GROUND CONTROL SURVEY REPORT

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LOWNDES CO GA LIDAR

3/31/2015

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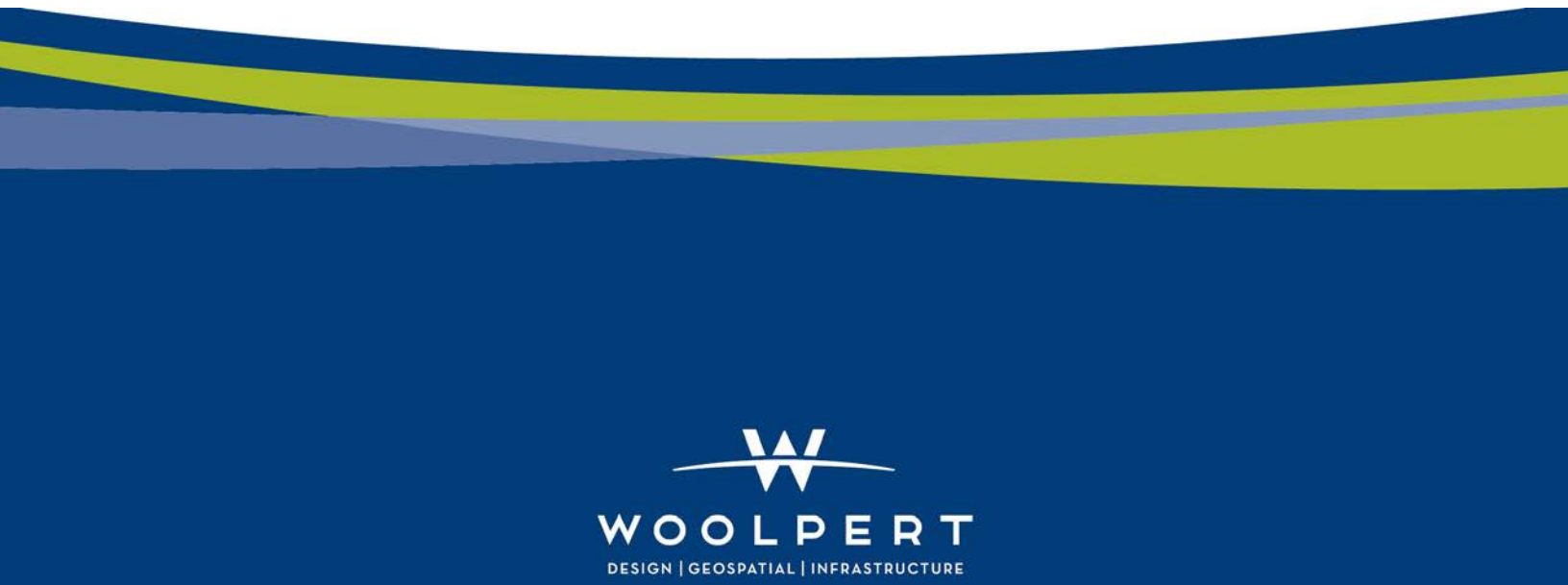
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SECTION 1: SURVEY REPORT

INTRODUCTION

Report Date:	3/31/2015
Project Name:	Lowndes Co GA LiDAR
Client Information:	NOAA / OCM
Contract Number:	EA133C11CQ0010
Requisition/Reference Number:	NCNA000-15-00801
Date of Contract:	2/19/2015
Delivery Date:	10/15/2015
Prepared By:	Ross Chaloupka, SIT
Woolpert Project Number:	75271

This report contains a comprehensive outline of the LiDAR Ground Control Survey that supported the Lowndes Co GA LiDAR. All surveys were performed in such a way as to achieve ground control accuracies that meet or exceed the National Mapping Accuracy Standards.

PROJECT AREA

The project area consists of approximately 500 square miles encompassing Lowndes Co GA.

PURPOSE

The purpose of this survey was to establish three-dimensional coordinates for 25 ground control points (GCPs) and 150 quality control (QC) points spread over 6 land cover classifications in which there was more than 10% coverage (Bare Earth, Urban, Tall Grass/Crops, Brush, Forested, and Swamp).

The QC points were collected uniformly dispersed over the project area in the appropriate land cover categories to verify fundamental, supplemental, and consolidated vertical accuracies throughout the task order AOI.

DATE OF SURVEY

Ground control field operations took place on March 16th 2015 thru March 23rd 2015.

MONUMENTATION

Prior to aerial imagery acquisition, Woolpert field crews performed a field reconnaissance to verify the existence and suitability of pre-selected existing National Geodetic Survey (NGS) control stations. These existing bench marks were utilized as checks to ensure that quality *x, y,* and *z* coordinate values were computed for each of the newly established photogrammetric control stations. Recovery information sheets for the existing NGS control stations can be found in Section 5 of this report. A control diagram showing the ground control stations used to support this LiDAR mapping project can be found in Section 6 of this report.

ACCURACY STANDARDS

The data collected under this task order shall meet the National Standard for spatial Database Accuracy (NSSDA) standards. The NSSDA standards specify that vertical accuracy be reported at the 95 percent confidence level for data tested by an independent source of higher accuracy.

The Fundamental Vertical Accuracy (FVA): 18.13 cm at a 95% confidence level, derived according to NSSDA, i.e., based on $RMSE_Z$ of 9.25 cm in the "open terrain" land cover category.

The Supplemental Vertical Accuracy (SVA): The SVA will be reported for each of the land cover classes within the task order AOI. The target SVA is 26.9 cm at a 95th percentile level, derived according to ASPRS Guidelines, Vertical Accuracy Reporting for Lidar Data, i.e., based on the 95th percentile error for each required land cover class.

The Consolidated Vertical Accuracy (CVA): 26.9 cm at a 95th percentile level, derived according to ASPRS Guidelines, Vertical Accuracy Reporting for Lidar Data, i.e., based on the 95th percentile error in all land cover categories combined.

Automated and manual filtering for lidar products shall use the following minimum performance for artifact/feature removal from the bare earth model: The bare earth surface model shall have a minimum of 95% of surface canopy artifacts, including buildings, vegetation, bridges or overpass structures removed.

GPS EQUIPMENT

Woolpert utilized 2 Trimble Navigation R8 Model 2 GNSS dual-frequency GPS receivers and 1 TSC2 data collector for this project.

METHODOLOGY

REAL-TIME KINEMATIC (RTK) GPS

The field crew utilized Real-Time Kinematic (RTK) GPS surveying throughout most of the ground control data collection process. Using RTK GPS techniques, observations were performed on a total of 30 LiDAR control points and 152 ground control quality check points. The survey was conducted using a 1-second epoch rate, in a fixed solution RTK mode, with each observation lasting between 60 to 180 seconds. Each station was occupied twice to insure the necessary horizontal and vertical accuracies were being met for this photogrammetric project.

VRS VIRTUAL REFERENCE SYSTEM OR RTN REAL TIME NETWORK.

The "Virtual Reference Station" (VRS) concept is based on having a network (spaced at 50-60kms) of GNSS (GPS or GPS/GLONASS) reference stations permanently connected to the control center via the Internet. The networked stations collectively and precisely, model Ionospheric errors for the individual GNSS rover in the network coverage area. The rover interprets and uses the VRS network-correction data as if it is operating with a single physical base station on a very short baseline which increases the RTK performance. Corrections (vectors) are from the closest base, but because the ionospheric error (which is traditionally baseline dependent) is practically negated, the rover's degradation in accuracy due to baseline length starts when the rover is first initialized, that is, at the work site. Thus accuracies are increased and more consistent throughout the working region

GPS DATA ANALYSIS AND PROCESSING

The field crew chief processed all session baselines each day using Trimble Navigation's Trimble Business Center (TBC) Version 3.40 baseline processor with the accompanying broadcast ephemeris. Daily processing ensured the integrity of the network as it was constructed, and allowed the field crews to immediately reschedule observations of poor baselines.

DATUM REFERENCE AND FINAL COORDINATES

The spatial reference system for the Lowndes Co GA AOI is Georgia State Plane West Zone, NAD83(2011), U.S. Survey Feet, horizontal and NAVD88 U.S. Survey Feet vertical using the geoid model of 2012 (GEOID12A). Units for both the horizontal and vertical datums will be expressed in U.S. Survey Feet to two (2) decimal places.

QUALITY ASSURANCE

Existing NGS published bench marks were surveyed to assure that there were no discrepancies

in the field observation data. Close examinations of the residuals showed no distortions in orientation or scale.

The ground control data meets positional accuracies necessary to support 1.0 point per 0.3 meters squared (1' GSD) data at 95% confidence level as outlined in the *Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy (NSSDA),* published by the Federal Geographic Data Committee (FGDC-STD-007.3-1998).

SECTION 2: GROUND/GEODETIC CONTROL COORDINATE LISTINGS

COORDINATE SYSTEM: GRID

HORIZONTAL DATUM: NAD83 2011 Georgia State Plane West Zone
VERTICAL DATUM: NAVD88
GEOID MODEL: GEOID 12A
UNITS: US Survey Feet

LiDAR GROUND CONTROL

Points	State Plane Georgia West Geoid 12A			Description
	Northing (sFT)	Easting (sFT)	Elevation (sFT)	
1001	374300.03	2599928.31	245.65	GCP
1002	362973.50	2550368.25	216.59	GCP
1003	351384.09	2589850.99	245.13	GCP
1004	331914.80	2637945.38	192.91	GCP
1005	322400.09	2569302.94	231.35	GCP
1006	303432.36	2620756.14	172.63	GCP
1007	289874.82	2579471.98	186.45	GCP
1008	282657.64	2530134.42	181.37	GCP
1009	270564.87	2564786.00	211.17	GCP
1010	259598.50	2587149.53	153.56	GCP
1011	244496.62	2604815.16	160.05	GCP
1012	228827.34	2600909.99	155.69	GCP
1013	237842.91	2561442.53	118.42	GCP
1014	252970.04	2541886.68	159.62	GCP
1015	267563.56	2529104.33	158.32	GCP
1016	277652.17	2608182.41	153.01	GCP
1017	299587.77	2540142.01	151.40	GCP
1018	320643.85	2613542.53	204.23	GCP
1019	311009.16	2579724.00	207.19	GCP
1020	343023.74	2532504.63	235.95	GCP
1021	371695.51	2526108.70	242.97	GCP
1022	348411.13	2570547.81	170.25	GCP
1023	336253.68	2591167.50	210.22	GCP
1024	334129.64	2555643.43	207.80	GCP
1025	345314.92	2619054.07	196.69	GCP
1026	300944.54	2588277.78	186.84	GCP
1027	293647.58	2554991.55	211.83	GCP
1028	314462.45	2646448.83	170.62	GCP
1029	311371.89	2554728.69	133.10	GCP
1030	276285.41	2530659.20	195.18	GCP

QUALITY CONTROL POINTS

Point	State Plane Georgia West Geoid 12A			Description
	Northing (sFT)	Easting (sFT)	Elevation (sFT)	
2001	372294.56	2599379.34	229.92	BARE EARTH
2002	371622.81	2526033.50	240.27	BARE EARTH
2003	348467.89	2570549.86	170.45	BARE EARTH
2004	332321.26	2637851.76	192.05	BARE EARTH
2005	343020.64	2532464.47	235.45	BARE EARTH
2006	302855.61	2624292.35	170.90	BARE EARTH
2007	289912.44	2579480.53	185.45	BARE EARTH
2008	281081.54	2528547.21	179.55	BARE EARTH
2009	270631.58	2563221.44	214.60	BARE EARTH
2010	259552.21	2589811.51	178.17	BARE EARTH
2011	233596.77	2609104.81	153.67	BARE EARTH
2012	249270.55	2591665.07	170.84	BARE EARTH
2013	241163.24	2563740.60	117.84	BARE EARTH
2014	251010.74	2548421.63	159.93	BARE EARTH
2015	267528.41	2529087.64	157.61	BARE EARTH
2016	281213.73	2618620.18	153.50	BARE EARTH
2017	299623.66	2540873.54	148.92	BARE EARTH
2018	314743.98	2604818.35	208.14	BARE EARTH
2019	319619.40	2588409.46	218.67	BARE EARTH
2020	347536.52	2554313.08	206.75	BARE EARTH
2021	368571.52	2574178.03	206.88	BARE EARTH
2022	340774.77	2581360.05	203.63	BARE EARTH
2023	333908.26	2597725.72	217.10	BARE EARTH
2024	328243.03	2559806.43	154.12	BARE EARTH
2025	342062.12	2637052.65	198.30	BARE EARTH
3001	365329.53	2599363.14	245.47	URBAN
3002	362963.47	2550310.42	215.59	URBAN
3003	350819.89	2589570.22	250.67	URBAN
3004	332374.90	2637738.11	192.92	URBAN
3005	322381.99	2569370.06	231.99	URBAN
3006	300943.90	2588195.84	186.84	URBAN
3007	289877.62	2579577.33	187.47	URBAN
3008	282646.64	2530105.36	182.35	URBAN
3009	295134.94	2556118.71	216.07	URBAN
3010	257293.92	2597469.91	179.23	URBAN
3011	235783.62	2604211.02	165.07	URBAN
3012	248720.18	2592722.00	167.96	URBAN
3013	253009.13	2562625.71	181.03	URBAN

Point	State Plane Georgia West Geoid 12A			Description
	Northing (sFT)	Easting (sFT)	Elevation (sFT)	
3014	250966.26	2548476.03	162.36	URBAN
3015	267554.88	2529130.60	158.61	URBAN
3016	282272.83	2618372.69	158.81	URBAN
3017	299681.94	2540027.50	149.92	URBAN
3018	307451.81	2583971.05	210.37	URBAN
3019	319686.23	2588522.70	219.59	URBAN
3020	347528.56	2554382.72	206.87	URBAN
3021	366707.91	2574456.78	196.59	URBAN
3022	340700.87	2581328.91	205.84	URBAN
3023	333500.13	2596136.63	215.12	URBAN
3024	328160.11	2559818.18	155.42	URBAN
3025	342119.87	2636921.02	199.49	URBAN
4001	366938.08	2598543.16	240.36	TALL GRASS
4002	371655.04	2525990.67	241.88	TALL GRASS
4003	348501.12	2570456.19	172.43	TALL GRASS
4004	336352.79	2644432.076	193.71	TALL GRASS
4005	342973.317	2532460.988	235.592	TALL GRASS
4006	302770.679	2624038.131	170.944	TALL GRASS
4007	288382.195	2581190.025	194.152	TALL GRASS
4008	281037.72	2530306.396	188.874	TALL GRASS
4009	270637.107	2564742.448	210.791	TALL GRASS
4010	259628.701	2589350.875	179.981	TALL GRASS
4011	236561.023	2605289.986	152.649	TALL GRASS
4012	249298.635	2591671.838	171.122	TALL GRASS
4013	252825.16	2562390.222	170.417	TALL GRASS
4014	252588.184	2553072.287	162.342	TALL GRASS
4015	267498.998	2529310.164	160.307	TALL GRASS
4016	281608.603	2618557.991	158.132	TALL GRASS
4017	299702.926	2540878.886	146.447	TALL GRASS
4018	306889.991	2583988.606	202.751	TALL GRASS
4019	319766.562	2588380.865	218.119	TALL GRASS
4020	347682.533	2554247.504	211.618	TALL GRASS
4021	368372.794	2574149.405	211.67	TALL GRASS
4022	340735.791	2581410.828	203.566	TALL GRASS
4023	333747.27	2597585.741	216.392	TALL GRASS
4024	327989.72	2559702.288	155.73	TALL GRASS
4025	342221.285	2636797.318	197.19	TALL GRASS
5001	372288.342	2599511.313	229.049	BRUSH
5002	372883.335	2527626.373	221.889	BRUSH
5003	345053.039	2570959.458	152.206	BRUSH
5004	344970.786	2643151.034	196.476	BRUSH

Point	State Plane Georgia West Geoid 12A			Description
	Northing (sFT)	Easting (sFT)	Elevation (sFT)	
5005	346633.273	2543805.444	184.732	BRUSH
5006	302699.754	2624273.619	170.581	BRUSH
5007	288435.652	2584787.412	193.787	BRUSH
5008	282795.121	2531048.936	157.306	BRUSH
5009	270319.831	2553738.58	182.934	BRUSH
5011	234316.01	2608535.953	152.997	BRUSH
5012	249208.137	2591605.068	170.372	BRUSH
5013	254150.728	2562545.789	203.278	BRUSH
5014	249772.068	2541623.718	97.966	BRUSH
5015	267717.629	2529259.782	158.218	BRUSH
5016	273981.671	2608244.905	160.395	BRUSH
5017	299754.779	2540035.162	150.798	BRUSH
5018	314819.308	2604844.953	208.129	BRUSH
5019	319786.047	2588350.516	217.716	BRUSH
5020	348625.267	2556015.9	203.365	BRUSH
5021	367980.034	2574810.105	216.357	BRUSH
5022	336600.971	2576085.549	173.041	BRUSH
5023	333813.106	2597666.862	214.899	BRUSH
5024	326881.765	2558466.442	153.087	BRUSH
5025	342072.975	2636874.143	196.873	BRUSH
6001	374319.064	2602823.979	224.784	FOREST
6002	372019.72	2525840.479	238.82	FOREST
6002A	372988.717	2527560.506	222.551	FOREST
6003	348042.484	2570582.857	166.692	FOREST
6004	331856.159	2638074.279	190.756	FOREST
6005	342943.045	2532433.781	235.588	FOREST
6006	302888.662	2624081.193	171.5	FOREST
6007	288226.241	2585969.219	193.958	FOREST
6008	281096.395	2528470.866	179.019	FOREST
6009	270705.296	2563275.357	214.631	FOREST
6010	259661.441	2588781.293	178.686	FOREST
6011	236737.318	2605249.089	152.979	FOREST
6012	248780.861	2591382.051	165.875	FOREST
6013	254355.386	2563055.762	205.954	FOREST
6014	252988.838	2541819.54	156.973	FOREST
6015	267626.962	2529062.5	159.166	FOREST
6016	281129.825	2618642.36	152.965	FOREST
6017	299528.08	2540857.266	150.741	FOREST
6018	320542.244	2613628.629	202.122	FOREST
6019	319732.465	2588535.633	217.209	FOREST
6019A	317710.188	2584298.401	197.528	FOREST

Point	State Plane Georgia West Geoid 12A			Description
	Northing (sFT)	Easting (sFT)	Elevation (sFT)	
6020	347718.401	2554467.876	209.461	FOREST
6020A	347544.733	2554028.142	206.909	FOREST
6021	368429.761	2574184.055	209.202	FOREST
6022	340612.075	2581341.464	207.443	FOREST
6023	334099.923	2597714.448	216.421	FOREST
6024	326853.436	2558599.824	152.193	FOREST
6025	342282.455	2636981.408	197.56	FOREST
7001	370365.62	2597410.759	196.856	SWAMP
7002	372612.96	2519824.418	198.252	SWAMP
7003	355452.605	2591541.245	216.965	SWAMP
7004	368666.431	2574307.927	202.975	SWAMP
7005	348365.254	2565186.766	181.82	SWAMP
7006	335711.423	2591577.788	204.407	SWAMP
7007	326824.329	2558523.477	151.993	SWAMP
7008	340424.631	2616962.564	200.653	SWAMP
7009	335677.768	2647948.733	167.995	SWAMP
7010	323697.375	2630294.547	174.607	SWAMP
7011	317656.312	2584265.102	195.874	SWAMP
7012	303466.151	2621347.196	168.183	SWAMP
7013	264621.401	2620510.033	121.159	SWAMP
7014	248511.534	2606350.014	151.141	SWAMP
7015	234294.226	2607116.202	153.966	SWAMP
7016	243451.745	2563232.347	134.469	SWAMP
7017	253432.613	2562690.722	182.469	SWAMP
7018	252806.999	2542376.483	165.612	SWAMP
7019	285126.476	2530750.012	134.756	SWAMP
7020	299865.694	2541049.737	134.793	SWAMP
7021	270338.602	2553827.249	183.81	SWAMP
7022	290494.008	2573508.027	179.426	SWAMP
7023	292137.151	2554017.423	201.788	SWAMP
7024	308226.578	2585716.467	194.923	SWAMP
7025	313740.361	2613565.059	187.715	SWAMP

NGS BASE STATION CHECK POINTS

Point	Grid Deltas Published vs. Surveyed		
	Δ Northing (sFT)	Δ Easting (sFT)	Δ Elev. (sFT)
BLANTON ECC RTK 0318	-0.15	-0.01	0.14
BLANTON ECC RTK 0322	-0.13	-0.02	0.14
DEVANE RESET RTK 0319	0.13	-0.08	N/A
HAM 5 RTK 0319	0.09	-0.03	N/A
HAM 5 RTK 0322	0.01	-0.07	N/A
MORVAN RM 3 RTK 0320	N/A	N/A	0.00
MORVAN RM 3 RTK 0321	N/A	N/A	-0.03
N 178 RTK 0316	0.01	0.01	-0.13
N 178 RTK 0317	0.02	-0.02	-0.13
Z 321 RTK 0320	N/A	N/A	-0.05

LIDAR GROUND CONTROL CHECK POINTS

Point	Grid Deltas Published vs. Surveyed		
	Δ Northing (sFT)	Δ Easting (sFT)	Δ Elev. (sFT)
1001 CHK	0.00	-0.01	-0.04
1002 CHK	0.05	0.01	0.04
1004 CHK	0.01	0.03	0.03
1011 CHK	-0.03	0.03	-0.05
1015 CHK	-0.04	0.01	0.00
2012 CHK	0.05	0.05	0.02
2023 CHK	0.00	0.03	0.04

