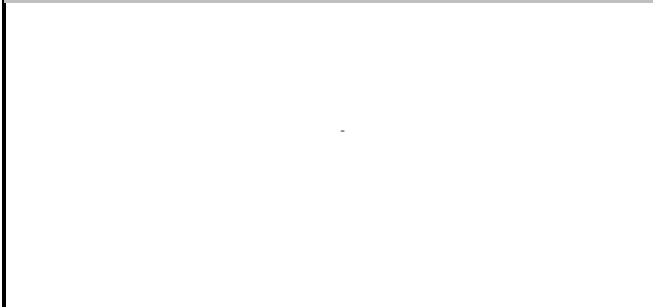
OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK **NEW CONTROL**
X **PUB. CONTROL** **BASE STATION**

Description: REF. DATASHEET AU3412

SKETCH



Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: (AU3415) L034
PROJ. NO. B1M958004

STATE LA **COUNTY** ST. MARY **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N29 51 58.97034 **HGT. MTS.**
LONGITUDE W91 31 38.20096 **EPOCH DATE**

EL. -22.225M

SESSION **DATE:** 12/02/10
DAY OF YEAR 336

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

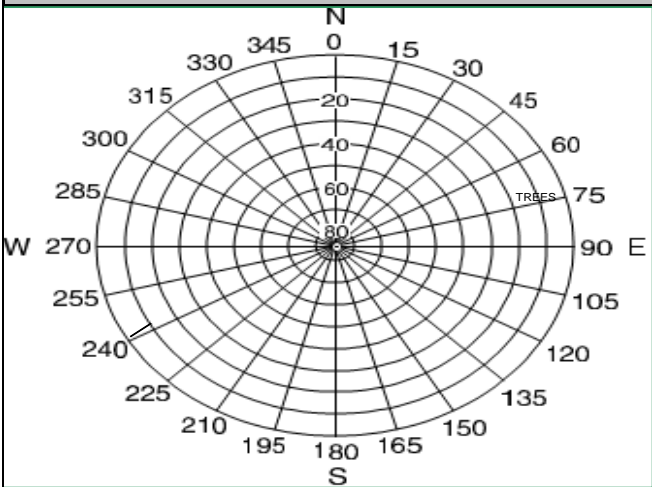
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK **NEW CONTROL**
X **PUB. CONTROL** **BASE STATION**

Description: REF. DATASHEET AU3415

SKETCH

Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 005B
PROJ. NO. B1M958004

STATE LA **COUNTY** IBERVILLE **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N30 22 07.37222 **HGT. MTS.**
LONGITUDE W91 37 49.02696 **EPOCH DATE**
EL. -18.213M

SESSION **DATE:** 12/02/10
DAY OF YEAR 336

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

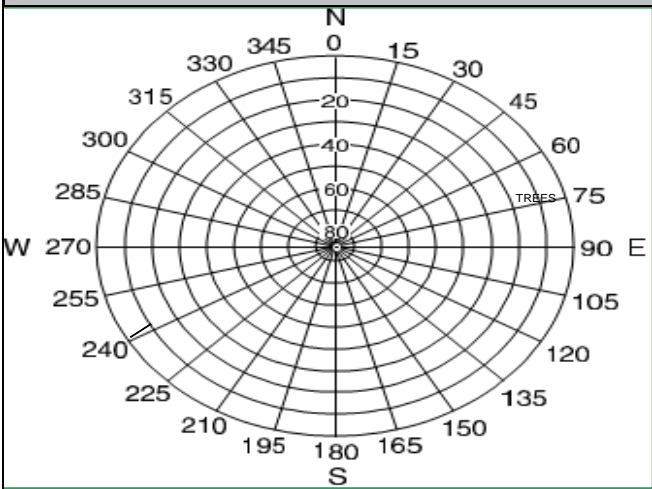
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL X **BASE STATION**

Description: 005B IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE WHISHEY BAY OFF EXIT RAMP SHOULDER, +- 20' NORTH OF THE C/L OF OFF RAMP.