COORDINATE SYSTEM: GEODETIC

HORIZONTAL DATUM: NAD83 (2011) Epoch 2010.00
VERTICAL DATUM: NAVD88
UNITS: US Survey Feet
DATE: 3/31/2015

LiDAR GROUND CONTROL

Point	NAD 83 (2011) Epoch 2010.00		Ellipsoid Ht. (sFT)	Description
	N Latitude	W Longitude		
1001	31°01'32.03918"	-83°11'53.56181"	155.11	GCP
1002	30°59'43.86442"	-83°21'24.06618"	126.01	GCP
1003	30°57'46.10063"	-83°13'51.58502"	154.20	GCP
1004	30°54'29.09832"	-83°04'41.44448"	101.45	GCP
1005	30°53'00.89406"	-83°17'50.16799"	140.06	GCP
1006	30°49'48.83634"	-83°08'01.75901"	80.96	GCP
1007	30°47'38.19058"	-83°15'56.48512"	94.85	GCP
1008	30°46'30.34688"	-83°25'22.67972"	89.77	GCP
1009	30°44'28.21403"	-83°18'46.54146"	119.47	GCP
1010	30°42'37.92164"	-83°14'31.33063"	61.67	GCP
1011	30°40'06.97227"	-83°11'10.49179"	67.96	GCP
1012	30°37'32.22588"	-83°11'56.74829"	63.52	GCP
1013	30°39'04.60074"	-83°19'27.66635"	26.46	GCP
1014	30°41'35.72071"	-83°23'10.33680"	67.81	GCP
1015	30°44'01.01924"	-83°25'35.63033"	66.61	GCP
1016	30°45'34.82037"	-83°10'28.58137"	61.20	GCP
1017	30°49'17.24002"	-83°23'26.62046"	59.94	GCP
1018	30°52'39.82613"	-83°09'22.70233"	112.73	GCP
1019	30°51'07.33907"	-83°15'51.64052"	115.75	GCP
1020	30°56'27.65865"	-83°24'50.84897"	145.07	GCP
1021	31°01'11.85267"	-83°26'02.12264"	152.59	GCP
1022	30°57'18.22972"	-83°17'33.54302"	79.36	GCP
1023	30°55'16.24811"	-83°13'37.93070"	119.03	GCP
1024	30°54'58.01021"	-83°20'25.91873"	116.73	GCP
1025	30°56'43.48759"	-83°08'16.85153"	105.49	GCP
1026	30°49'27.03546"	-83°14'14.47713"	95.28	GCP
1027	30°48'17.39715"	-83°20'36.82650"	120.30	GCP
1028	30°51'35.55221"	-83°03'05.84858"	78.96	GCP
1029	30°51'12.83902"	-83°20'38.34483"	41.72	GCP
1030	30°45'27.24280"	-83°25'17.15040"	103.53	GCP

QUALITY CONTROL POINTS

Point	NAD 83 (2011) Epoch 2010.00		Ellipsoid Ht. (sFT)	Description
	N Latitude	W Longitude		
2001	31°01'12.23910"	-83°12'00.07087"	139.35	BARE EARTH
2002	31°01'11.13805"	-83°26'02.99242"	149.89	BARE EARTH
2003	30°57'18.79131"	-83°17'33.51429"	79.56	BARE EARTH
2004	30°54'33.12982"	-83°04'42.47353"	100.59	BARE EARTH
2005	30°56'27.63071"	-83°24'51.31025"	144.57	BARE EARTH
2006	30°49'42.80326"	-83°07'21.26628"	79.21	BARE EARTH
2007	30°47'38.56226"	-83°15'56.38359"	93.85	BARE EARTH
2008	30°46'14.85132"	-83°25'40.99271"	87.94	BARE EARTH
2009	30°44'28.99182"	-83°19'04.46308"	122.90	BARE EARTH
2010	30°42'37.24537"	-83°14'00.84332"	86.27	BARE EARTH
2011	30°38'18.72239"	-83°10'22.48161"	61.50	BARE EARTH
2012	30°40'55.33277"	-83°13'40.59686"	78.82	BARE EARTH
2013	30°39'37.29244"	-83°19'01.07106"	25.90	BARE EARTH
2014	30°41'15.87272"	-83°21'55.65279"	68.11	BARE EARTH
2015	30°44'00.67246"	-83°25'35.82419"	65.90	BARE EARTH
2016	30°46'09.13836"	-83°08'28.59030"	61.67	BARE EARTH
2017	30°49'17.54499"	-83°23'18.22825"	57.46	BARE EARTH
2018	30°51'42.20710"	-83°11'03.40060"	116.61	BARE EARTH
2019	30°52'31.84928"	-83°14'11.18385"	127.27	BARE EARTH
2020	30°57'10.79711"	-83°20'40.05474"	115.90	BARE EARTH
2021	31°00'37.47119"	-83°16'50.01115"	116.33	BARE EARTH
2022	30°56'01.79732"	-83°15'30.09323"	112.56	BARE EARTH
2023	30°54'52.48308"	-83°12'22.87767"	125.83	BARE EARTH
2024	30°53'59.44190"	-83°19'38.63908"	62.95	BARE EARTH
2025	30°56'09.60624"	-83°04'50.55626"	106.97	BARE EARTH
3001	31°00'03.31017"	-83°12'00.95260"	154.76	URBAN
3002	30°59'43.76937"	-83°21'24.73149"	125.01	URBAN
3003	30°57'40.54018"	-83°13'54.86402"	159.74	URBAN
3004	30°54'33.67169"	-83°04'43.77196"	101.46	URBAN
3005	30°53'00.70974"	-83°17'49.39935"	140.71	URBAN
3006	30°49'27.03593"	-83°14'15.41687"	95.28	URBAN
3007	30°47'38.20993"	-83°15'55.27702"	95.87	URBAN
3008	30°46'30.23996"	-83°25'23.01377"	90.75	URBAN
3009	30°48'32.03575"	-83°20'23.77640"	124.56	URBAN
3010	30°42'14.25611"	-83°12'33.34129"	87.28	URBAN
3011	30°38'40.79070"	-83°11'18.27744"	72.93	URBAN
3012	30°40'49.79799"	-83°13'28.54670"	75.94	URBAN

Point	NAD 83 (2011) Epoch 2010.00		Ellipsoid Ht. (sFT)	Description
	N Latitude	W Longitude		
3013	30°41'34.62002"	-83°19'12.81301"	89.18	URBAN
3014	30°41'15.42863"	-83°21'55.03347"	70.53	URBAN
3015	30°44'00.93167"	-83°25'35.32996"	66.90	URBAN
3016	30°46'19.64251"	-83°08'31.31568"	67.00	URBAN
3017	30°49'18.18001"	-83°23'27.92615"	58.46	URBAN
3018	30°50'31.78983"	-83°15'03.25543"	118.88	URBAN
3019	30°52'32.50135"	-83°14'09.87818"	128.19	URBAN
3020	30°57'10.71329"	-83°20'39.25576"	116.02	URBAN
3021	31°00'19.00534"	-83°16'46.97891"	106.00	URBAN
3022	30°56'01.06839"	-83°15'30.45773"	114.77	URBAN
3023	30°54'48.57889"	-83°12'41.15839"	123.85	URBAN
3024	30°53'58.62036"	-83°19'38.51139"	64.25	URBAN
3025	30°56'10.19050"	-83°04'52.06111"	108.15	URBAN
4001	31°00'19.29988"	-83°12'10.21318"	149.69	TALL GRASS
4002	31°01'11.45989"	-83°26'03.48209"	151.50	TALL GRASS
4003	30°57'19.12750"	-83°17'34.58707"	81.54	TALL GRASS
4004	30°55'12.38563"	-83°03'26.48756"	102.27	TALL GRASS
4005	30°56'27.16255"	-83°24'51.35396"	144.71	TALL GRASS
4006	30°49'41.98627"	-83°07'24.19083"	79.26	TALL GRASS
4007	30°47'23.28060"	-83°15'36.92719"	102.54	TALL GRASS
4008	30°46'14.30232"	-83°25'20.83187"	97.26	TALL GRASS
4009	30°44'28.93223"	-83°18'47.03419"	119.09	TALL GRASS
4010	30°42'38.04026"	-83°14'06.11238"	88.08	TALL GRASS
4011	30°38'48.39170"	-83°11'05.84920"	60.50	TALL GRASS
4012	30°40'55.61016"	-83°13'40.51663"	79.11	TALL GRASS
4013	30°41'32.81672"	-83°19'15.52588"	78.57	TALL GRASS
4014	30°41'31.15393"	-83°21'02.26121"	70.52	TALL GRASS
4015	30°44'00.36682"	-83°25'33.27681"	68.60	TALL GRASS
4016	30°46'13.05197"	-83°08'29.26158"	66.31	TALL GRASS
4017	30°49'18.32914"	-83°23'18.16062"	54.99	TALL GRASS
4018	30°50'26.22810"	-83°15'03.10692"	111.25	TALL GRASS
4019	30°52'33.30810"	-83°14'11.49793"	126.72	TALL GRASS
4020	30°57'12.24702"	-83°20'40.79547"	120.77	TALL GRASS
4021	31°00'35.50669"	-83°16'50.35822"	121.12	TALL GRASS
4022	30°56'01.40742"	-83°15'29.51392"	112.50	TALL GRASS
4023	30°54'50.90168"	-83°12'24.50034"	125.12	TALL GRASS
4024	30°53'56.94264"	-83°19'39.85623"	64.55	TALL GRASS
4025	30°56'11.20602"	-83°04'53.46992"	105.86	TALL GRASS

Point	NAD 83 (2011) Epoch 2010.00		Ellipsoid Ht. (sFT)	Description
	N Latitude	W Longitude		
5001	31°01'12.16620"	-83°11'58.55498"	138.47	BRUSH
5002	31°01'23.50953"	-83°25'44.59109"	131.53	BRUSH
5003	30°56'44.96284"	-83°17'29.11871"	61.25	BRUSH
5004	30°56'37.79789"	-83°03'40.21113"	105.16	BRUSH
5005	30°57'02.60950"	-83°22'40.79526"	93.88	SWAMP
5006	30°49'41.26258"	-83°07'21.49782"	78.89	BRUSH
5007	30°47'23.51951"	-83°14'55.68184"	102.16	BRUSH
5008	30°46'31.64738"	-83°25'12.18643"	65.71	BRUSH
5009	30°44'26.60445"	-83°20'53.14834"	91.24	BRUSH
5011	30°38'25.89048"	-83°10'28.92002"	60.84	BRUSH
5012	30°40'54.72001"	-83°13'41.28989"	78.36	BRUSH
5013	30°41'45.92483"	-83°19'13.62976"	111.45	BRUSH
5014	30°41'04.08653"	-83°23'13.60280"	6.15	BRUSH
5015	30°44'02.53404"	-83°25'33.83753"	66.51	BRUSH
5016	30°44'58.48823"	-83°10'28.23771"	68.56	BRUSH
5017	30°49'18.90037"	-83°23'27.83247"	59.34	BRUSH
5018	30°51'42.95026"	-83°11'03.08775"	116.60	BRUSH
5019	30°52'33.50344"	-83°14'11.84430"	126.32	BRUSH
5020	30°57'21.44774"	-83°20'20.40725"	112.52	BRUSH
5021	31°00'31.56744"	-83°16'42.80261"	125.80	BRUSH
5022	30°55'20.91085"	-83°16'31.03388"	81.93	BRUSH
5023	30°54'51.54633"	-83°12'23.56268"	123.63	BRUSH
5024	30°53'46.06879"	-83°19'54.13546"	61.90	BRUSH
5025	30°56'09.73089"	-83°04'52.60450"	105.54	BRUSH
6001	31°01'31.97664"	-83°11'20.28310"	134.24	FOREST
6002	31°01'15.07898"	-83°26'05.18052"	148.45	FOREST
6002A	31°01'24.55684"	-83°25'45.34001"	132.20	BRUSH
6003	30°57'14.57856"	-83°17'33.17375"	75.79	FOREST
6004	30°54'28.50552"	-83°04'39.97167"	99.29	FOREST
6005	30°56'26.86476"	-83°24'51.66871"	144.71	FOREST
6006	30°49'43.14992"	-83°07'23.68436"	79.82	FOREST
6007	30°47'21.35083"	-83°14'42.15343"	102.33	FOREST
6008	30°46'15.00332"	-83°25'41.86664"	87.41	FOREST
6009	30°44'29.71740"	-83°19'03.83883"	122.93	FOREST
6010	30°42'38.41106"	-83°14'12.63357"	86.79	FOREST
6011	30°38'50.14006"	-83°11'06.29972"	60.84	FOREST
6012	30°40'50.50962"	-83°13'43.88455"	73.86	FOREST
6013	30°41'47.91233"	-83°19'07.77130"	114.12	FOREST

Point	NAD 83 (2011) Epoch 2010.00		Ellipsoid Ht. (sFT)	Description
	N Latitude	W Longitude		
6014	30°41'35.91140"	-83°23'11.10422"	65.17	FOREST
6015	30°44'01.64955"	-83°25'36.10481"	67.46	FOREST
6016	30°46'08.30595"	-83°08'28.34485"	61.14	FOREST
6017	30°49'16.60010"	-83°23'18.42251"	59.28	FOREST
6018	30°52'38.81287"	-83°09'21.72498"	110.61	FOREST
6019	30°52'32.95787"	-83°14'09.72537"	125.81	FOREST
6019A	30°52'13.29050"	-83°14'58.53467"	106.13	FOREST
6020	30°57'12.58591"	-83°20'38.26173"	118.61	FOREST
6020A	30°57'10.89922"	-83°20'43.32623"	116.06	FOREST
6021	31°00'36.06775"	-83°16'49.95485"	118.65	FOREST
6022	30°56'00.18861"	-83°15'30.32187"	116.37	FOREST
6023	30°54'54.38085"	-83°12'22.98810"	125.16	FOREST
6024	30°53'45.77853"	-83°19'52.60709"	61.00	FOREST
6025	30°56'11.79363"	-83°04'51.34957"	106.23	FOREST
7001	31°00'53.31794"	-83°12'22.88389"	106.25	SWAMP
7002	31°01'21.33727"	-83°27'14.27395"	107.90	SWAMP
7003	30°58'26.22480"	-83°13'31.77837"	126.11	SWAMP
7004	31°00'38.40026"	-83°16'48.50985"	112.43	SWAMP
7005	30°57'18.18800"	-83°18'35.11226"	90.95	SWAMP
7006	30°55'10.84730"	-83°13'33.27333"	113.20	SWAMP
7007	30°53'45.49612"	-83°19'53.48582"	60.80	SWAMP
7008	30°55'55.28103"	-83°08'41.38139"	109.38	SWAMP
7009	30°55'05.35740"	-83°02'46.19858"	76.53	SWAMP
7010	30°53'08.50525"	-83°06'10.15620"	83.08	SWAMP
7011	30°52'12.75999"	-83°14'58.92180"	104.47	SWAMP
7012	30°49'49.11665"	-83°07'54.97696"	76.51	SWAMP
7013	30°43'24.75508"	-83°08'08.67988"	29.19	SWAMP
7014	30°40'46.57532"	-83°10'52.51527"	59.08	SWAMP
7015	30°38'25.79859"	-83°10'45.17279"	61.81	SWAMP
7016	30°39'59.98086"	-83°19'06.69220"	42.55	SWAMP
7017	30°41'38.80653"	-83°19'12.03188"	90.63	SWAMP
7018	30°41'34.07326"	-83°23'04.74009"	73.81	SWAMP
7019	30°46'54.74180"	-83°25'15.43493"	43.18	SWAMP
7020	30°49'19.92835"	-83°23'16.18828"	43.33	SWAMP
7021	30°44'26.78381"	-83°20'52.13075"	92.12	SWAMP
7022	30°47'44.78906"	-83°17'04.80311"	87.85	SWAMP
7023	30°48'02.51876"	-83°20'48.12276"	110.26	SWAMP
7024	30°50'39.31577"	-83°14'43.16198"	103.43	SWAMP

Point	NAD 83 (2011) Epoch 2010.00		Ellipsoid Ht. (sFT)	Description
	N Latitude	W Longitude		
7025	30°51'31.50229"	-83°09'23.16048"	96.15	SWAMP

SECTION 3: GROUND/GEODETIC CONTROL LOGS AND PHOTOS

This section contains the station recovery information sheets and photographs for the ground control stations established for the project. The stations appear as they are ordered in the final coordinate listing of Section 2.

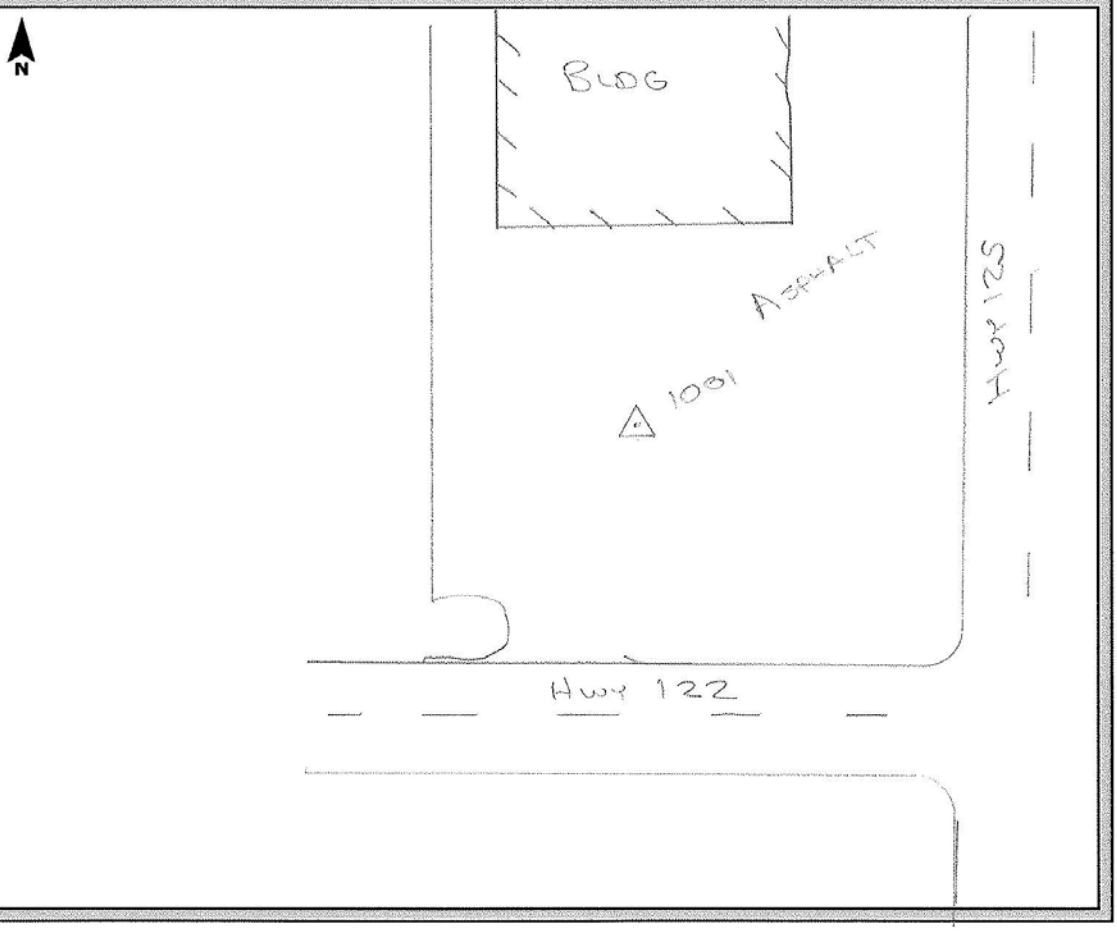
The data is assembled on the following pages.