SKETCH



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 005C
PROJ. NO. B1M958004

STATE LA **COUNTY** IBERVILLE **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION
LATITUDE N30 22 07.89053 **HGT. MTS.**
LONGITUDE W91 37 53.22592 **EPOCH DATE**

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

EL. -18.247M

SESSION **DATE:** 12/02/10
DAY OF YEAR 336

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

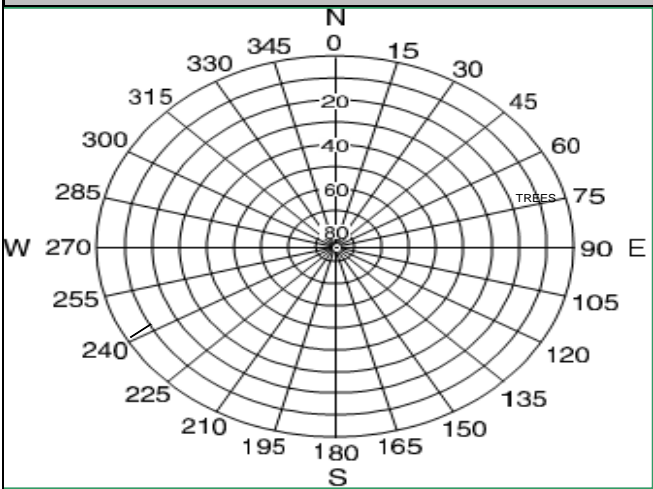
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL **BASE STATION**

Description: 005C IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE WHISHEY BAY OFF EXIT RAMP SHOULDER, +- 20' NORTH OF THE C/L OF OFF RAMP.

SKETCH



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
HUNTSVILLE, AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
USGS ATCH. BASIN LIDAR

POINT ID: (DJ9344) C 394
PROJ. NO. B1M958004

STATE LOUISIANA **COUNTY** WEST BATON ROUGE **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N 30 28 07.13522 **HGT. MTS**
LONGITUDE W 091 16 43.07623

EL. -22.045M

SESSION **DATE:** 12/03/10
DAY OF YEAR 337

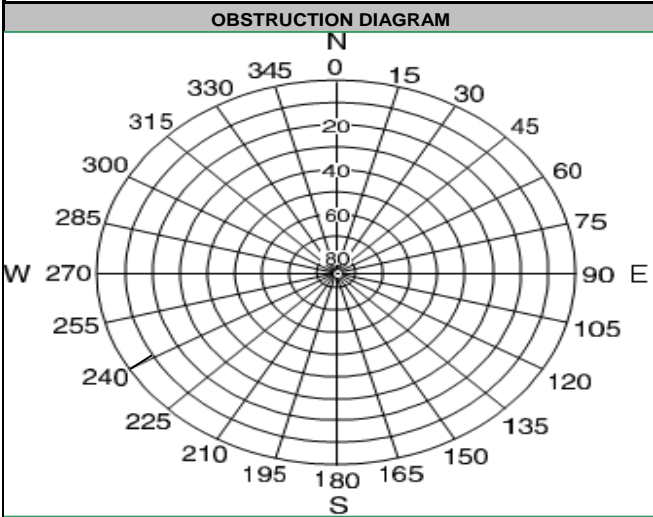
START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M(UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK **NEW CONTROL**
X **PUB. CONTROL** **BASE STATION**

REF. DATASHEET DJ9344

SKETCH



**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:

1

301 Voyager Way

HUNTSVILLE, AL. 35806

256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE

USGS ATCH. BASIN LIDAR

POINT ID:

FP01

PROJ. NO.

B1M958004

STATE LOUISIANA

COUNTY IBERVILLE

COUNTRY USA

QUAD

OPERATOR M. HAVARD

VRS POSITION

LATITUDE N 30 03 54.01077 **HGT. MTS**

LONGITUDE W 091 16 51.02560

EL. -20.278M

RECEIVER MODEL TRIMBLE R8 GNSS

RECEIVER S/N 4903163687

SESSION

DATE: 12/03/10

DAY OF YEAR 337

START TIME

Record Interval

X

U.T.C.

END TIME

1 SEC.

LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA HEIGHT (VERTICAL)

MTRS/FT 2.000M(UNCORRECTED) **MEASURED** X **FIXED HGT**

ANTENNA INFO

RADIUS (M) 0.000

S/N NUMBER 60250-66 0.000

ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

TOP OF MONUMENT IS: X **FLUSH**

METERS/FEET ABOVE GROUND

METERS/FEET BELOW GROUND

AERIAL TARGET

PHOTO I.D.

PUB. BENCH MARK

NEW CONTROL

PUB. CONTROL

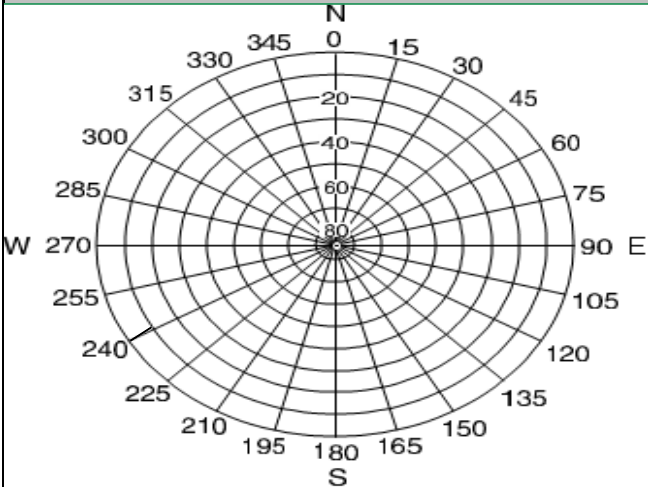
X **BASE STATION**

FP01 is a 1/2" IR with orange plastic cap set flush with the ground near the landside crown of the EABPL in Bayou Pегion, La. 32' nw of the c/l of a gravel ramp leading from Hwy 997 to the top of the levee. 65' n of the center of an opening in the concrete floodwall. 2200' se of Berthelots store in Bayou Pегion and 13.0 miles nw of the intersection of hwy 20 and 997 in Belle River. Pic looking north.