LiDAR Control Points:

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:** 75271	**Survey Date:** 3-16-15
Station Name:	1001 GCP	**Operator Name:**	ROSS CHALOUPKA
Latitude:	31-01-32.0	**Julian Day:**	**Session No.** 2
Longitude:	83-11-53.6	**Start Time:**	**End Time:**
Ellip. Height:	155.1 sft	**Data File Name:**	LWNDS RC 031615
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL
Weather Condition:	80° / CLR	**Antenna Height:** 2.0M	to bottom of antenna mount



1001-2-16MAR2015

1001-3N-16MAR2015

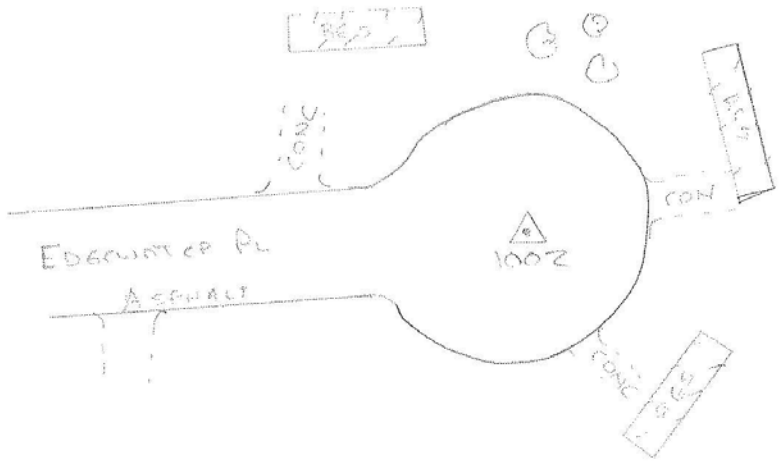
1001-3E-16MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-20-15
Station Name:	1002 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30 59 42.9	**Julian Day:**	079	**Session No.**	
Longitude:	83 21 24.1	**Start Time:**		**End Time:**	
Ellip. Height:	126.0 eFt	**Data File Name:**	LWNDS RC 032015		
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	75° / CLDY	**Antenna Height:**	2.0M	to bottom of antenna mount	

N



1002-2-20MAR2015

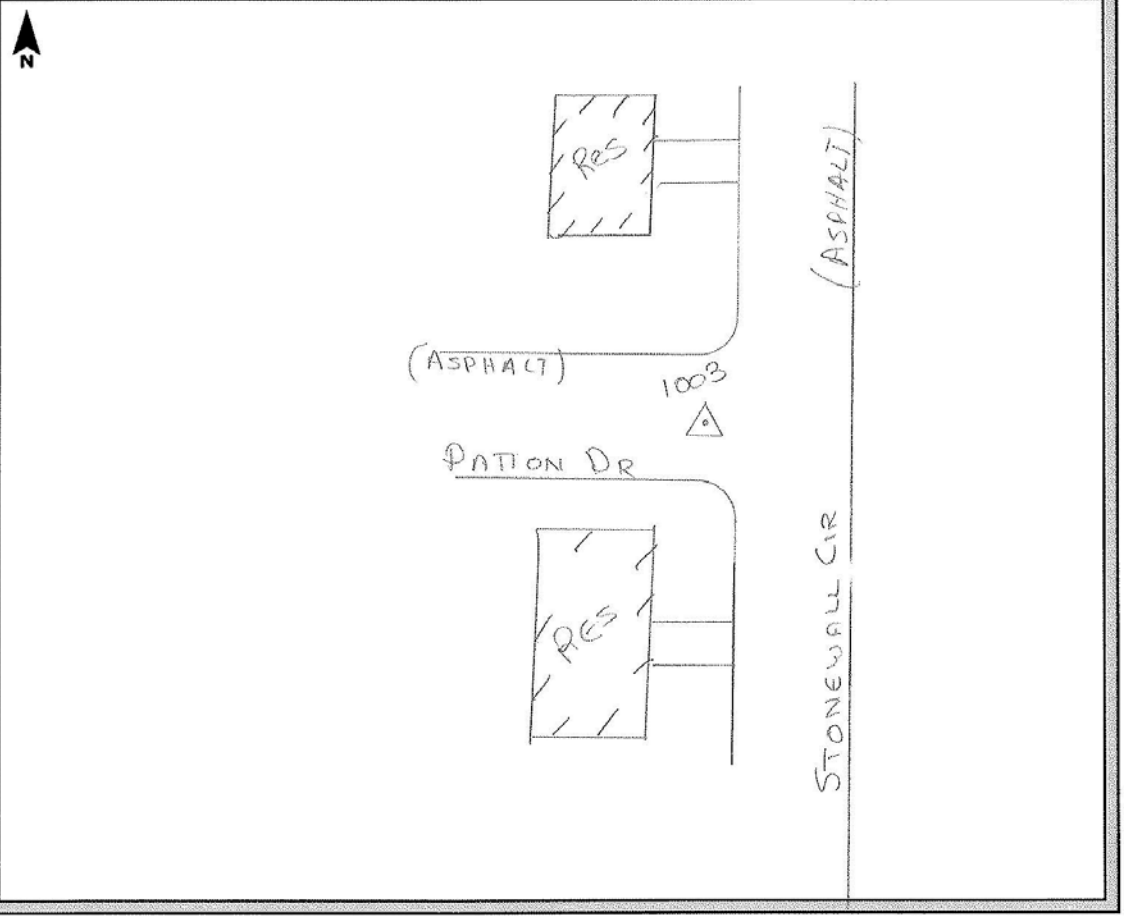
1002-3N-20MAR2015

1002-3E-20MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-17-15
Station Name:	1003 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-57-46.1	**Julian Day:**	076	**Session No.**	
Longitude:	83-13-51.6	**Start Time:**		**End Time:**	
Ellip. Height:	154.2 ft	**Data File Name:**	LWNDS RC 031715		
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	85°/CLR	**Antenna Height:**	2.0M	to bottom of antenna mount	



1003-2-17MAR2015

1003-3N-17MAR2015

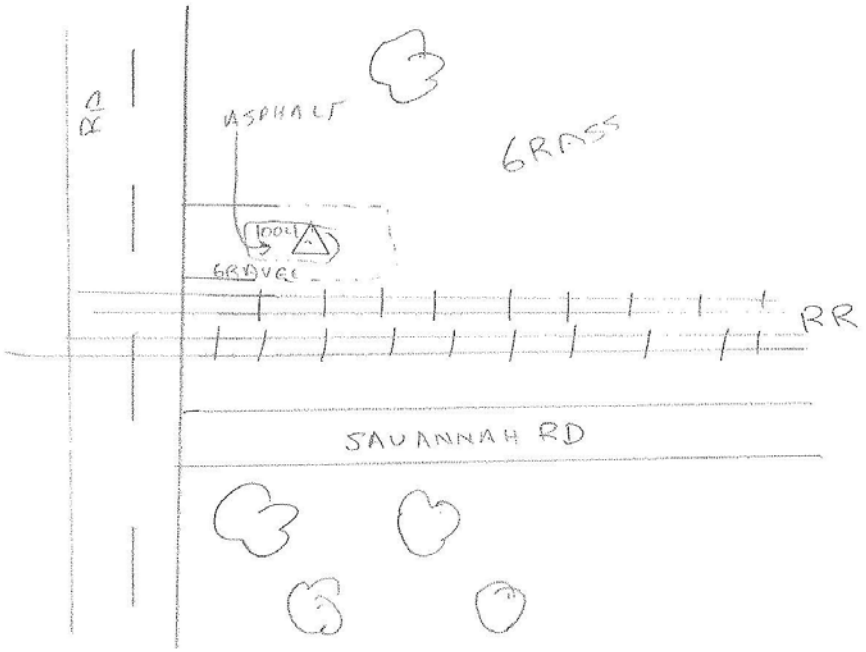
1003-3E-17MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-17-15
Station Name:	1004 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-54-29.0	**Julian Day:**	076	**Session No.**	
Longitude:	83-04-41.4	**Start Time:**		**End Time:**	
Ellip. Height:	101.4 -82	**Data File Name:**	LWNDS RL 031715		
Type of Mark:	PK in Asphalt	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	80° / CLR	**Antenna Height:**	2.0M	to bottom of antenna mount	

N



1004-2-17MAR2015

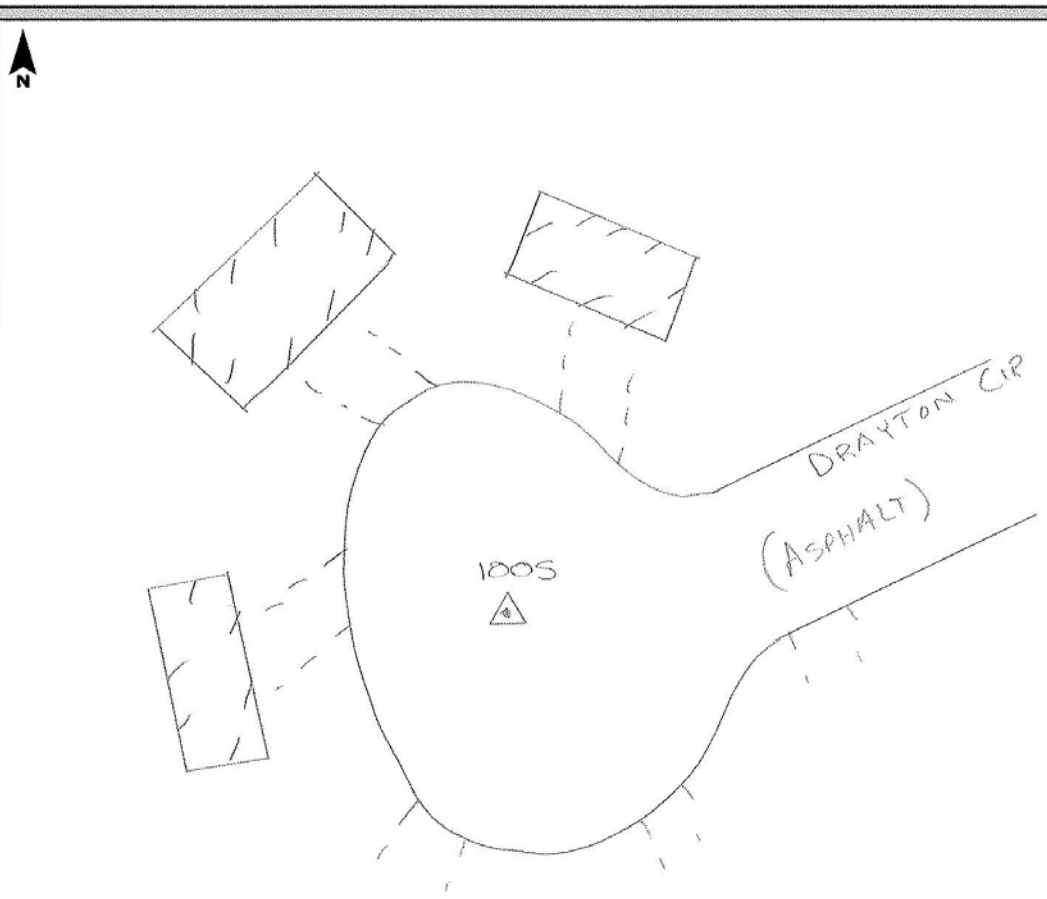
1004-3N-17MAR2015

1004-3E-17MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:** 75271	**Survey Date:** 3-20-15
Station Name:	1005 GCP	**Operator Name:**	ROSS CHALOUPKA
Latitude:	30-53-00.9	**Julian Day:** 079	**Session No.**
Longitude:	83-17-50.2	**Start Time:** 0	**End Time:**
Ellip. Height:	140.0 sft	**Data File Name:**	LWNDS RC 032015
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL
Weather Condition:	85° PC	**Antenna Height:** 2.0M	to bottom of antenna mount



1005-2-20MAR2015

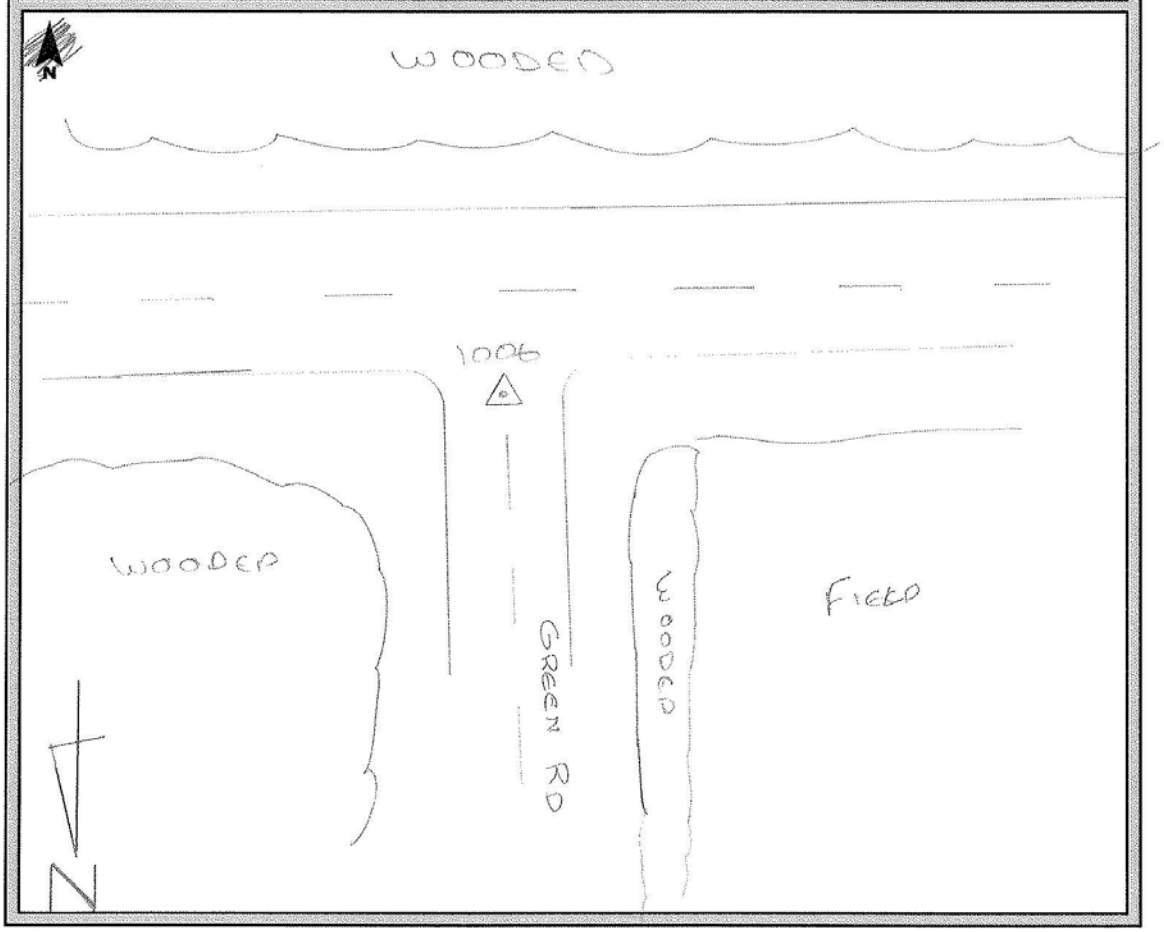
1005-3N-20MAR2015

1005-3E-20MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-18-15
Station Name:	1006 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-49-48.9	**Julian Day:**	77	**Session No.**	
Longitude:	83-08-01.8	**Start Time:**		**End Time:**	
Ellip. Height:	80.9 =S+	**Data File Name:**	LWNDC RC 031815		
Type of Mark:	PK w ASPHALT	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	70° / CLR	**Antenna Height:**	2.0M	to bottom of antenna mount	



1006-2-18MAR2015

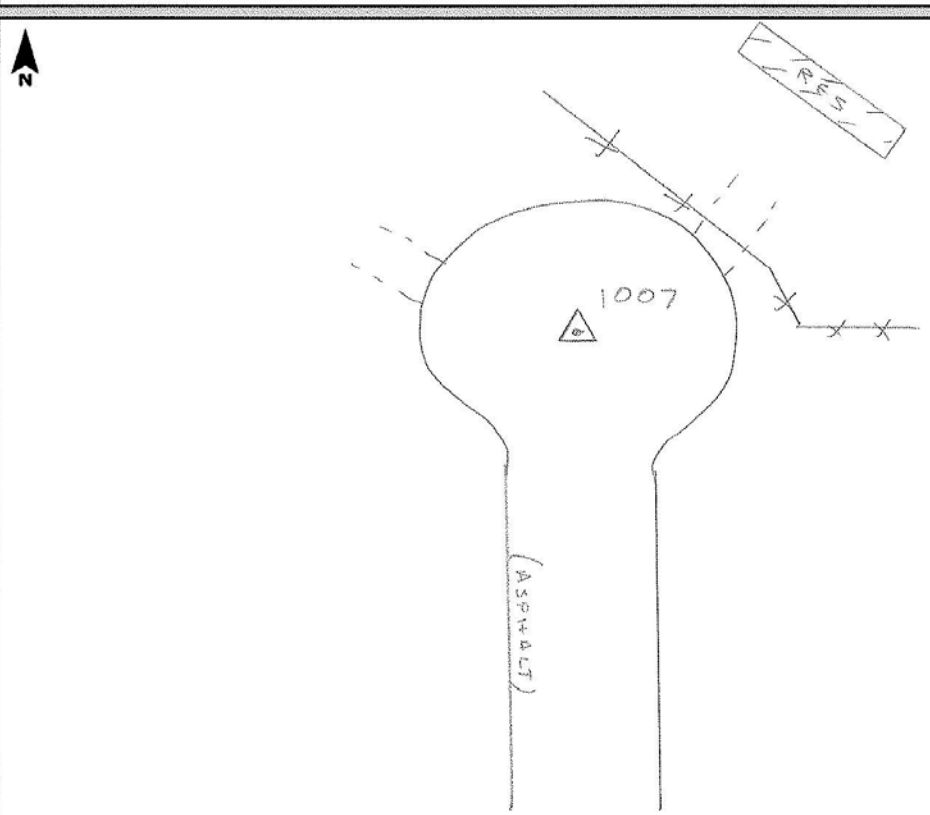
1006-3N-18MAR2015

1006-3E-18MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-18-15
Station Name:	1007 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-47-38.2	**Julian Day:**	77	**Session No.**	
Longitude:	83-15-56.5	**Start Time:**		**End Time:**	
Ellip. Height:	94.8 sft	**Data File Name:**	LWNDS RC 031815		
Type of Mark:	PK IN CEN CUL-DE-SAC	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	80° / PC	**Antenna Height:**	2.0M	to bottom of antenna mount	



1007-2-18MAR2015

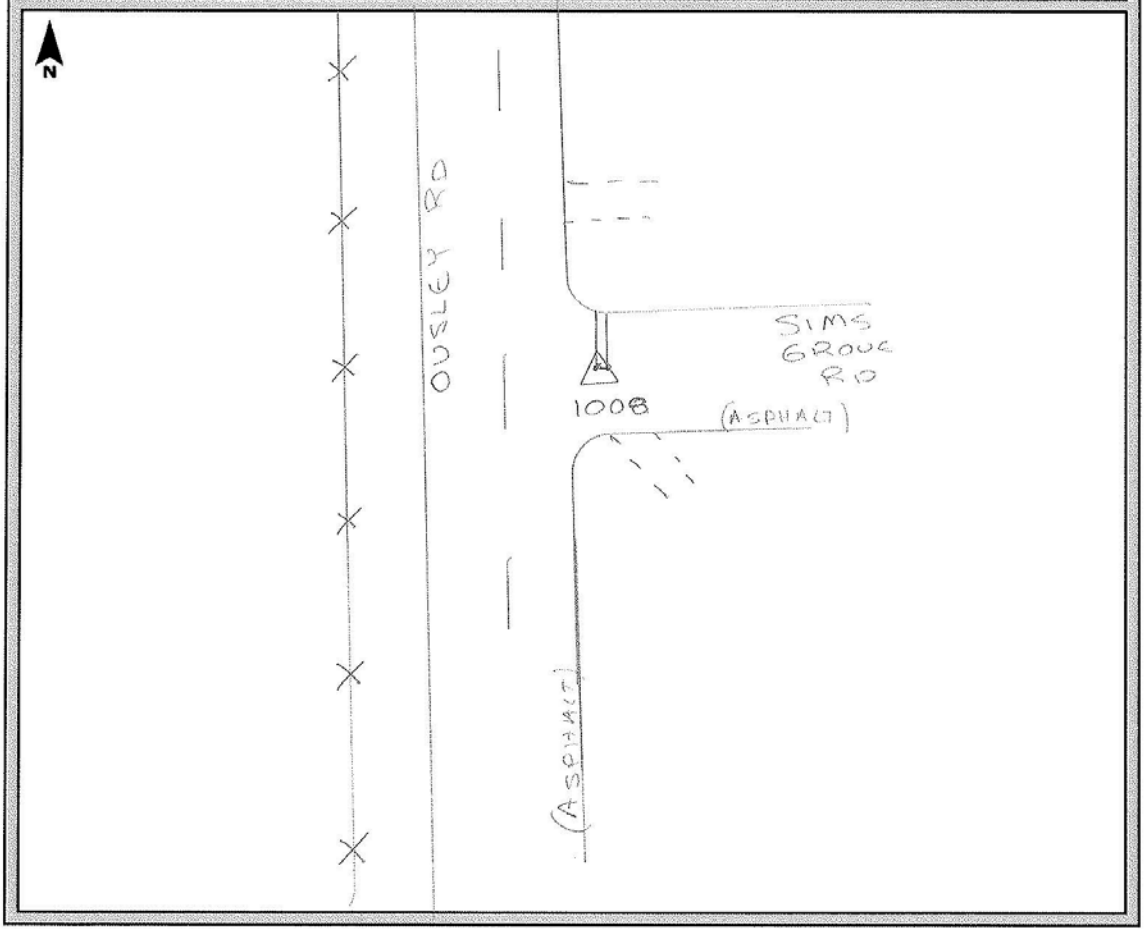
1007-3N-18MAR2015

1007-3E-18MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-21-15
Station Name:	1008 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-46-30.3	**Julian Day:**	080	**Session No.**	
Longitude:	83-25-22.7	**Start Time:**		**End Time:**	
Ellip. Height:	89.8 eft	**Data File Name:**	LWNDS RC 03211S		
Type of Mark:	PK @ SW COR STOP LINE	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	80° / CLR	**Antenna Height:**	2.0M	to bottom of antenna mount	