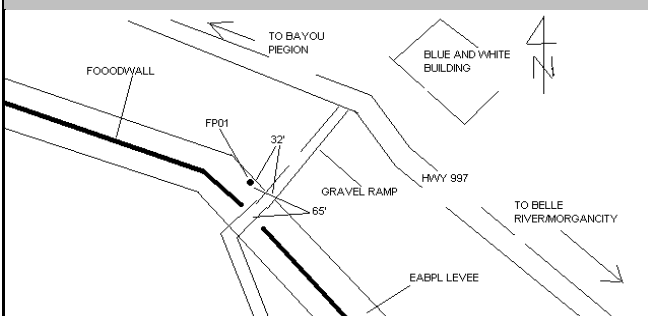
Photo



OBSTRUCTION DIAGRAM



SKETCH





**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:
1

301 Voyager Way
HUNTSVILLE, AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
USGS ATCH. BASIN LIDAR

POINT ID: FP03
PROJ. NO.: B1M958004

STATE: LOUISIANA **COUNTY:** IBERVILLE **COUNTRY:** USA **QUAD:**

OPERATOR: M. HAVARD

VRS POSITION

RECEIVER MODEL: TRIMBLE R8 GNSS
RECEIVER S/N: 4903163687

LATITUDE: N 30 21 54.59754 **HGT. MTS:**
LONGITUDE: W 091 38 00.46384
EL. -18.830M

SESSION: **DATE:** 12/03/10
DAY OF YEAR: 337

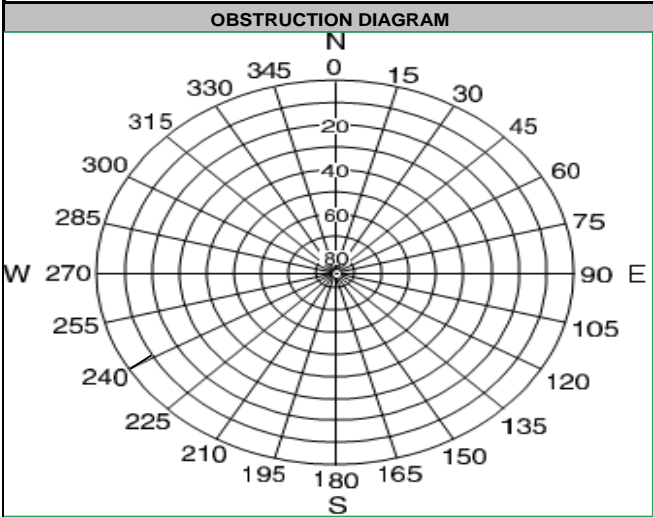
START TIME: **Record Interval:** X **U.T.C.:**
END TIME: 1 SEC. **LOCAL:**

ANTENNA HEIGHT (SLANT)
MTRS/FT: **MEASURED:** **FIXED HGT.:**

ANTENNA INFO
RADIUS (M): 0.000
S/N NUMBER: 60250-66 0.000
ANTENNA TYPE: R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT: 2.000M(UNCORRECTED)
MEASURED: X **FIXED HGT:**

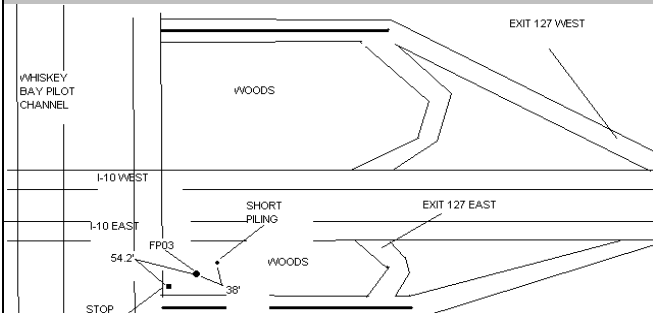
TOP OF MONUMENT IS: X FLUSH
METERS/FEET: ABOVE GROUND
METERS/FEET: BELOW GROUND



AERIAL TARGET: **PHOTO I.D.:**
PUB. BENCH MARK: **NEW CONTROL:**
PUB. CONTROL: X **BASE STATION:**

FP03 IS A 1/2" IR WITH AN ORANGE PLASTIC CAP SET FLUSH WITH THE GROUND IN A GRASS AREA AT EXIT 127 OF I-10 EAST BOUND. 54.2' NW OF A STOP SIGN. 38° SW OF A PK NAIL IN THE TOP CENTER OF A SHORT PILLING. PIC LOOKING SW. TAKE EXIT 127 EAST BOUND AND PROCEED TO STOP SIGN AND FP03 ON THE RIGHT IN THE GRASS.

SKETCH



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
HUNTSVILLE, AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
USGS ATCH. BASIN LIDAR

POINT ID: (AU3275) H P WILLIAMS
PROJ. NO. B1M958004

STATE LOUISIANA **COUNTY** ST MARY PARISH **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION
LATITUDE N 29 42 40.24540 Ellip. -23.998m **HGT. MTS**
LONGITUDE W 091 20 16.16713
EL. -23.998M