1008-2-21MAR2015

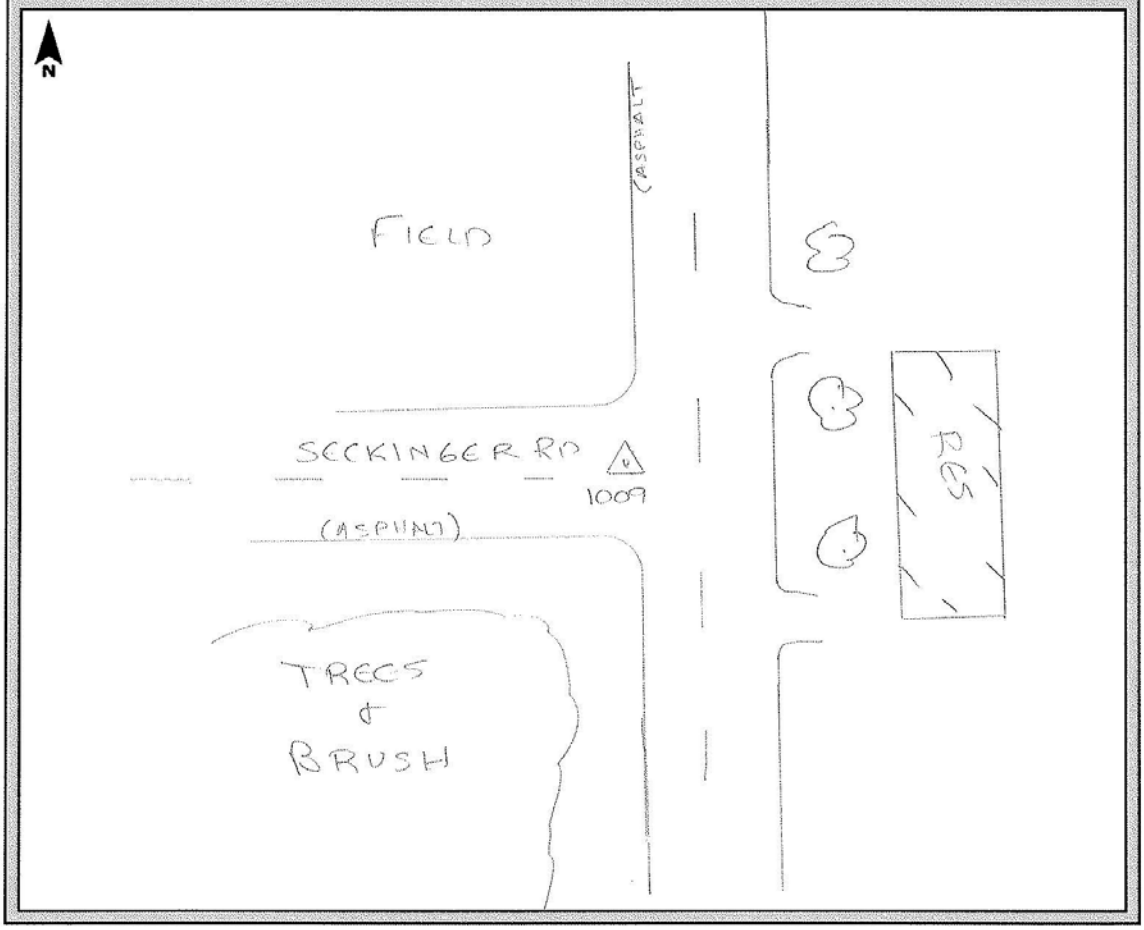
1008-3N-21MAR2015

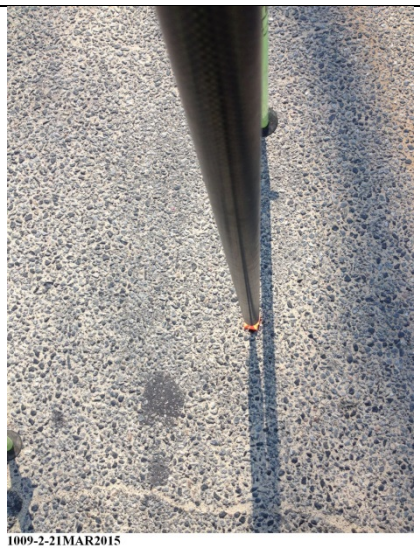
1008-3E-21MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-21-15
Station Name:	1009 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-44-28.2	**Julian Day:**	080	**Session No.**	
Longitude:	83-18-46.5	**Start Time:**		**End Time:**	
Ellip. Height:	119.4 eft	**Data File Name:**	LWNDS RC 032115		
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	75°/CLR	**Antenna Height:**	2.0M	to bottom of antenna mount	





1009-2-21MAR2015

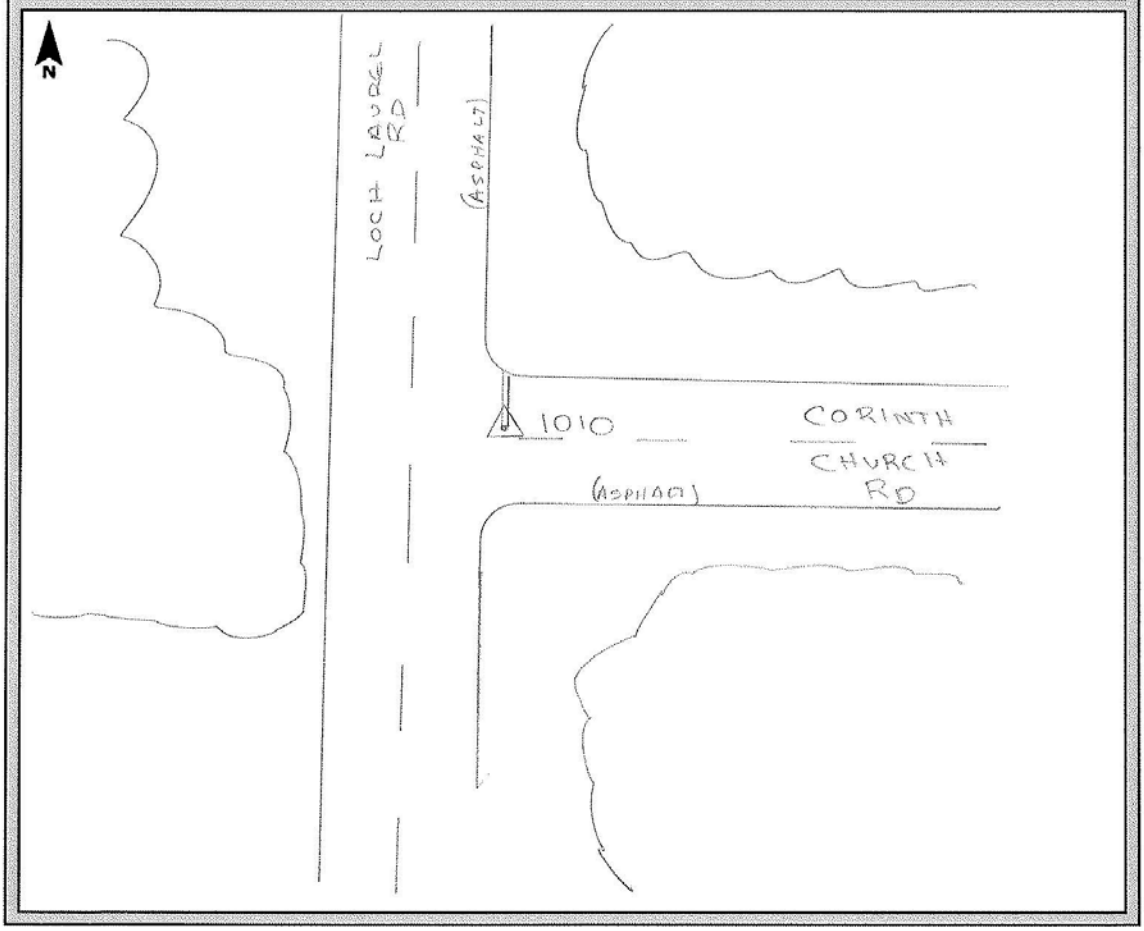
1009-3N-21MAR2015

1009-3S-21MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:** 75271	**Survey Date:** 3-18-15
Station Name:	1010 GCP	**Operator Name:**	ROSS CHALOUPKA
Latitude:	30-42-37.9	**Julian Day:** 077	**Session No.**
Longitude:	83-14-31.3	**Start Time:**	**End Time:**
Ellip. Height:	61.7 sft	**Data File Name:**	LWNDS RC 03181S
Type of Mark:	PK W ASPHALT	**Type of Receiver:**	TRIMBLE R8-2
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL
Weather Condition:	85° / PC	**Antenna Height:** 2.0M	to bottom of antenna mount



1010-2-18MAR2015

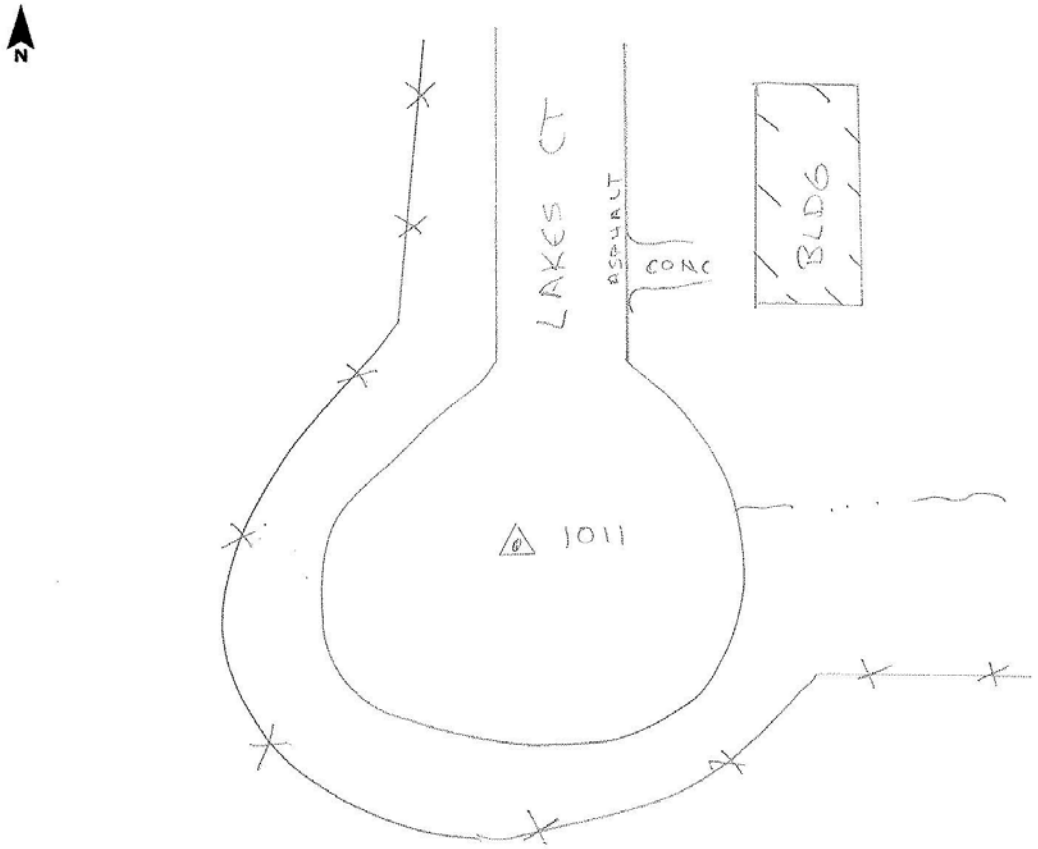
1010-3N-18MAR2015

1010-3E-18MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-19-15
Station Name:	1011 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-40-07.0	**Julian Day:**	078	**Session No.**	
Longitude:	83-11-10.5	**Start Time:**		**End Time:**	
Ellip. Height:	68.0 sft	**Data File Name:**	LWNDS RC 031915		
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	65°/CLDY	**Antenna Height:**	2.0M	to bottom of antenna mount	



1011-2-19MAR2015

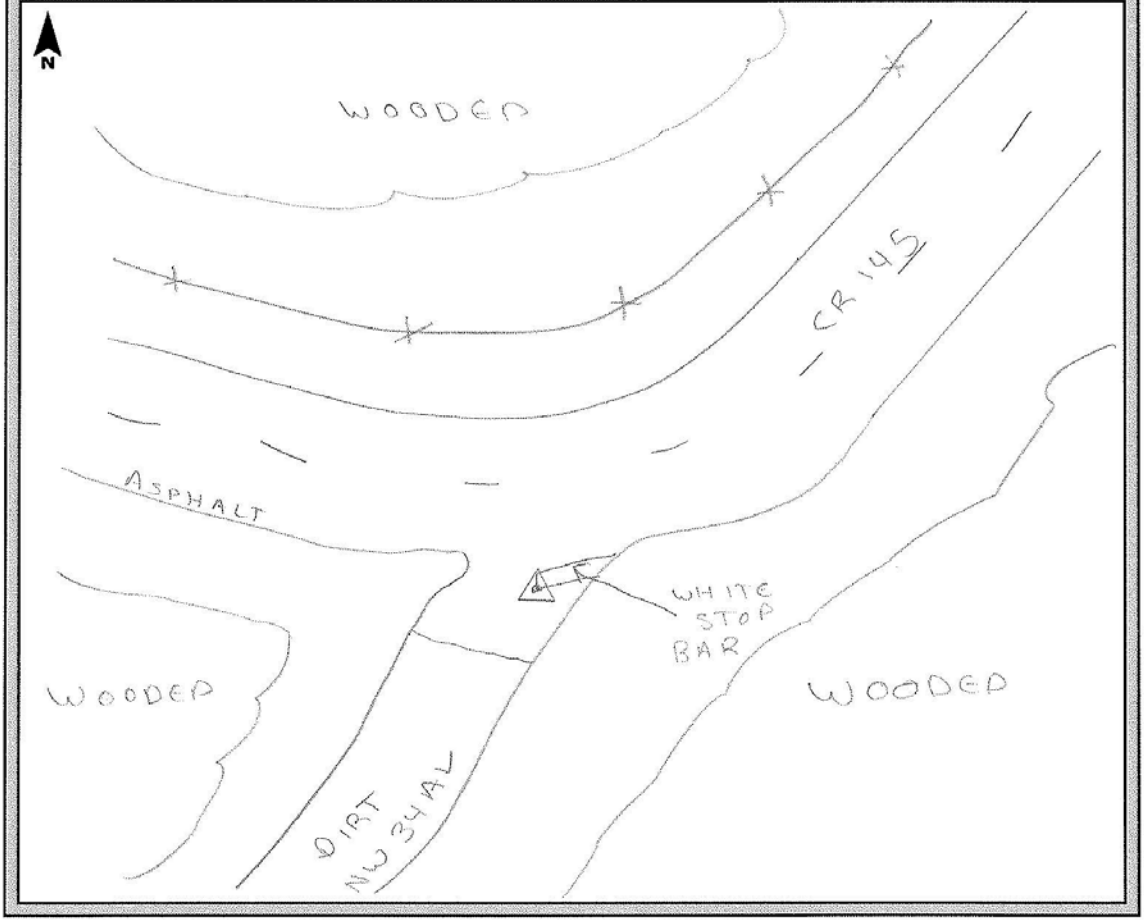
1011-3N-19MAR2015

1011-3E-19MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-19-15
Station Name:	1012 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-37-32.2	**Julian Day:**	078	**Session No.**	
Longitude:	83-11-56.7	**Start Time:**		**End Time:**	
Ellip. Height:	63.6 eft	**Data File Name:**	LWNDS RC 03191S		
Type of Mark:	PK @ SE COR STOPLINE	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	70° / CLOY	**Antenna Height:**	2.0M	to bottom of antenna mount	



1012-2-19MAR2015

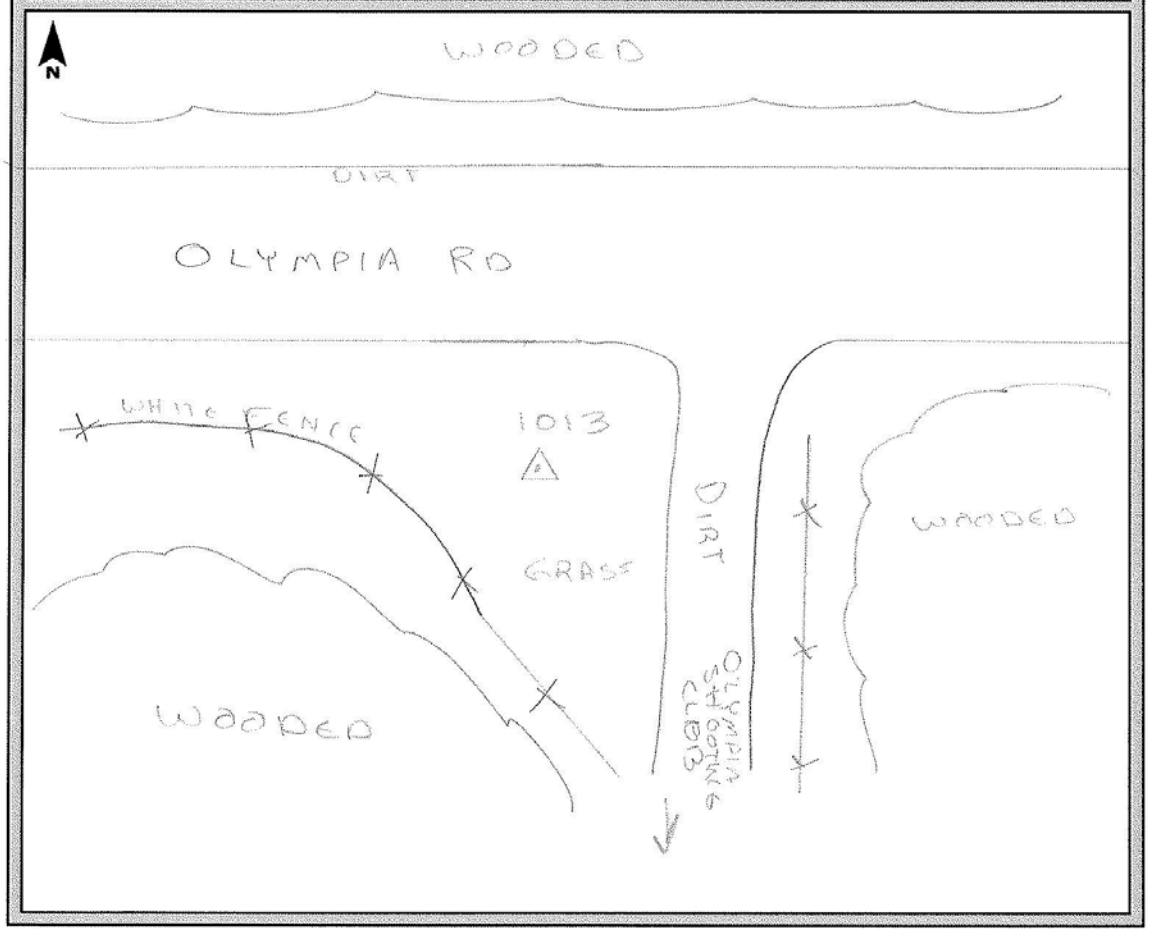
1012-3N-19MAR2015

1012-3E-19MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-19-15
Station Name:	1013 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-39-04.6	**Julian Day:**	078	**Session No.**	
Longitude:	83-19-27.7	**Start Time:**		**End Time:**	
Ellip. Height:	26.5 sft	**Data File Name:**	LWNDS RC 031915		
Type of Mark:	60d nail in grass	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	70° / CLDY	**Antenna Height:**	2.0M	to bottom of antenna mount	



1013-2-19MAR2015

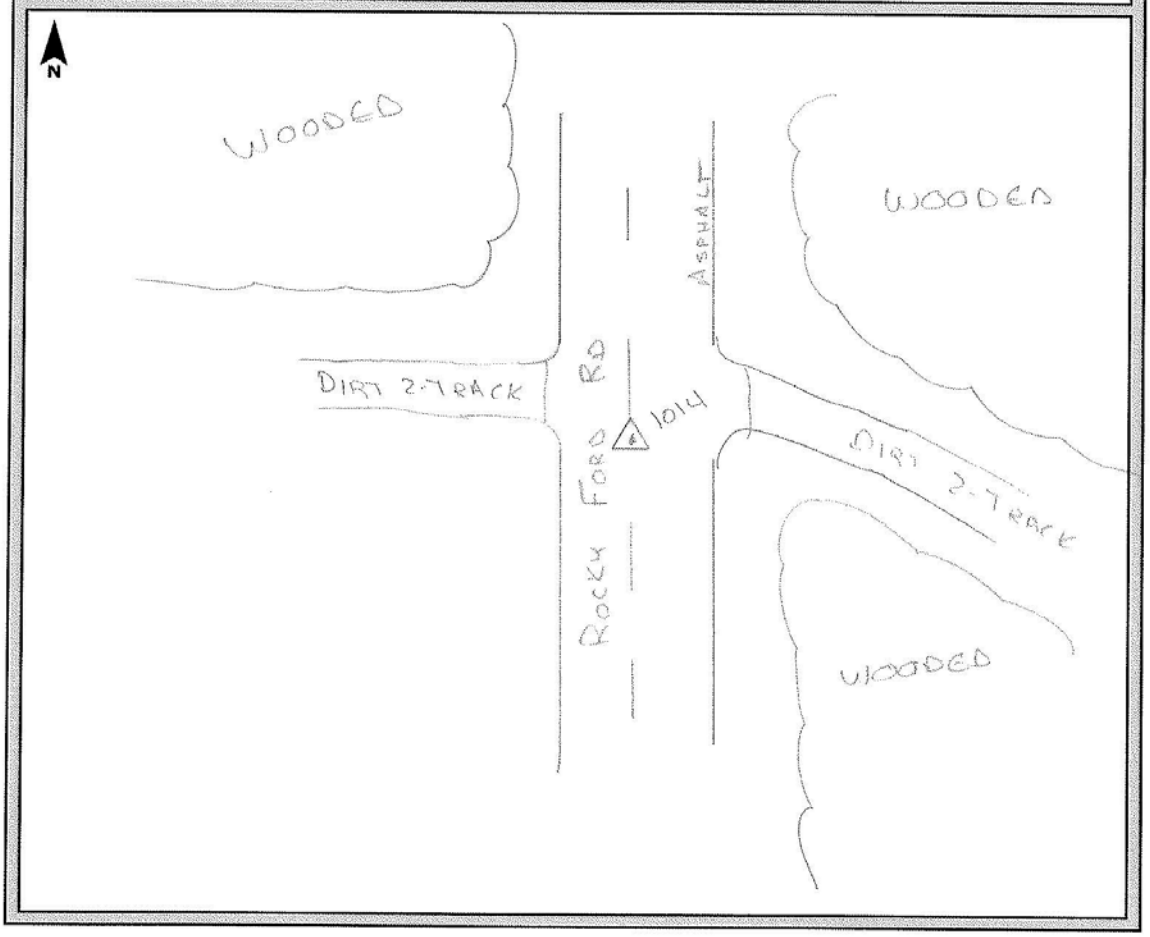
1013-3N-19MAR2015

1013-3E-19MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:** 75271	**Survey Date:** 3-19-15
Station Name:	1014 GCP	**Operator Name:**	ROSS CHALOUPKA
Latitude:	40-31-45.8	**Julian Day:** 078	**Session No.**
Longitude:	83-23-10.3	**Start Time:**	**End Time:**
Ellip. Height:	678 sft	**Data File Name:**	LWNDS RC 031915
Type of Mark:	PK @ RD	**Type of Receiver:**	TRIMBLE R8-2
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL
Weather Condition:	75° / CLDY	**Antenna Height:** 2.0M	to bottom of antenna mount



1014-2-19MAR2015

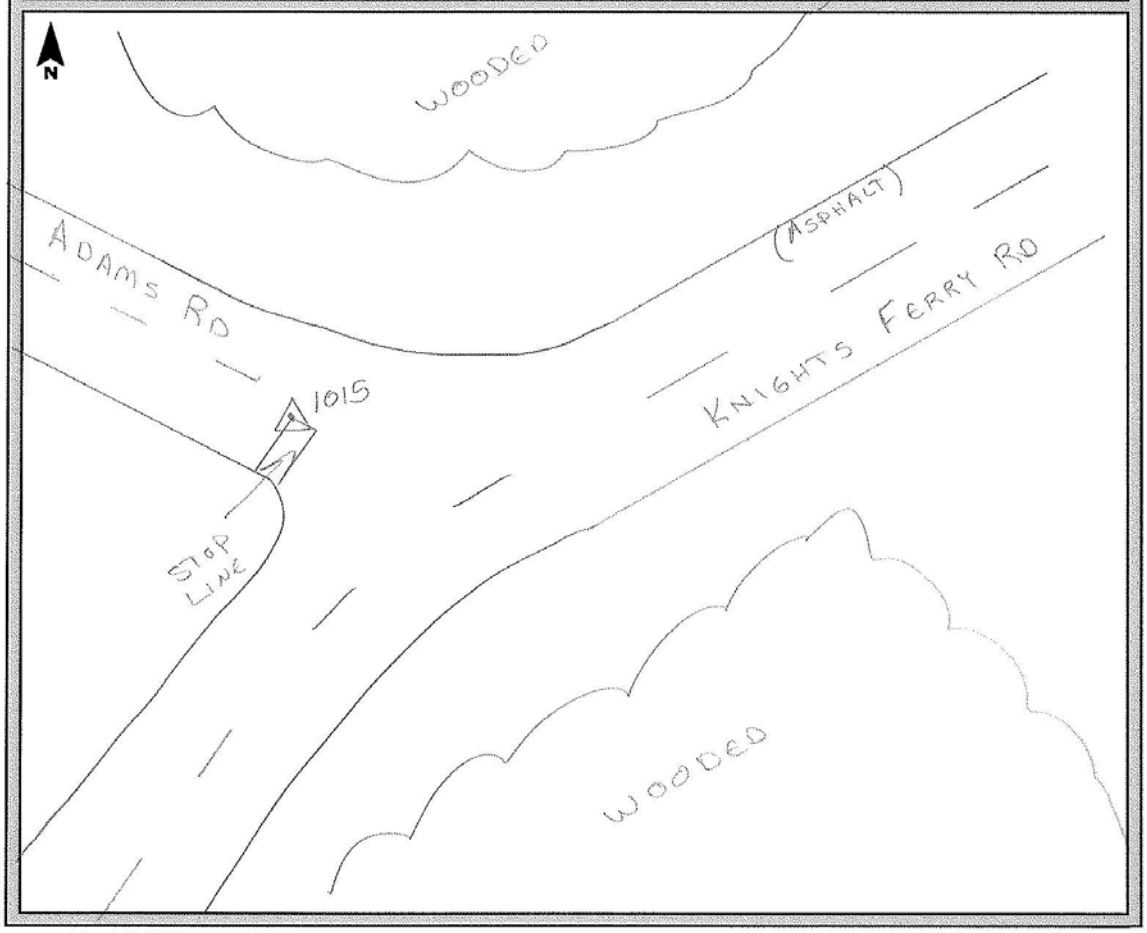
1014-3N-19MAR2015

1014-3E-19MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LIDAR LOWNDES CO GA	**Project Number:** 75271	**Survey Date:** 3-A-15
Station Name:	1015 GCP	**Operator Name:**	ROSS CHALOUPKA
Latitude:	30-41-01.0	**Julian Day:** 078	**Session No.**
Longitude:	83-25-35.6	**Start Time:**	**End Time:**
Ellip. Height:	66.6 sft	**Data File Name:**	LWNDS RC 031915
Type of Mark:	PK @ NE COR STOP LINE	**Type of Receiver:**	TRIMBLE R8-2
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL
Weather Condition:	75°/CLDY	**Antenna Height:** 2.0M	to bottom of antenna mount



1015-2-19MAR2015

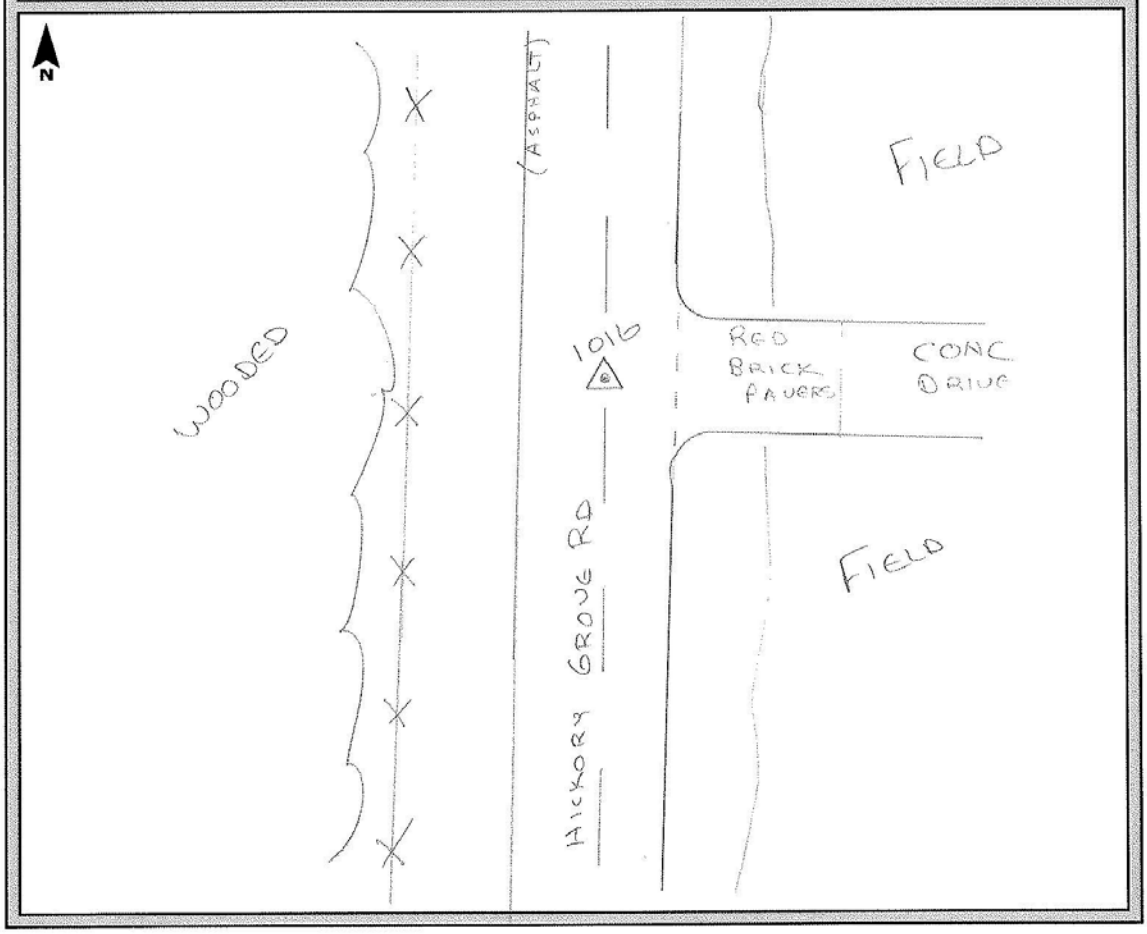
1015-3N-19MAR2015

1015-3E-19MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:** 75271	**Survey Date:** 3-18-15
Station Name:	1016 GCP	**Operator Name:**	ROSS CHALOUPKA
Latitude:	30-45-34.8	**Julian Day:** 077	**Session No.**
Longitude:	83-10-29.6	**Start Time:**	**End Time:**
Ellip. Height:	61.2 ft	**Data File Name:**	LWNDS RC 031915
Type of Mark:	PK @ RD & DRIVE	**Type of Receiver:**	TRIMBLE R8-2
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL
Weather Condition:	80° PC	**Antenna Height:** 2.0M	to bottom of antenna mount



1016-2-18MAR2015

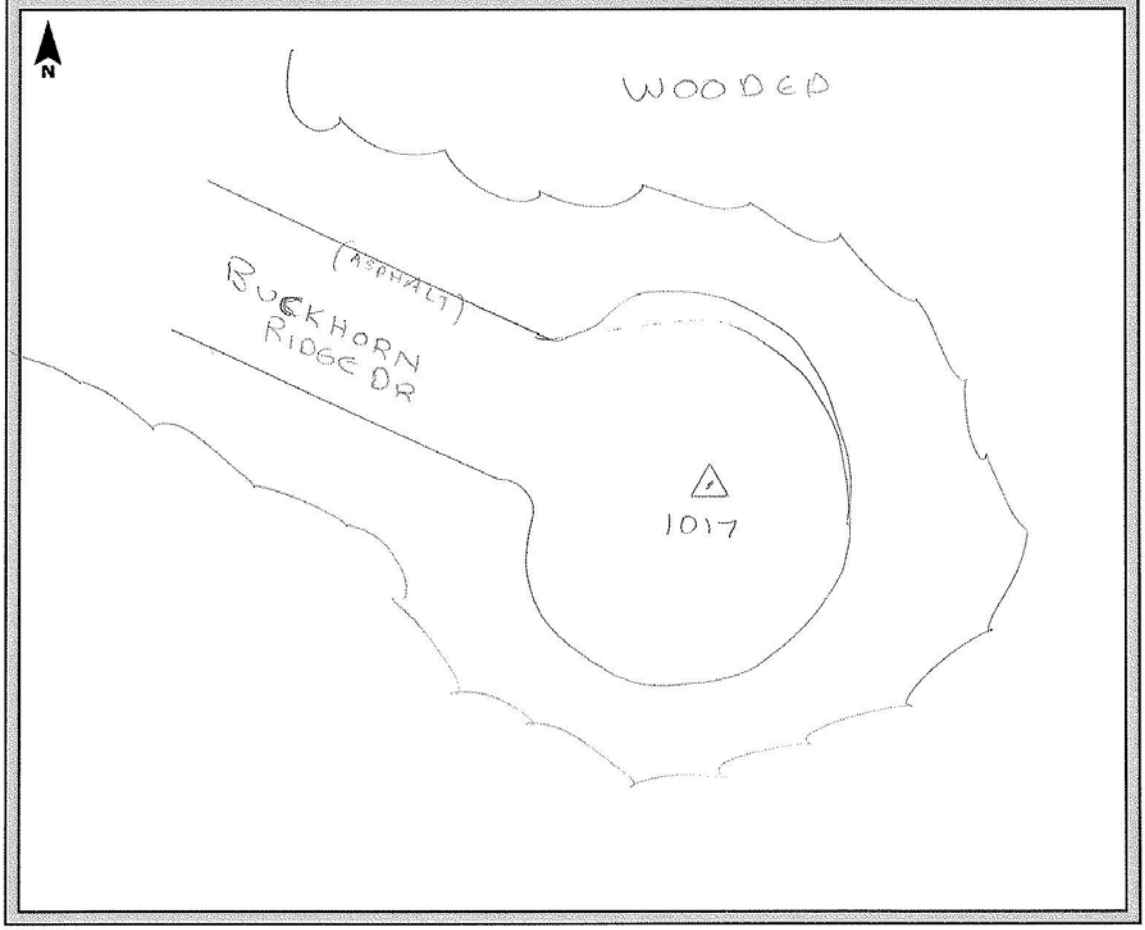
1016-3N-18MAR2015

1016-3E-18MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-21-15
Station Name:	1017 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-49-17.2	**Julian Day:**	080	**Session No.**	
Longitude:	83-23-26.6	**Start Time:**		**End Time:**	
Ellip. Height:	60.0 sft	**Data File Name:**	LWNDS RC 032115		
Type of Mark:	PAINTED "+" ON MH	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	80°/CLR	**Antenna Height:**	2.0M	to bottom of antenna mount	



1017-2-21MAR2015

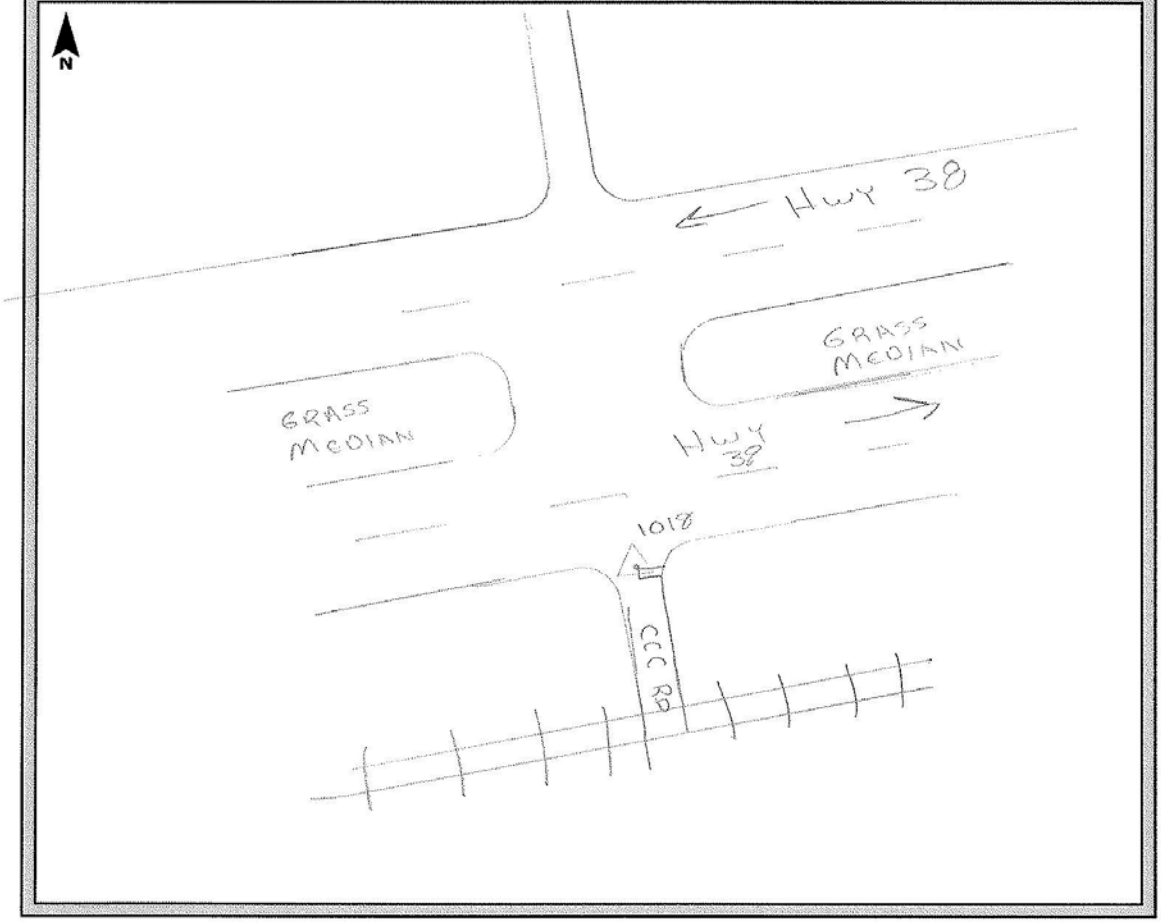
1017-3N-21MAR2015

1017-3E-21MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-18-15
Station Name:	1018 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-52-39.8	**Julian Day:**	77	**Session No.**	
Longitude:	83-09-22.7	**Start Time:**		**End Time:**	
Ellip. Height:	112.7 sft	**Data File Name:**	LWNDS RC 031815		
Type of Mark:	PKN NW (ON STOP LINE)	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	75°/ CLR	**Antenna Height:**	2.0M	to bottom of antenna mount	



1018-2-18MAR2015

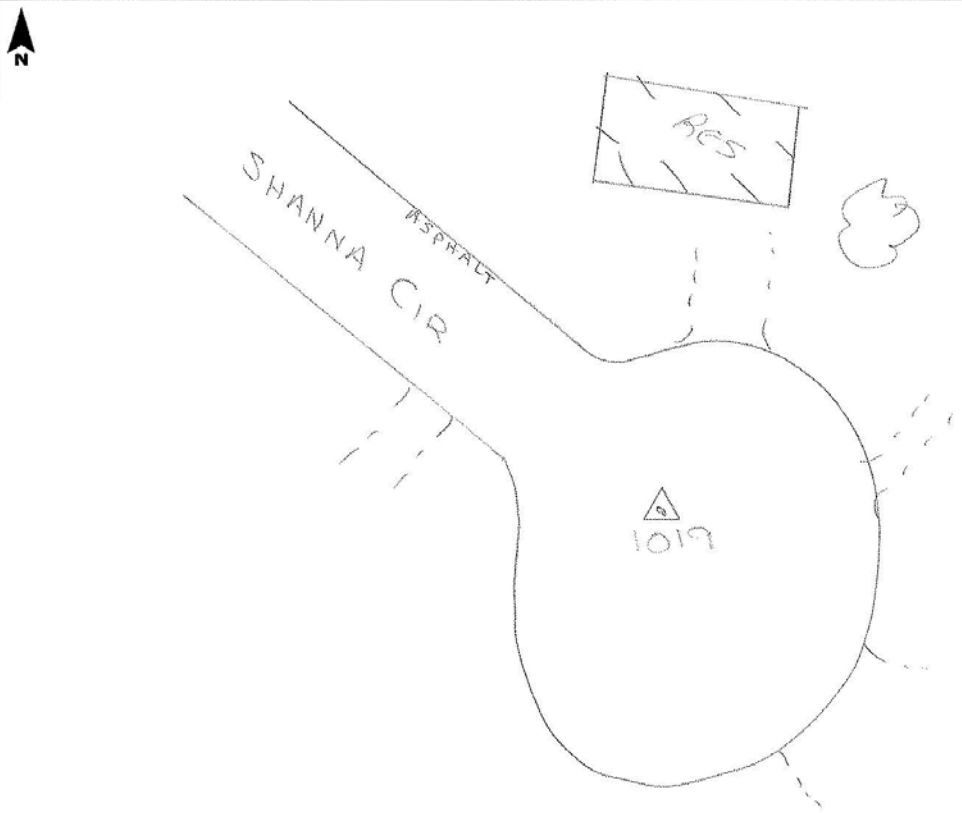
1018-3N-18MAR2015

1018-3E-18MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:** 75271	**Survey Date:** 3·20·15
Station Name:	1019 GCP	**Operator Name:**	ROSS CHALOUPKA
Latitude:	30-51-07.3	**Julian Day:**	**Session No.**
Longitude:	83-19-51.6	**Start Time:** 079	**End Time:**
Ellip. Height:	115.8 sft	**Data File Name:**	LWNDS RC 032015
Type of Mark:	DK LN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL
Weather Condition:	80° / PC	**Antenna Height:** 2.0M	to bottom of antenna mount



1019-2-20MAR2015

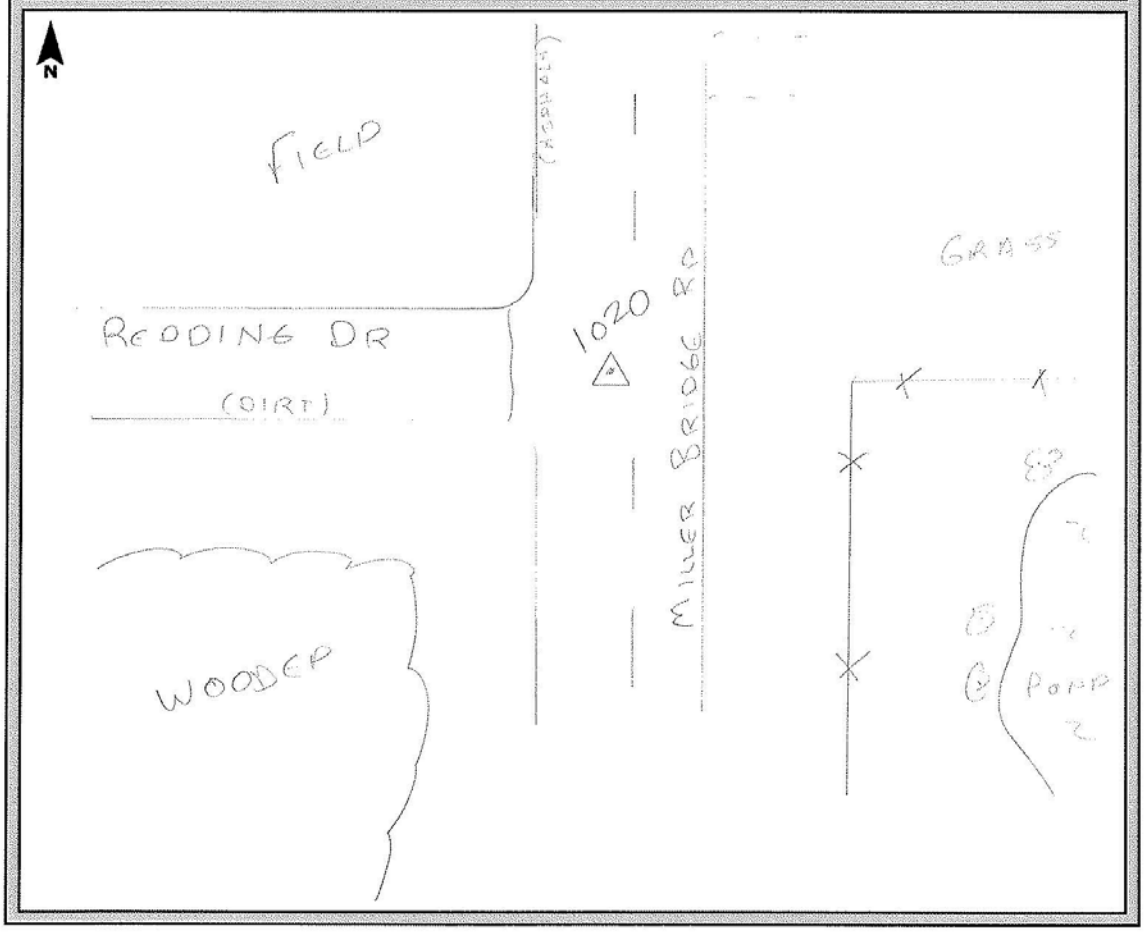
1019-3N-20MAR2015

1019-3E-20MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-21-15
Station Name:	1020 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-56-27.7	**Julian Day:**	080	**Session No.**	
Longitude:	83-24-50.8	**Start Time:**		**End Time:**	
Ellip. Height:	145.1 sft	**Data File Name:**	LWNDS RC 032115		
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	65°/ CLR	**Antenna Height:**	2.0M	to bottom of antenna mount	