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

SESSION **DATE:** 12/03/10
DAY OF YEAR 337

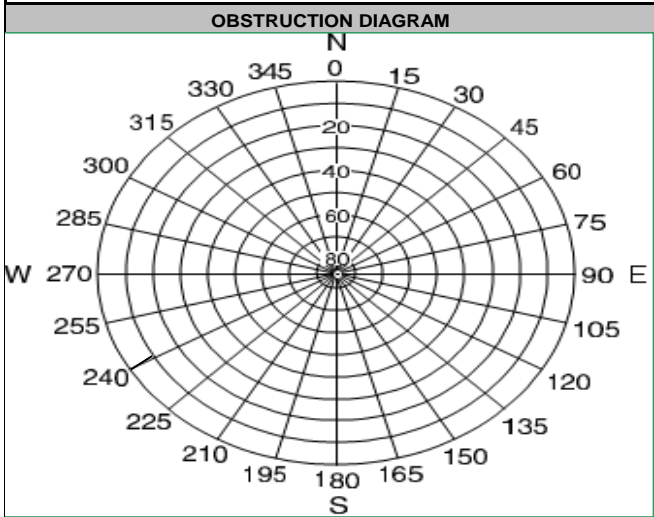
START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M(UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND



AERIAL TARGET **PHOTO I.D.**
x **PUB. BENCH MARK** **NEW CONTROL**
x **PUB. CONTROL** X **BASE STATION**

NGS PID AU3275. Primary Airport Control @ KPTN

Photo



SKETCH

**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:

1

301 Voyager Way
HUNTSVILLE, AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
USGS ATCH. BASIN LIDAR

POINT ID: (DJ9381) X 393
PROJ. NO. B1M958004

STATE LOUISIANA **COUNTY** IBERVILLE **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N 30 28 03.04522 **HGT. MTS**
LONGITUDE W 091 32 42.86060
EL. -21.346M

SESSION **DATE:** 12/03/10
DAY OF YEAR 337

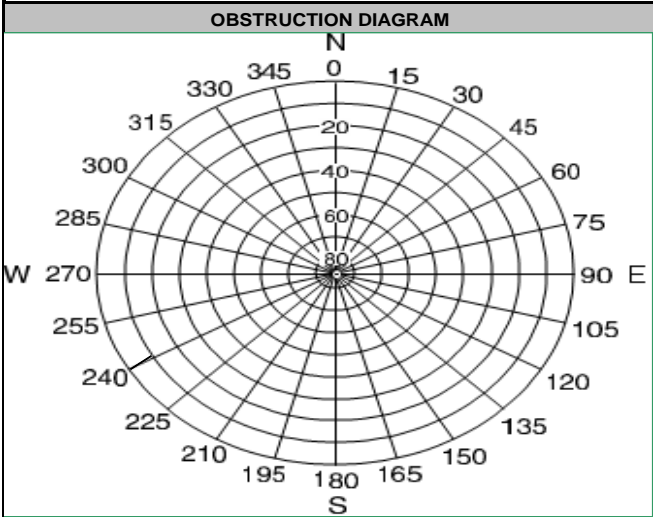
START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M(UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK **NEW CONTROL**
X **PUB. CONTROL** **BASE STATION**

REF. DATASHEET DJ9381

SKETCH



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, AL 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 001B
PROJ. NO. B1M958004

STATE LA **COUNTY** ST. LANDRY **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N30 32 54.44003 **HGT. MTS.**
LONGITUDE W91 51 38.16163 **EPOCH DATE**

EL. -20.940M

SESSION **DATE:** 12/04/10
DAY OF YEAR 338

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

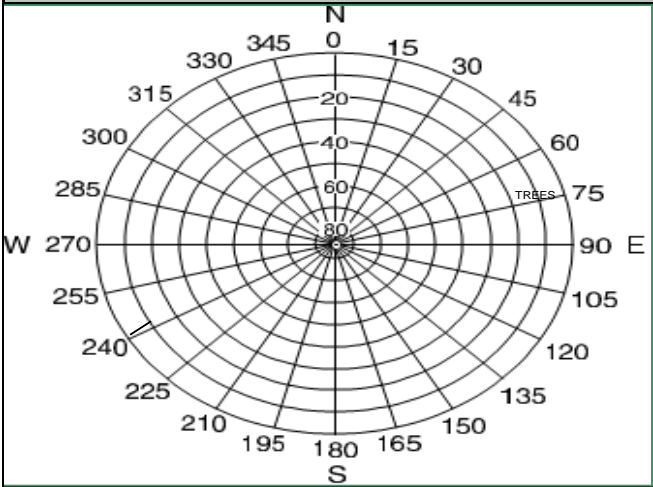
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