1020-2-21MAR2015

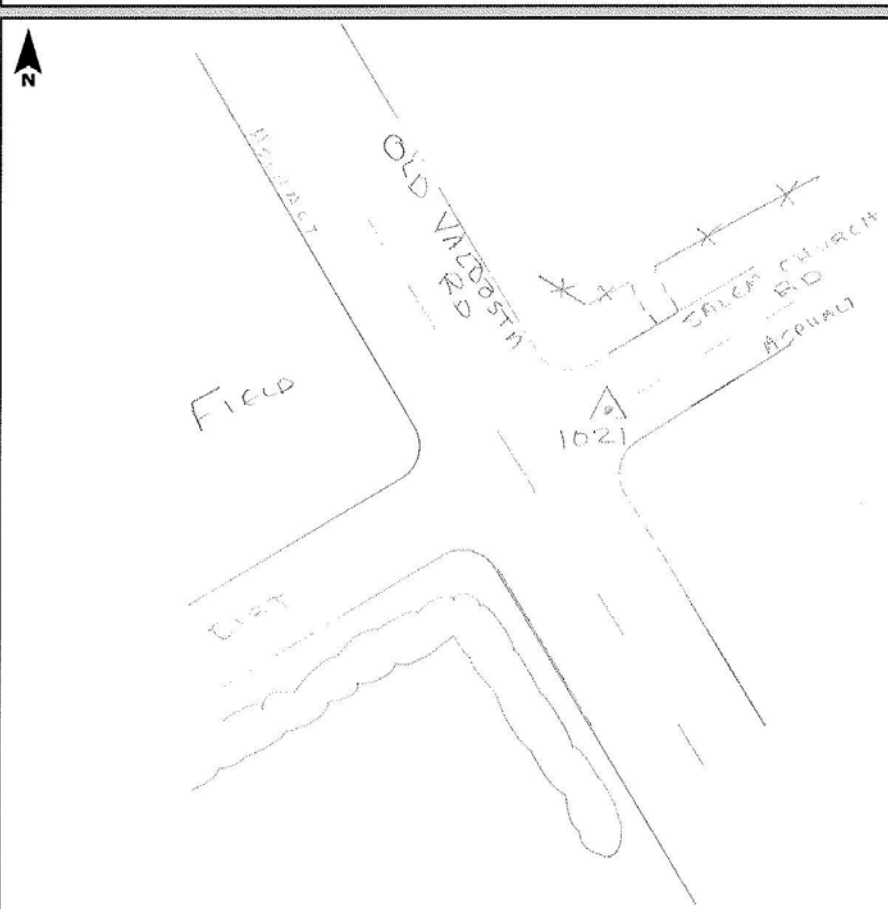
1020-3N-21MAR2015

1020-3E-21MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-20-15
Station Name:	1021 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	31-01-11.9	**Julian Day:**	079	**Session No.**	
Longitude:	83-26-02.1	**Start Time:**		**End Time:**	
Ellip. Height:	152.6 sft	**Data File Name:**	LWNDS RC m320715		
Type of Mark:	PK in ASPHALT	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	65° / CLDY	**Antenna Height:**	2.0M	to bottom of antenna mount	



1021-2-20MAR2015

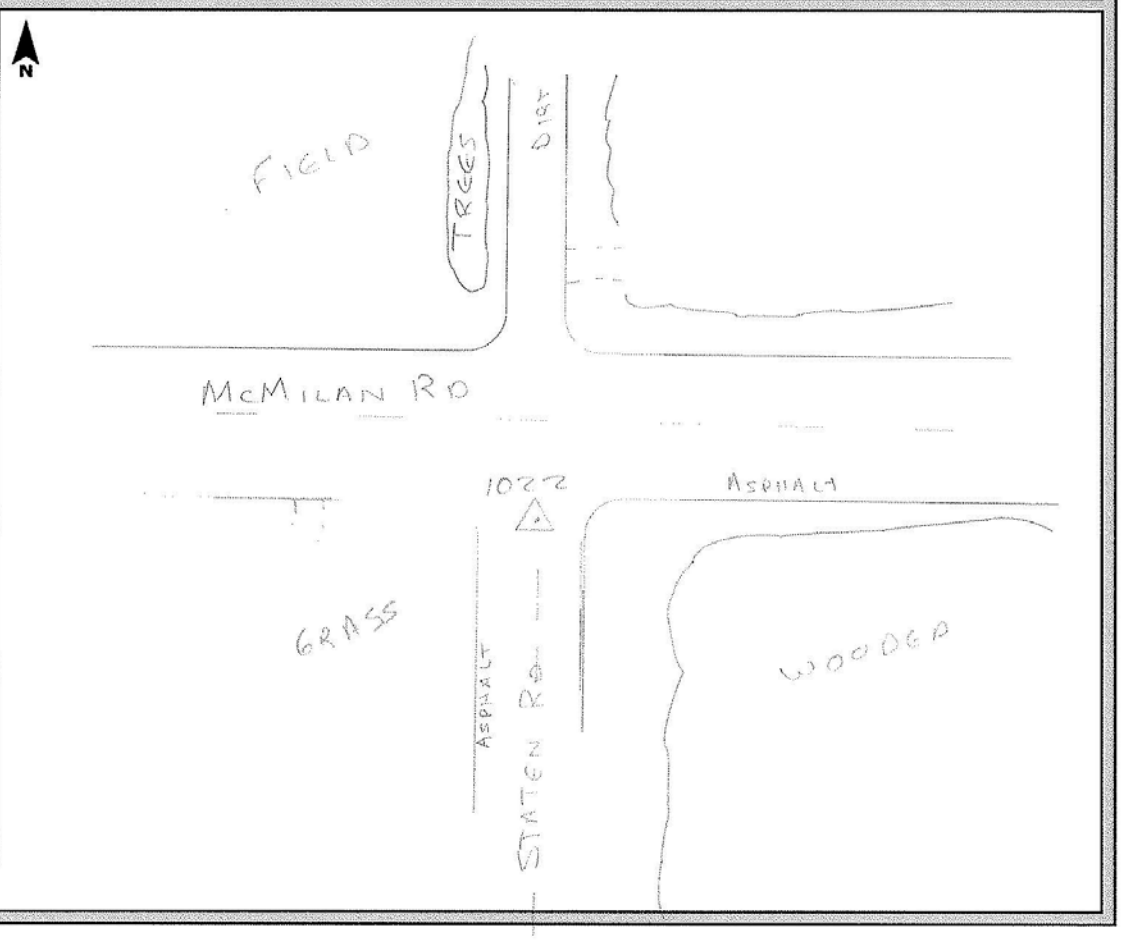
1021-3N-20MAR2015

1021-3E-20MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-2015
Station Name:	1022 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-57-18.2	**Julian Day:**	079	**Session No.**	
Longitude:	83-17-33.5	**Start Time:**		**End Time:**	
Ellip. Height:	79.3 sft	**Data File Name:**	LWNDS R1 032015		
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	70°/CLDY	**Antenna Height:**	2.0M	to bottom of antenna mount	



1022-2-20MAR2015

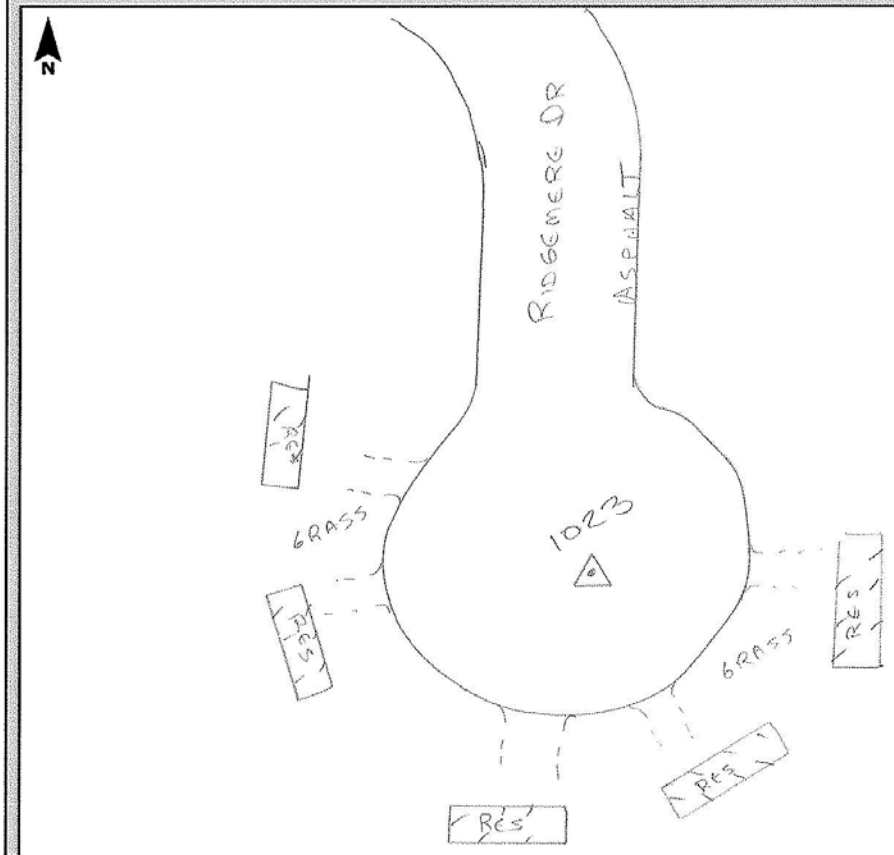
1022-3N-20MAR2015

1022-3E-20MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:** 75271	**Survey Date:** 3-17-15
Station Name:	1023 GCD	**Operator Name:**	ROSS CHALOUPKA
Latitude:	30-55-16.2	**Julian Day:** 076	**Session No.**
Longitude:	83-13-37.9	**Start Time:**	**End Time:**
Ellip. Height:	119.0 sft	**Data File Name:**	LWNDS RC 031715
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL
Weather Condition:	75°/CLR	**Antenna Height:** 2.0M	to bottom of antenna mount



1023-2-17MAR2015

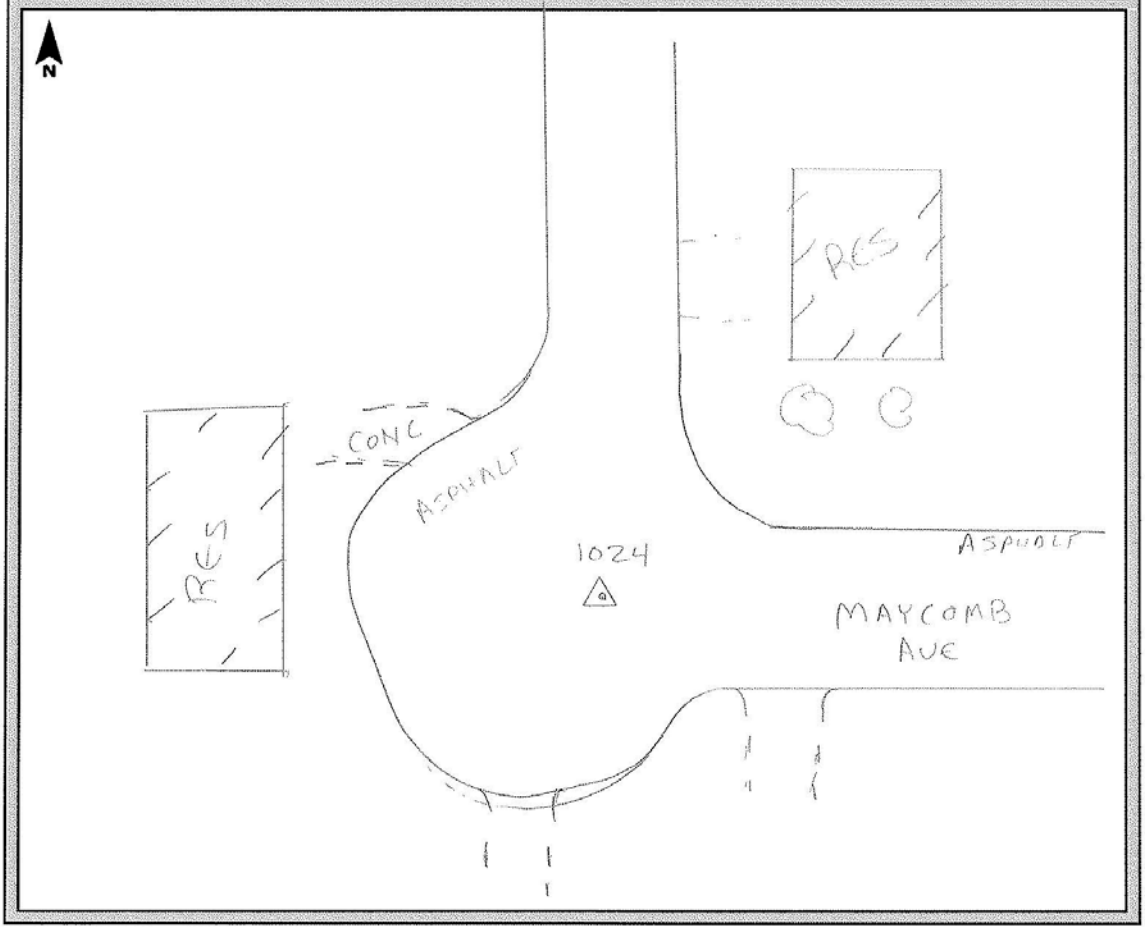
1023-3N-17MAR2015

1023-3E-17MAR2015

GPS Observation Log Sheet

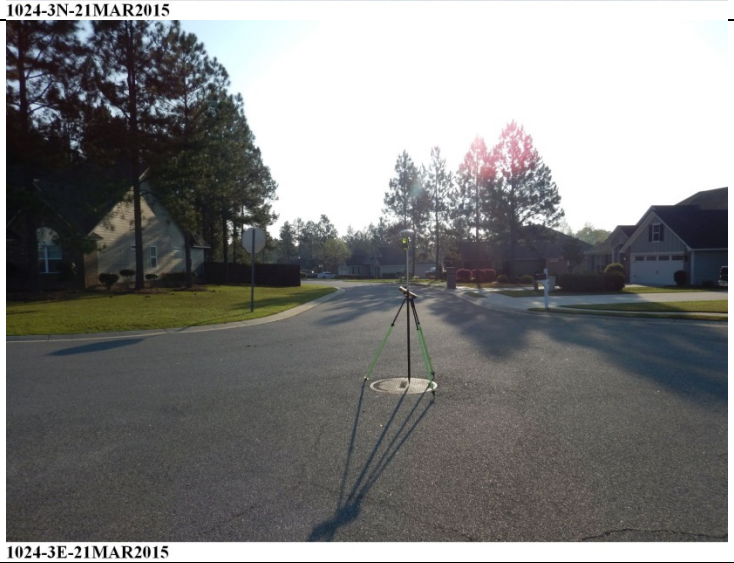
WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:** 75271	**Survey Date:** 3-21-15
Station Name:	1024 GCP	**Operator Name:**	ROSS CHALOUPKA
Latitude:	30-54-58.0	**Julian Day:** 080	**Session No.**
Longitude:	83-20-25.9	**Start Time:**	**End Time:**
Ellip. Height:	116.8 sft	**Data File Name:**	LWNDS RC 032115
Type of Mark:	PAINTED "+" ON MH	**Type of Receiver:**	TRIMBLE R8-2
Stamping on Mark:	N/A	**Type of Antenna:**	INTERNAL
Weather Condition:	70°/ CLR	**Antenna Height:** 2.0M	to bottom of antenna mount



1024-2-21MAR2015

1024-3N-21MAR2015

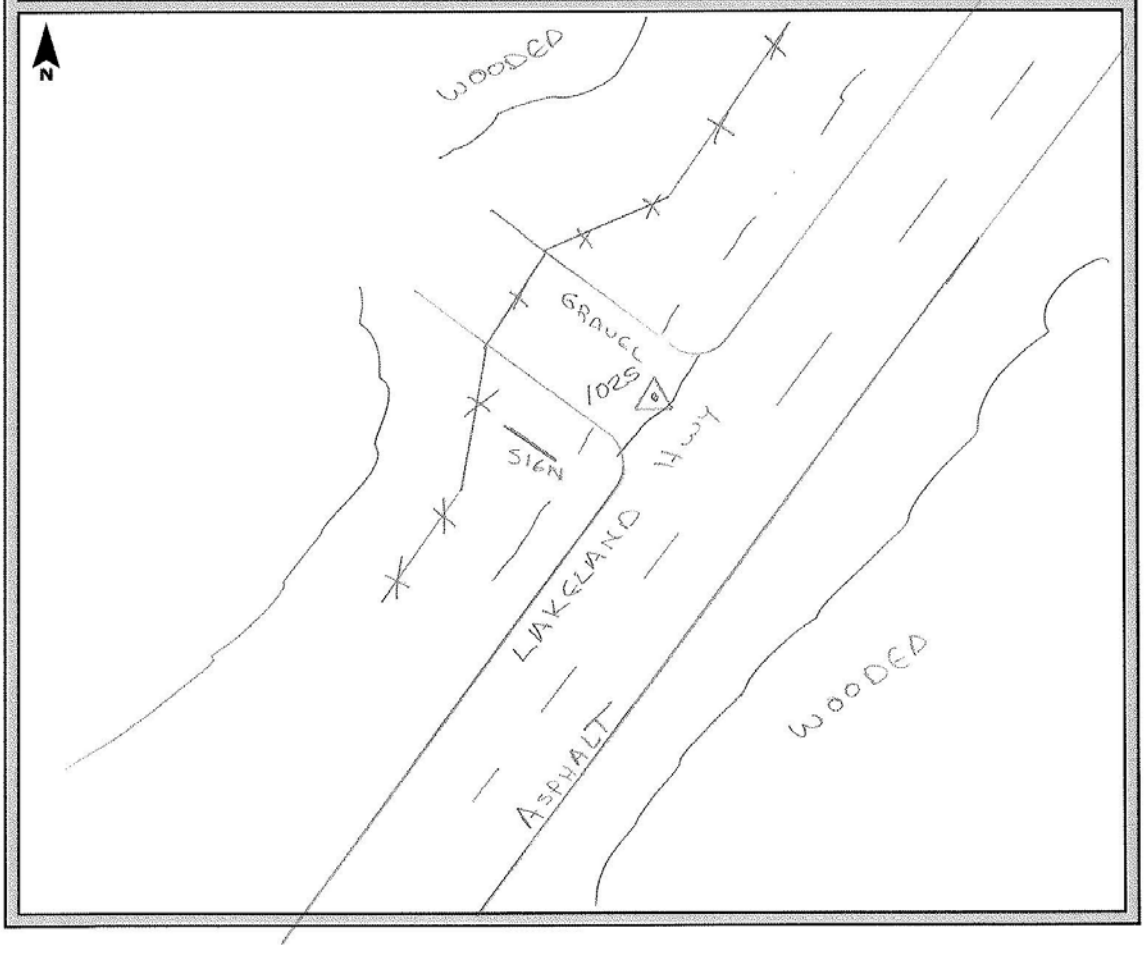


1024-3E-21MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:** 75271	**Survey Date:** 3-17-15
Station Name:	1025 GCP	**Operator Name:**	ROSS CHALOUPKA
Latitude:	30-56-43.5	**Julian Day:** 076	**Session No.**
Longitude:	83-08-16.9	**Start Time:**	**End Time:**
Ellip. Height:	105.5 sft	**Data File Name:**	LWNDS RL 031715
Type of Mark:	60d nail in gravel	**Type of Receiver:**	TRIMBLE R8-2
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL
Weather Condition:	80° / CLR	**Antenna Height:** 2.0M	to bottom of antenna mount



1025-2-17MAR2015

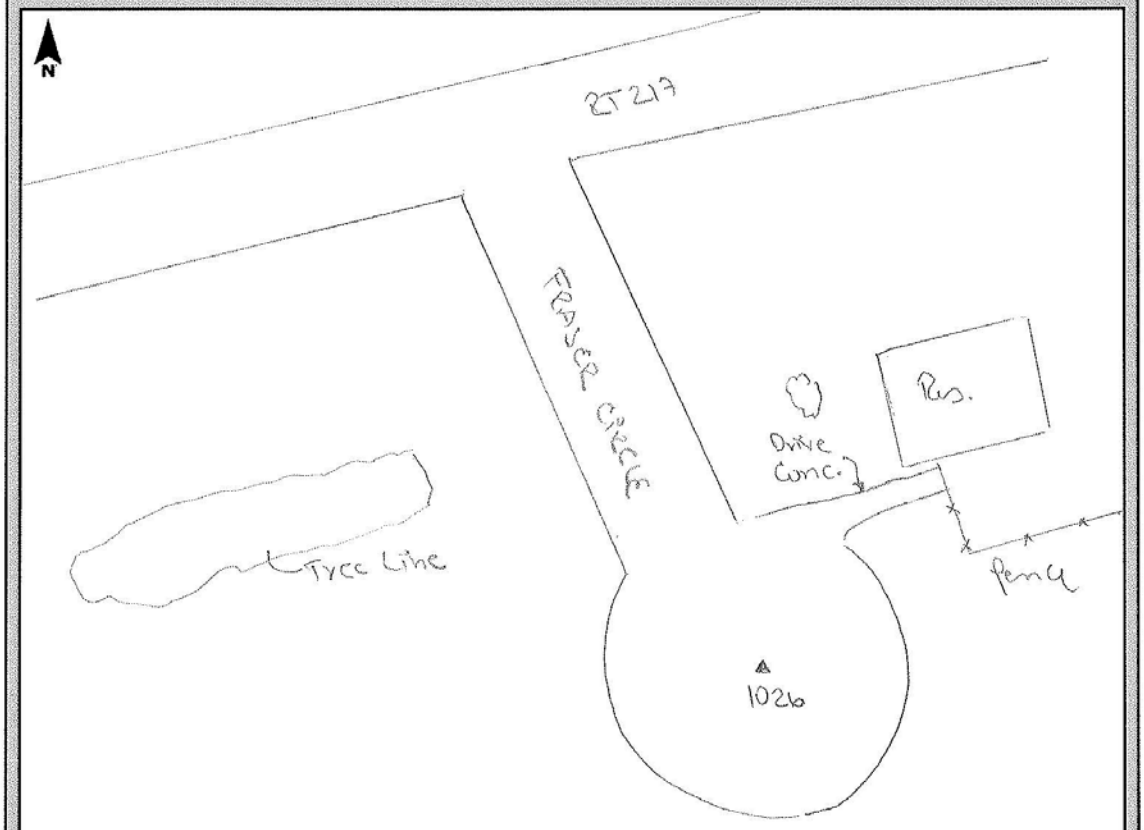
1025-3N-17MAR2015

1025-3E-17MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NCEM DO 33 6 CNTY LIDAR	**Project Number:**	75085	**Survey Date:**	02/16/15
Station Name:	1026	**Operator Name:**	Ramon Antunez		
Latitude:	N 35° 16' 17.27"	**Julian Day:**	47	**Session No.**	x
Longitude:	W 79° 44 14.19"	**Start Time:**	x	**End Time:**	x
Ellip. Height:	12.57	**Data File Name:**	75085_RA_021615		
Type of Mark:	PID	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	PID	**Type of Antenna:**	INTERNAL		
Weather Condition:	cloudy 25°	**Antenna Height:**	2.0M	to bottom of antenna mount	



1026-2-16FEB2015

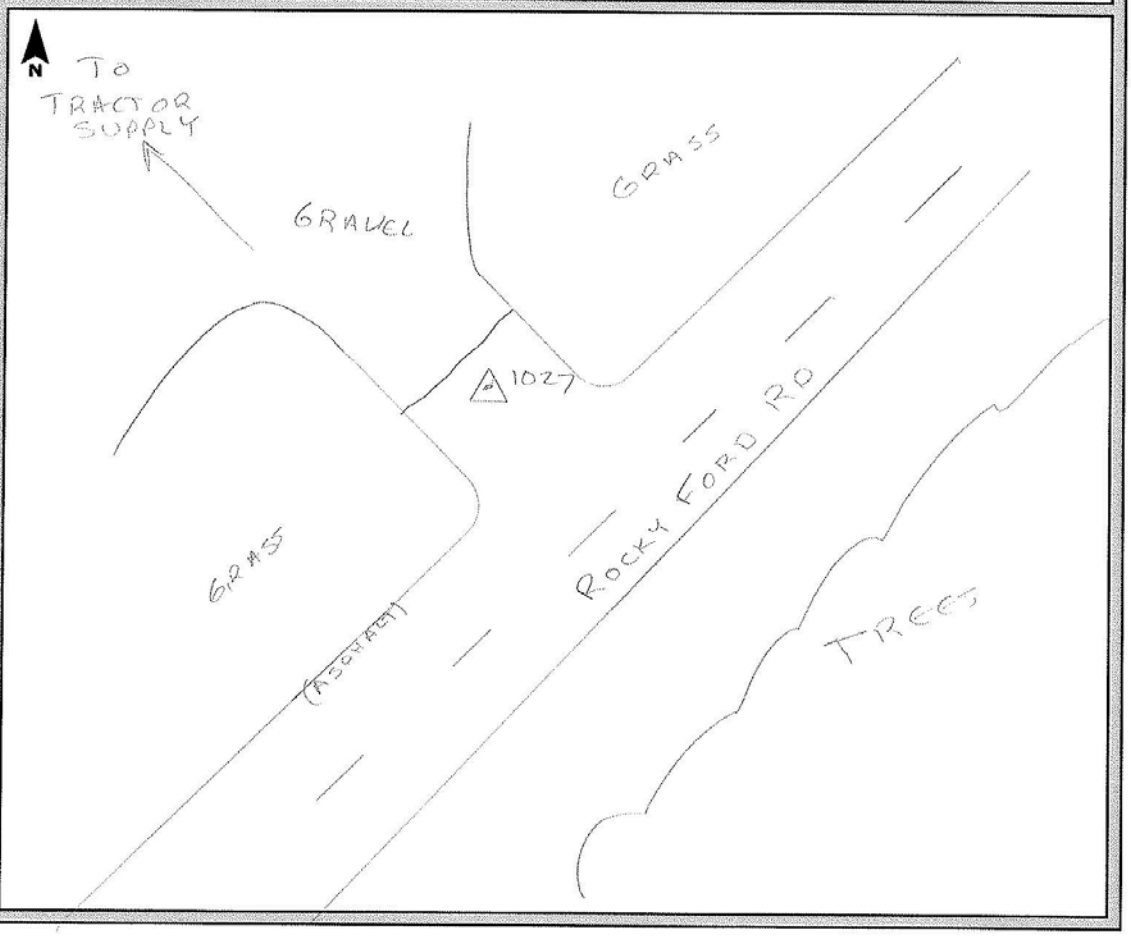
1026-3N-16FEB2015

1026-3E-16FEB2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:** 75271	**Survey Date:** 3-23-15
Station Name:	1027 GCP	**Operator Name:**	ROSS CHALOUPKA
Latitude:	30-48-17.4	**Julian Day:** 084	**Session No.**
Longitude:	83-20-36.8	**Start Time:**	**End Time:**
Ellip. Height:	120.3 -.91	**Data File Name:**	LWNDS RC 032315
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL
Weather Condition:	65° / CLOY	**Antenna Height:** 2.0M	to bottom of antenna mount



1027-2-23MAR2015

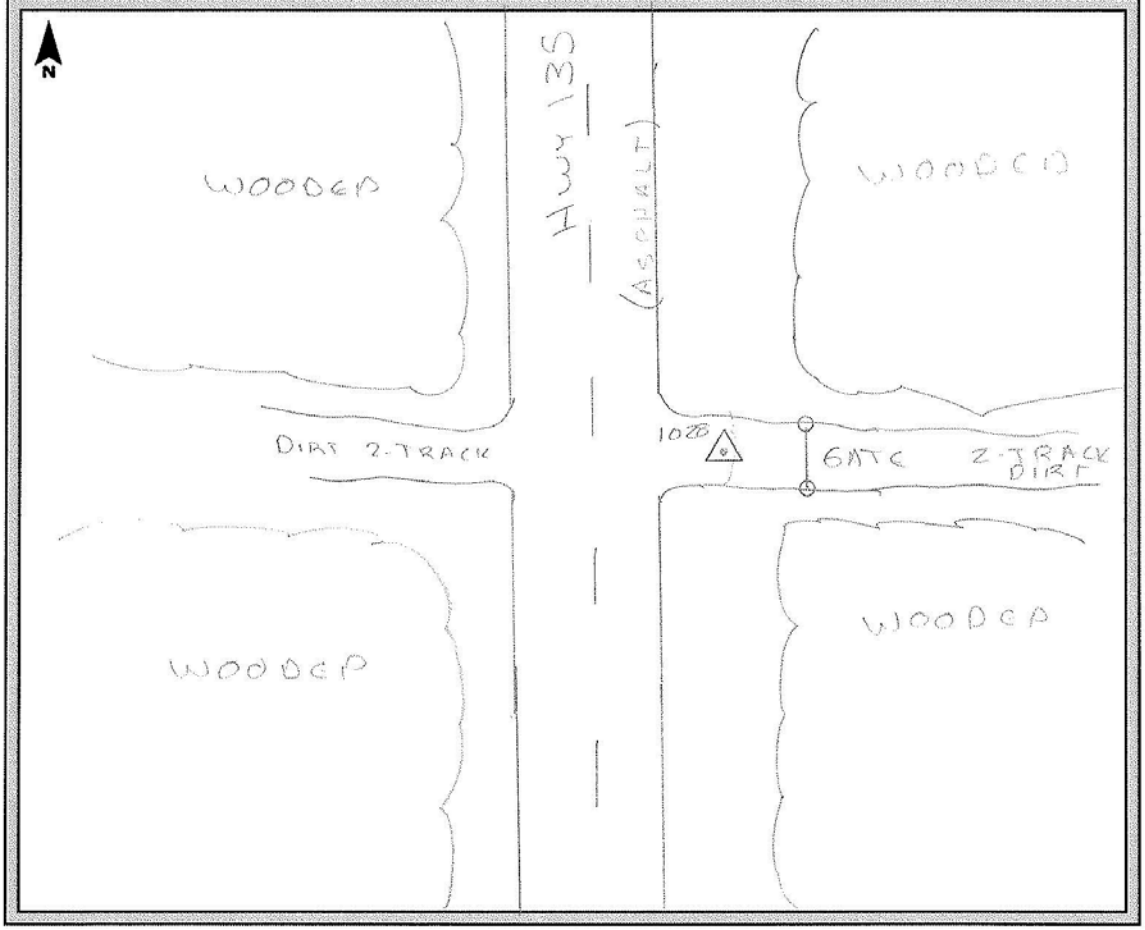
1027-3N-23MAR2015

1027-3E-23MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-18-15
Station Name:	1028 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-51-35.6	**Julian Day:**	77	**Session No.**	
Longitude:	83-03-05.8	**Start Time:**		**End Time:**	
Ellip. Height:	78.9 eft	**Data File Name:**	LWNDS RC 03185		
Type of Mark:	PK in PVMT	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	70°/CLR	**Antenna Height:**	2.0M	to bottom of antenna mount	



1028-2-18MAR2015

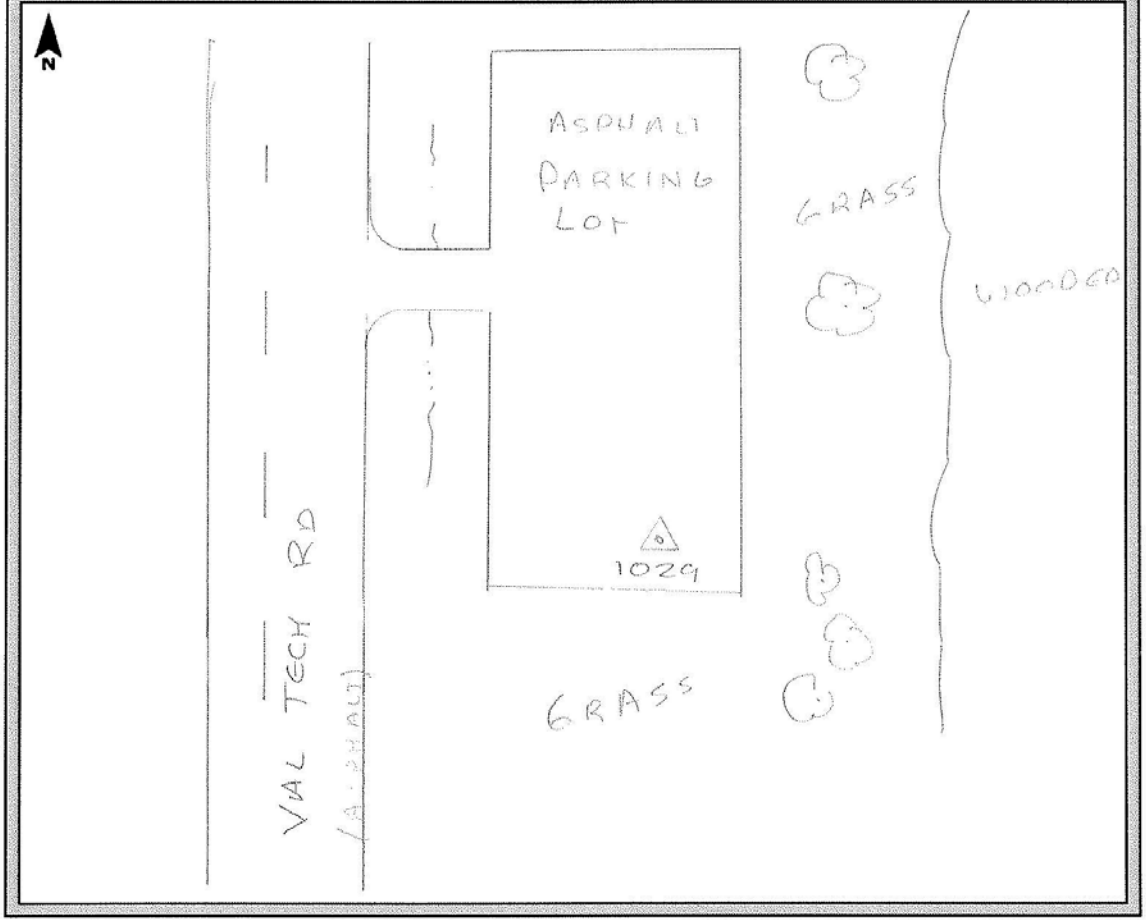
1028-3N-18MAR2015

1028-3E-18MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3-23-15
Station Name:	1029 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-51-12.8	**Julian Day:**	084	**Session No.**	
Longitude:	83-20-38.3	**Start Time:**		**End Time:**	
Ellip. Height:	41.7 sft	**Data File Name:**	LWNDS RC 032315		
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	65° / CLDY	**Antenna Height:**	2.0M	to bottom of antenna mount	



1029-2-23MAR2015

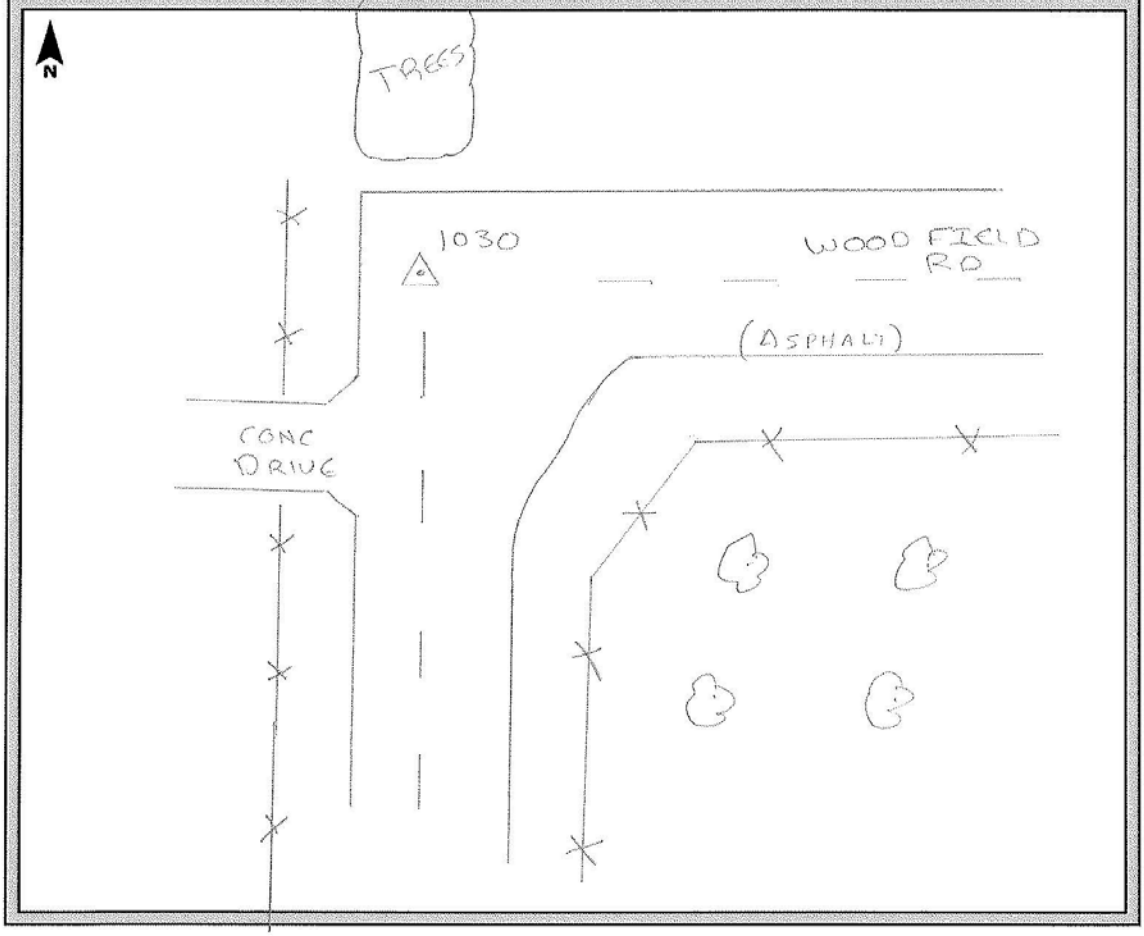
1029-3N-23MAR2015

1029-3E-23MAR2015

GPS Observation Log Sheet

WOOLPERT

Project Name:	NOAA OCM LiDAR LOWNDES CO GA	**Project Number:**	75271	**Survey Date:**	3·19·15
Station Name:	1030 GCP	**Operator Name:**	ROSS CHALOUPKA		
Latitude:	30-45-27.2	**Julian Day:**	078	**Session No.**	
Longitude:	83-25-17.2	**Start Time:**		**End Time:**	
Ellip. Height:	103.5 ft	**Data File Name:**	LWNDS RC 031915		
Type of Mark:	PK IN ASPHALT	**Type of Receiver:**	TRIMBLE R8-2		
Stamping on Mark:	NA	**Type of Antenna:**	INTERNAL		
Weather Condition:	75°/CLDY	**Antenna Height:**	2.0M	to bottom of antenna mount	