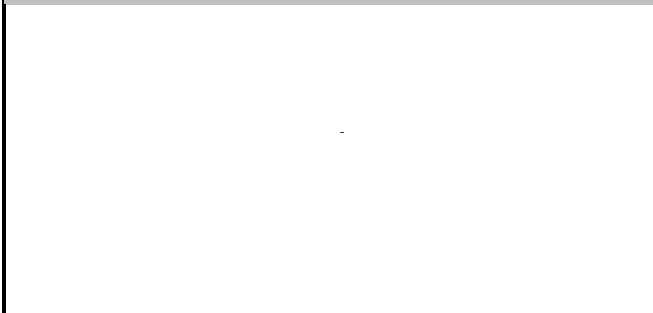
OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL X **BASE STATION**

Description: 001B IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE NORTH SIDE OF A LIMESTONE RD., +- 150' NORTH OF HWY 190 AT A "Y" JUNCTION IN RD.

SKETCH



Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:

1

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 001C
PROJ. NO. B1M958004

STATE LA **COUNTY** ST. LANDRY **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N30 32 54.45504 **HGT. MTS.**
LONGITUDE W91 51 35.28581 **EPOCH DATE**
EL. -20.847M

SESSION **DATE:** 12/04/10
DAY OF YEAR 338

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

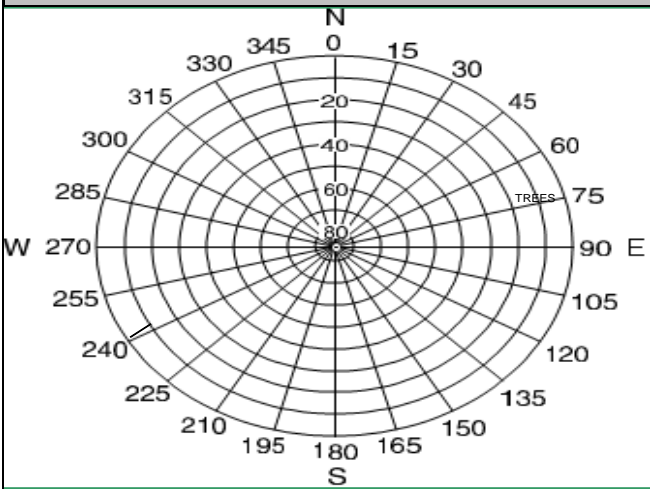
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

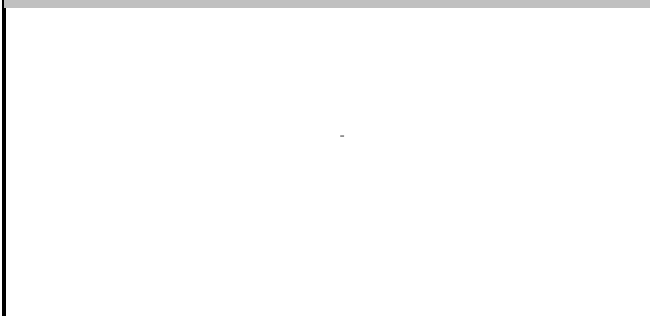
OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL **BASE STATION**

Description: 001C IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE SOUTH SIDE OF A LIMESTONE RD, +- 100' NORTH OF HWY 190.

SKETCH



Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 020B
PROJ. NO. B1M958004

STATE LA **COUNTY** ST.MARTIN **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N30 03 33.29636 **HGT. MTS.**
LONGITUDE W91 29 18.77784 **EPOCH DATE**
EL. -22.209M

SESSION **DATE:** 12/07/10
DAY OF YEAR 341

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

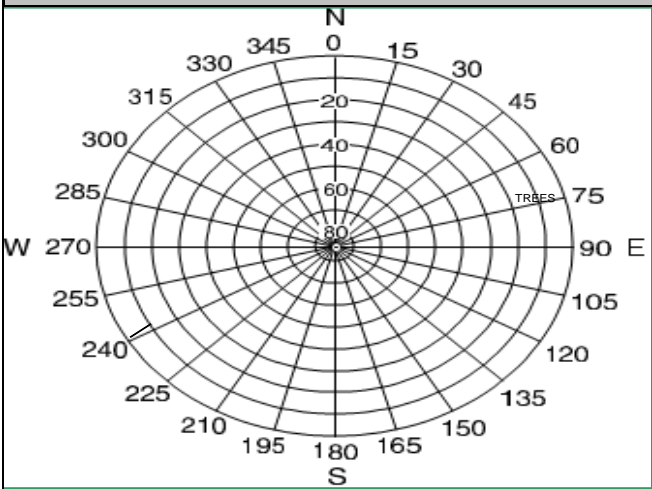
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL X **BASE STATION**

Description: 020B IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE WEST BANK OF ATCH. RIVER AT A OIL METER STA.

SKETCH

Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:

1

301 Voyager Way
Huntsville, Al. 35806
256-830-3691 Office

JOB REFERENCE
USGS-ATCH. BASIN LIDAR

POINT ID: 020C
PROJ. NO. B1M958004

STATE LA **COUNTY** ST. MARTIN **COUNTRY** USA **QUAD**

OPERATOR M. HAVARD

VRS POSITION

RECEIVER MODEL TRIMBLE R8 GNSS
RECEIVER S/N 4903163687

LATITUDE N30 03 34.12200 **HGT. MTS.**
LONGITUDE W91 29 20.17051 **EPOCH DATE**
EL. -22.151M

SESSION **DATE:** 12/07/10
DAY OF YEAR 341

START TIME **Record Interval** X **U.T.C.**
END TIME 1 SEC. **LOCAL**

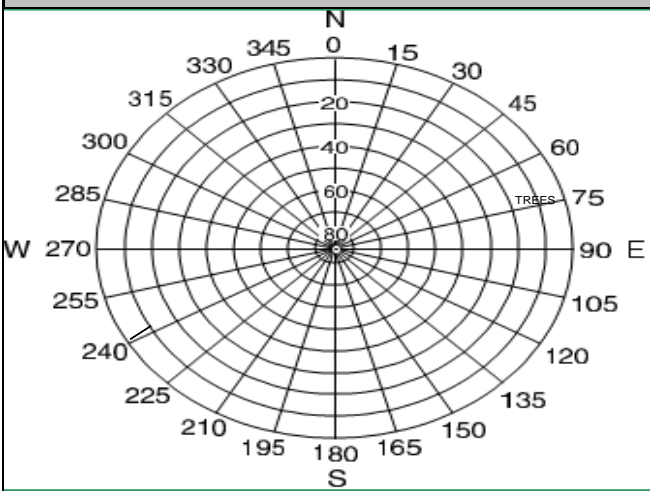
ANTENNA HEIGHT (SLANT)
MTRS/FT **MEASURED** **FIXED HGT.**

ANTENNA INFO
RADIUS (M) 0.000
S/N NUMBER 60250-66 0.000
ANTENNA TYPE R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT 2.000M (UNCORRECTED)
MEASURED X **FIXED HGT**

TOP OF MONUMENT IS: X **FLUSH**
METERS/FEET ABOVE GROUND
METERS/FEET BELOW GROUND

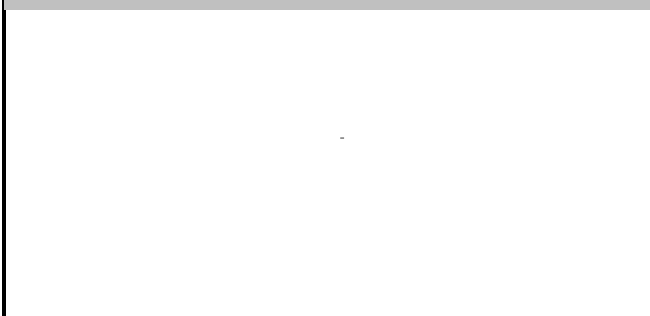
OBSTRUCTION DIAGRAM



AERIAL TARGET **PHOTO I.D.**
PUB. BENCH MARK X **NEW CONTROL**
PUB. CONTROL **BASE STATION**

Description: 020C IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE WEST BANK OF THE ATCH. RIVER AT A OIL METER STA.

SKETCH



Photo



**GPS CONTROL SURVEY
FIELD DATA SHEET**

PAGE:

1

301 Voyager Way
HUNTSVILLE, AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
USGS ATCH. BASIN LIDAR

POINT ID: (BJ0579) X290
PROJ. NO.: B1M958004

STATE: LOUISIANA **COUNTY:** IBERVILLE **COUNTRY:** USA **QUAD:**

OPERATOR: M. HAVARD

VRS POSITION

RECEIVER MODEL: TRIMBLE R8 GNSS
RECEIVER S/N: 4903163687

LATITUDE: N 30 17 18.70366 **HGT. MTS:**
LONGITUDE: W 091 13 51.47498
EL. -19.231M

SESSION: **DATE:** 12/07/10
DAY OF YEAR: 341

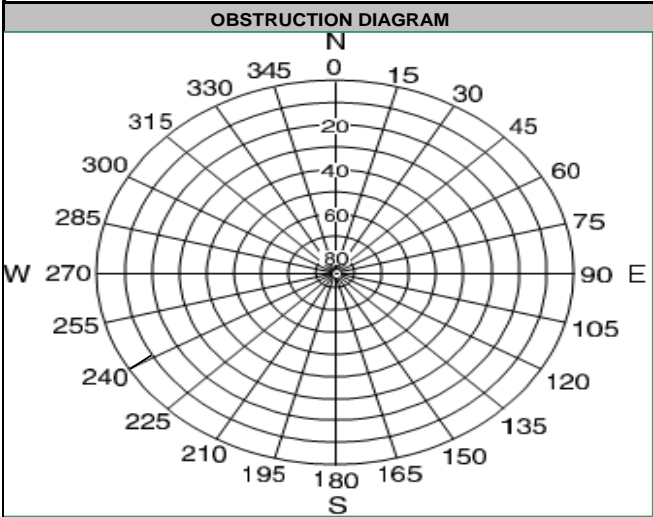
START TIME: **Record Interval:** X **U.T.C.:**
END TIME: 1 SEC. **LOCAL:**

ANTENNA HEIGHT (SLANT)
MTRS/FT: **MEASURED:** **FIXED HGT.:**

ANTENNA INFO
RADIUS (M): 0.000
S/N NUMBER: 60250-66 0.000
ANTENNA TYPE: R8 GNSS/SPS 88X INTERNAL

ANTENNA HEIGHT (VERTICAL)
MTRS/FT: 2.000M(UNCORRECTED)
MEASURED: X **FIXED HGT:**

TOP OF MONUMENT IS: X **FLUSH:**
METERS/FEET: ABOVE GROUND
METERS/FEET: BELOW GROUND



AERIAL TARGET: **PHOTO I.D.:**
PUB. BENCH MARK: **NEW CONTROL:**
X PUB. CONTROL: **BASE STATION:**

REF. DATASHEET BJ0579

SKETCH

Photo



Appendix F

Office Personnel

Northrop Grumman

Drew Beck – Manager Field Engineering Services
Cody Richardson – Survey Operations Manager

Field Personnel

Northrop Grumman

John Pupera – Field Supervisor
Maurice Havard – Party Chief
Mike Reveal – GPS Technician