1030-2-19MAR2015

1030-3N-19MAR2015

1030-3E-19MAR2015

SECTION 5: EXISTING NGS DATA SHEETS AND PHOTOS

This section contains photographs and the published National Geodetic Survey (NGS) Data Sheets used as RTK checks for this project.

```
1        National Geodetic Survey,   Retrieval Date = APRIL 10, 2015
 BD1564 ***********************************************************************
 BD1564  DESIGNATION -  BLANTON ECC
 BD1564  PID         -  BD1564
 BD1564  STATE/COUNTY-  GA/LOWNDES
 BD1564  COUNTRY     -  US
 BD1564  USGS QUAD   -  HOWELL (1971)
 BD1564
 BD1564                        *CURRENT SURVEY CONTROL
 BD1564  ______________________________________________________________________
 BD1564* NAD 83(2011) POSITION- 30 49 42.95671(N) 083 07 21.98462(W)   ADJUSTED
 BD1564* NAD 83(2011) ELLIP HT-    24.574 (meters)        (06/27/12)   ADJUSTED
 BD1564* NAD 83(2011) EPOCH    -  2010.00
 BD1564* NAVD 88 ORTHO HEIGHT -    52.50  (meters)      172.2   (feet) LEVELING
 BD1564  ______________________________________________________________________
 BD1564  NAD 83(2011) X  -    656,400.003 (meters)                      COMP
 BD1564  NAD 83(2011) Y  - -5,442,333.796 (meters)                      COMP
 BD1564  NAD 83(2011) Z  -  3,249,602.852 (meters)                      COMP
 BD1564  LAPLACE CORR    -         -0.29  (seconds)                     DEFLEC12B
 BD1564  GEOID HEIGHT    -        -27.95  (meters)                      GEOID12B
 BD1564  VERT ORDER      -  THIRD
 BD1564
 BD1564  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 BD1564  Standards:
 BD1564         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 BD1564            Horiz  Ellip          SD_N   SD_E   SD_h      (unitless)
 BD1564  ------------------------------------------------------------------
 BD1564  NETWORK    1.25   2.86          0.51   0.51   1.46      0.06507986
 BD1564  ------------------------------------------------------------------
 BD1564  Click here for local accuracies and other accuracy information.
 BD1564
 BD1564
 BD1564.The horizontal coordinates were established by GPS observations
 BD1564.and adjusted by the National Geodetic Survey in June 2012.
 BD1564
 BD1564.NAD 83(2011) refers to NAD 83 coordinates where the reference
 BD1564.frame has been affixed to the stable North American tectonic plate. See
 BD1564.NA2011 for more information.
 BD1564
 BD1564.The horizontal coordinates are valid at the epoch date displayed above
 BD1564.which is a decimal equivalence of Year/Month/Day.
 BD1564
 BD1564.The orthometric height was determined by differential leveling.
 BD1564.The vertical network tie was performed by a horz. field party for horz.
 BD1564.obs reductions. Reset procedures were used to establish the elevation.
 BD1564
 BD1564.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 BD1564
 BD1564.The Laplace correction was computed from DEFLEC12B derived deflections.
 BD1564
```

```
BD1564.The ellipsoidal height was determined by GPS observations
BD1564.and is referenced to NAD 83.
BD1564
BD1564. The following values were computed from the NAD 83(2011) position.
BD1564
BD1564;                    North         East     Units Scale Factor Converg.
BD1564;SPC GA E     -    92,239.992   108,531.924   MT  1.00000317   -0 29 24.0
BD1564;SPC GA E     -   302,624.04    356,075.15   sFT  1.00000317   -0 29 24.0
BD1564;SPC GA W     -    92,315.120   799,866.775   MT  1.00002299   +0 32 06.0
BD1564;SPC GA W     -   302,870.52  2,624,229.58   sFT  1.00002299   +0 32 06.0
BD1564;UTM  17      - 3,412,534.714   296,963.396   MT  1.00010855   -1 05 17.6
BD1564
BD1564!             -  Elev Factor  x  Scale Factor =   Combined Factor
BD1564!SPC GA E     -   0.99999614  x   1.00000317  =   0.99999931
BD1564!SPC GA W     -   0.99999614  x   1.00002299  =   1.00001913
BD1564!UTM  17      -   0.99999614  x   1.00010855  =   1.00010469
BD1564
BD1564:                Primary Azimuth Mark                    Grid Az
BD1564:SPC GA E     -  BLANTON ECC AZ MK                      290 16 01.0
BD1564:SPC GA W     -  BLANTON ECC AZ MK                      289 14 31.0
BD1564:UTM  17      -  BLANTON ECC AZ MK                      290 51 54.6
BD1564
BD1564|---------------------------------------------------------------------|
BD1564| PID    Reference Object                    Distance      Geod. Az   |
BD1564|                                                          dddmmss.s |
BD1564| BD2405 BLANTON                             54.167 METERS 11726     |
BD1564| CW3366 BLANTON ECC RM 1                    48.056 METERS 13522     |
BD1564| BD1565 BLANTON ECC RM 2                    26.973 METERS 25939     |
BD1564| CW3365 BLANTON ECC AZ MK                                 2894637.0 |
BD1564|---------------------------------------------------------------------|
BD1564
BD1564                         SUPERSEDED SURVEY CONTROL
BD1564
BD1564  NAD 83(2007)-  30 49 42.95635(N)    083 07 21.98520(W) AD(2002.00) 0
BD1564  ELLIP H (02/10/07)   24.610  (m)                       GP(2002.00)
BD1564  NAD 83(1994)-  30 49 42.95688(N)    083 07 21.98627(W) AD(       ) 1
BD1564  ELLIP H (09/03/97)   24.497  (m)                       GP(       ) 4 2
BD1564  NAD 83(1994)-  30 49 42.95757(N)    083 07 21.98384(W) AD(       ) 1
BD1564  ELLIP H (02/22/96)   24.494  (m)                       GP(       ) 4 2
BD1564  NAD 83(1986)-  30 49 42.97740(N)    083 07 21.99237(W) AD(       ) 1
BD1564  NAD 27      -  30 49 42.22400(N)    083 07 22.46900(W) AD(       ) 1
BD1564  NAVD 88 (06/15/91)   52.496  (m)          172.23   (f) ADJUSTED    1 2
BD1564  NGVD 29 (??/??/92)   52.709  (m)          172.93   (f) ADJ UNCH    1 2
BD1564  NGVD 29 (07/19/86)   52.71   (m)          172.9    (f) LEVELING    3
BD1564
BD1564.Superseded values are not recommended for survey control.
BD1564
BD1564.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
BD1564.See file dsdata.txt to determine how the superseded data were derived.
BD1564
BD1564_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RKQ9696312534(NAD 83)
BD1564
BD1564_MARKER: DS = TRIANGULATION STATION DISK
BD1564_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
BD1564_SP_SET: CONCRETE POST
BD1564_STAMPING: BLANTON ECC 1935
BD1564_MARK LOGO: CGS
BD1564_MAGNETIC: N = NO MAGNETIC MATERIAL
BD1564_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
BD1564+STABILITY: SURFACE MOTION
BD1564_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
```

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BD1564+SATELLITE: SATELLITE OBSERVATIONS - July 13, 2009
BD1564
BD1564  HISTORY     - Date     Condition        Report By
BD1564  HISTORY     - 1935     MONUMENTED       CGS
BD1564  HISTORY     - 1957     GOOD             CGS
BD1564  HISTORY     - 19930616 GOOD             LOCSUR
BD1564  HISTORY     - 19940524 GOOD             NGS
BD1564  HISTORY     - 20090713 GOOD             INDIV
BD1564
BD1564                          STATION DESCRIPTION
BD1564
BD1564'DESCRIBED BY COAST AND GEODETIC SURVEY 1935 (JB)
BD1564'ABOUT 6 MILES WEST OF MAYDAY, 0.8 MILE WEST OF GEORGIA SOUTHERN
BD1564'AND FLORIDA RAILWAY STATION AT BLANTON, 53 FEET NORTH OF NORTH RAIL
BD1564'OF TRACKS, 42 FEET EAST OF CENTER LINE OF HIGHWAY AND 15 FEET SOUTH
BD1564'OF FENCE LINE.  TO REACH FROM VALDOSTA, GO SOUTH 0.1 MILE FROM
BD1564'SOUTHEAST CORNER OF COURTHOUSE (PASSING POST OFFICE ON LEFT) AND
BD1564'TURN RIGHT ON LEE STREET FOR 0.2 MILE TO RAILWAY CROSSING.  CROSS
BD1564'TRACKS AND CONTINUE STRAIGHT AHEAD 0.6 MILE TO LEFT INTERSECTION,
BD1564'TURN RIGHT FOR 0.2 MILE TO END OF PAVEMENT ON LEE STREET.  TURN
BD1564'LEFT FOR 0.2 MILE AND TURN RIGHT ON CHURCH STREET FOR 0.05 MILE.
BD1564'TURN LEFT FOR 0.7 MILE TO CROSS ROAD.  TURN LEFT AT CROSS ROAD
BD1564'(HOWARDS FILLING STATION) FOR 2.5 MILES TO Y.  TURN LEFT FOR 3.6
BD1564'MILES AND TURN RIGHT AT Y (CONCRETE CROSS ON RIGHT MARKED BLANTON
BD1564'2 MILES HOWARD 5 MILES) FOR 3.05 MILES TO T-ROAD.  TURN RIGHT FOR
BD1564'1.15 MILES TO RAILROAD CROSSING AND STATION.  SURFACE AND
BD1564'UNDERGROUND MARKS ARE STANDARD DISKS IN CONCRETE.
BD1564'UPPER MARK PROJECTS ABOUT 6 INCHES ABOVE GROUND.  REFERENCE AND
BD1564'AZIMUTH MARKS ARE STANDARD DISKS IN ROUND CONCRETE MONUMENTS.
BD1564'REFERENCE
BD1564'MARK NO. 1 PROJECTS ABOUT 6 INCHES, IS 40 METERS (131.2 FEET) EAST
BD1564'OF CENTER LINE OF ROAD, 15.159 METERS (49.7 FEET) SOUTH OF SOUTH
BD1564'RAIL OF TRACKS, 1 FOOT NORTH OF FENCE LINE AND 154.70 FEET SOUTHEAST
BD1564'OF STATION S 44 DEG 38 MIN E.  NO. 2 PROJECTS ABOUT 7
BD1564'INCHES, 37 FEET NORTH OF CENTER LINE OF TRACKS, 13 PACES SOUTHWEST
BD1564'OF FENCE CORNER AND 88.44 FEET WEST OF STATION N 9 DEG
BD1564'38 MIN E.  AZIMUTH MARK IS 50 PACES SOUTH OF CENTER LINE OF ROAD, 13
BD1564'PACES WEST OF RAIL FENCE, 5 PACES NORTH OF 6-INCH PINE TREE AND
BD1564'0.5 MILE WEST-NORTHWEST OF STATION N 70 DEG 13 MIN W.
BD1564'BLANTON (SEE DESCRIPTION THEREOF) IS 177.5 FEET FROM STATION
BD1564'S 80 DEG 35 MIN E.
BD1564
BD1564                          STATION RECOVERY (1957)
BD1564
BD1564'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1957
BD1564'4.1 MI W FROM HOWELL.
BD1564'ABOUT 4.1 MILES WEST ALONG THE SOUTHERN RAILWAY FROM THE CROSSING
BD1564'OF STATE HIGHWAY NO. 135 AT HOWELL, ABOUT 0.3 MILE WEST OF THE
BD1564'STATION SIGN BLANTON, 0.1 MILE WEST OF MILEPOST NO. 161, 52
BD1564'1/2 FEET NORTH OF THE NORTH RAIL, 66 FEET NORTH-NORTHEAST OF
BD1564'THE CENTER OF THE INTERSECTION OF A ROAD CROSSING AND MAIN
BD1564'TRACK, 88 1/2 FEET EAST-NORTHEAST AND ACROSS ROAD FROM RM NO.
BD1564'2, 39 FEET EAST OF THE CENTER LINE OF THE ROAD, 154.7 FEET
BD1564'NORTHWEST AND ACROSS THE TRACK FROM RM BLANTON 1917, 2 FEET
BD1564'ABOVE THE LEVEL OF THE TRACK AND SET IN THE TOP OF A CONCRETE
BD1564'POST PROJECTING 9 INCHES.
BD1564
BD1564                          STATION RECOVERY (1993)
BD1564
BD1564'RECOVERY NOTE BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 1993
BD1564'THE EXISTING DESCRIPTION IS GOOD AND CLEAR.
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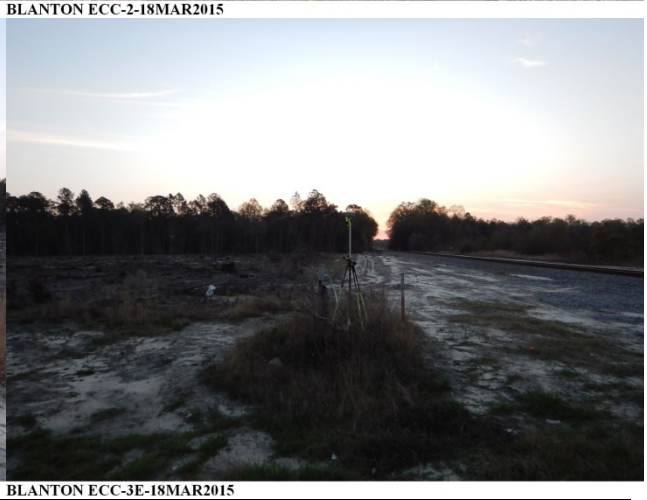
BD1564
BD1564                          STATION RECOVERY (1994)
BD1564
BD1564'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (JRO)
BD1564'STATION IS 9 MILES (14.5 KM) EAST OF VALDOSTA, ON OR CLOSE TO COUNTY
BD1564'AND RAILROAD RIGHTS OF WAY.  TO REACH FROM THE COUNTY COURTHOUSE IN
BD1564'VALDOSTA, HEAD SOUTH ON SOUTH PATTERSON ST, US HWY 41.  CROSS OVER THE
BD1564'RAILROAD ON BIG BRIDGE, PAST SR 31 TURNING OFF TO THE RIGHT, AND GO A
BD1564'TOTAL OF 0.9 MILE (1.4 KM) ON US 41 TO WHERE SR 94 TURNS OFF TO THE
BD1564'LEFT.  FOLLOW SR 94 0.85 MILE (1.37 KM) SE TO HOWELL RD AND TURN LEFT,
BD1564'PASSING PEOPLES FORD TRACTOR CO AT 0.5 MILE (0.8 KM) AND ULMER RD AT
BD1564'0.75 MILE (1.21 KM) .  FOLLOW HOWELL RD 8.3 MILES (13.4 KM) TO LAKE
BD1564'PARK RD AND TURN RIGHT.  LANDMARKS ALONG THE WAY ARE 4-LANE PERIMETER
BD1564'RD AT 1.9 MILE (3.1 KM) AND RAILROAD CROSSING AT 3 MILES (4.8 KM) .
BD1564'FOLLOW LAKE PARK RD 0.1 MILE (0.2 KM) SOUTH TO STATION ON THE LEFT.
BD1564'STATION IS 69.5 FT (21.2 M) NE OF RR XING SIGN, 68 FT (20.7 M) NE OF
BD1564'INTERSECTION OF ROAD AND RR, 59.5 EAST OF STOP SIGN ACROSS RD, 52 FT
BD1564'(15.8 M) NORTH OF NORTH RAIL OF SINGLE TRACK, 43 FT (13.1 M) EAST OF
BD1564'ROAD, 34 FT (10.4 M) SOUTH OF POLE WITH THREE GUY WIRES, 4.5 FT (1.4
BD1564'M) ENE OF SOUTHERN BELL CABLE SIGN, 2 FT (0.6 M) SOUTH OF WOOD FENCE
BD1564'POST, ABOUT LEVEL WITH ROAD AND RR.  RM 1 IS ACROSS TRACK TO SE, JUST
BD1564'INSIDE WOODS, 153 FT (46.6 M) EAST OF LAKE PARK RD, 51 FT (15.5 M)
BD1564'SOUTH OF SOUTH RAIL, FLUSH WITH GROUND AND DISPLACED ABOUT 0.7 FT
BD1564'(21.3 CM) .
BD1564
BD1564                          STATION RECOVERY (2009)
BD1564
BD1564'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2009 (SF)
BD1564'RECOVERED IN GOOD CONDITION.
```

BLANTON ECC-1-18MAR2015

BLANTON ECC-2-18MAR2015

BLANTON ECC-3N-18MAR2015



BLANTON ECC-3E-18MAR2015

BLANTON ECC-3S-18MAR2015

BLANTON ECC-3W-18MAR2015

```
1        National Geodetic Survey,   Retrieval Date = APRIL 10, 2015
 BD2739 ***********************************************************************
 BD2739  CBN         -  This is a Cooperative Base Network Control Station.
 BD2739  DESIGNATION -  DEVANE RESET
 BD2739  PID         -  BD2739
 BD2739  STATE/COUNTY-  GA/BROOKS
 BD2739  COUNTRY     -  US
 BD2739  USGS QUAD   -  OUSLEY (1973)
 BD2739
 BD2739                        *CURRENT SURVEY CONTROL
 BD2739  ______________________________________________________________________
 BD2739* NAD 83(2011) POSITION- 30 47 24.15343(N) 083 28 43.61379(W)   ADJUSTED
 BD2739* NAD 83(2011) ELLIP HT-    34.906 (meters)        (06/27/12)   ADJUSTED
 BD2739* NAD 83(2011) EPOCH   -  2010.00
 BD2739* NAVD 88 ORTHO HEIGHT -    62.8   (meters)      206.    (feet) GPS OBS
 BD2739  ______________________________________________________________________
 BD2739  NAVD 88 orthometric height was determined with geoid model    GEOID99
 BD2739  GEOID HEIGHT    -        -27.85  (meters)                     GEOID99
 BD2739  GEOID HEIGHT    -        -27.89  (meters)                     GEOID12B
 BD2739  NAD 83(2011) X  -    622,821.194 (meters)                     COMP
 BD2739  NAD 83(2011) Y  - -5,448,491.303 (meters)                     COMP
 BD2739  NAD 83(2011) Z  -  3,245,936.765 (meters)                     COMP
 BD2739  LAPLACE CORR    -         -0.28  (seconds)                    DEFLEC12B
 BD2739
 BD2739  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 BD2739  Standards:
 BD2739         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 BD2739            Horiz  Ellip           SD_N   SD_E   SD_h      (unitless)
 BD2739  ------------------------------------------------------------------
 BD2739  NETWORK    1.01   1.59           0.44   0.38   0.81     -0.09247692
 BD2739  ------------------------------------------------------------------
 BD2739  Click here for local accuracies and other accuracy information.
 BD2739
 BD2739
 BD2739.The horizontal coordinates were established by GPS observations
 BD2739.and adjusted by the National Geodetic Survey in June 2012.
 BD2739
 BD2739.NAD 83(2011) refers to NAD 83 coordinates where the reference
 BD2739.frame has been affixed to the stable North American tectonic plate. See
 BD2739.NA2011 for more information.
 BD2739
 BD2739.The horizontal coordinates are valid at the epoch date displayed above
 BD2739.which is a decimal equivalence of Year/Month/Day.
 BD2739
 BD2739.The orthometric height was determined by GPS observations and a
 BD2739.high-resolution geoid model.
 BD2739
 BD2739.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 BD2739
 BD2739.The Laplace correction was computed from DEFLEC12B derived deflections.
 BD2739
 BD2739.The ellipsoidal height was determined by GPS observations
 BD2739.and is referenced to NAD 83.
 BD2739
 BD2739. The following values were computed from the NAD 83(2011) position.
 BD2739
 BD2739;                    North         East      Units Scale Factor Converg.
 BD2739;SPC FL N     -   198,865.254   697,743.151   MT  1.00000734   +0 30 47.5
 BD2739;SPC FL N     -   652,443.75  2,289,178.99   sFT  1.00000734   +0 30 47.5
 BD2739;SPC GA W     -    87,776.987   765,833.626   MT  0.99995345   +0 21 07.7
 BD2739;SPC GA W     -   287,981.66  2,512,572.49   sFT  0.99995345   +0 21 07.7
```

```
BD2739;UTM  17      - 3,408,961.212   262,808.128   MT  1.00029406   -1 16 10.1
BD2739
BD2739!             -  Elev Factor  x  Scale Factor =   Combined Factor
BD2739!SPC FL N     -   0.99999452  x   1.00000734  =   1.00000186
BD2739!SPC GA W     -   0.99999452  x   0.99995345  =   0.99994797
BD2739!UTM  17      -   0.99999452  x   1.00029406  =   1.00028858
BD2739
BD2739:                Primary Azimuth Mark                    Grid Az
BD2739:SPC FL N     -  DEVANE AZ MK                          266 14 42.2
BD2739:SPC GA W     -  DEVANE AZ MK                          266 24 22.0
BD2739:UTM  17      -  DEVANE AZ MK                          268 01 39.8
BD2739
BD2739|---------------------------------------------------------------------|
BD2739| PID    Reference Object                    Distance      Geod. Az   |
BD2739|                                                          dddmmss.s  |
BD2739| CW3557 DEVANE RM 1                         28.459 METERS 10248      |
BD2739| CS6044 DEVANE RM 3                         28.965 METERS 16228      |
BD2739| CS6045 DEVANE RM 4                         28.968 METERS 21630      |
BD2739| BD2506 QUITMAN ALUMINUM MUN TANK          APPROX. 7.9 KM 2650937.8  |
BD2739| CW3556 DEVANE AZ MK                                      2664529.7  |
BD2739| CW3558 DEVANE RM 2                         32.733 METERS 34631      |
BD2739| BD2738 BV 014 13                          145.178 METERS 35139      |
BD2739| BD2452 MORVEN RED MUNICIPAL TANK          APPROX.17.0 KM 3531310.1  |
BD2739|---------------------------------------------------------------------|
BD2739
BD2739                          SUPERSEDED SURVEY CONTROL
BD2739
BD2739  NAD 83(2007)-  30 47 24.15327(N)    083 28 43.61422(W) AD(2002.00) 0
BD2739  ELLIP H (02/10/07)   34.930  (m)                       GP(2002.00)
BD2739  NAD 83(1994)-  30 47 24.15149(N)    083 28 43.61235(W) AD(       ) B
BD2739  ELLIP H (03/09/95)   34.890  (m)                       GP(       ) 1 1
BD2739  NAD 83(1990)-  30 47 24.17293(N)    083 28 43.61643(W) AD(       ) 1
BD2739  NAD 83(1986)-  30 47 24.14830(N)    083 28 43.62348(W) AD(       ) 2
BD2739  NAD 27      -  30 47 23.43700(N)    083 28 44.05800(W) AD(       ) 2
BD2739  NAVD 88 (03/09/95)   62.8    (m)  UNKNOWN model used   GPS OBS
BD2739  NGVD 29 (01/06/94)   63.0    (m)  GEOID93 model used   GPS OBS
BD2739  NGVD 29 (06/12/91)   63.89   (m)          209.6    (f) LEVELING    3
BD2739
BD2739.Superseded values are not recommended for survey control.
BD2739
BD2739.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
BD2739.See file dsdata.txt to determine how the superseded data were derived.
BD2739
BD2739_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RKQ6280808961(NAD 83)
BD2739
BD2739_MARKER: DH = HORIZONTAL CONTROL DISK
BD2739_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
BD2739_SP_SET: CONCRETE POST
BD2739_STAMPING: DEVANE 1935 1984
BD2739_MARK LOGO: NGS
BD2739_MAGNETIC: N = NO MAGNETIC MATERIAL
BD2739_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
BD2739+STABILITY: SURFACE MOTION
BD2739_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
BD2739+SATELLITE: SATELLITE OBSERVATIONS - February 23, 2011
BD2739
BD2739  HISTORY     - Date     Condition        Report By
BD2739  HISTORY     - 1984     MONUMENTED       NGS
BD2739  HISTORY     - 1984     GOOD             NGS
BD2739  HISTORY     - 19920612 GOOD             NGS
BD2739  HISTORY     - 19930616 GOOD             LOCSUR
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BD2739  HISTORY     - 19940125 GOOD            GADT
BD2739  HISTORY     - 19990115 GOOD            DCJOHN
BD2739  HISTORY     - 20110223 GOOD            GADT
BD2739
BD2739                          STATION DESCRIPTION
BD2739
BD2739'DESCRIBED BY NATIONAL GEODETIC SURVEY 1984 (CLN)
BD2739'THE STATION UNDERGROUND MARK WAS RECOVERED BY THE GEORGIA DEPARTMENT
BD2739'OF TRANSPORTATION BY RUNNING A TRAVERSE SURVEY TO FIND THE MARK.  THE
BD2739'UNDERGROUND MARK WAS LOWERED AND A NEW SURFACE MARK WAS SET 16 INCHES
BD2739'BELOW THE GROUND SURFACE.  REFERENCE MARKS 1 AND 2 WERE FOUND
BD2739'DESTROYED.  REFERENCE MARKS 3 AND 4 WERE ESTABLISHED AT THIS TIME.
BD2739'THE AZIMUTH MARK WAS SEARCHED FOR BUT NOT FOUND.  BV 014-3 GADT WAS
BD2739'TIED IN BY TAKING A POLARIS OBSERVATION AND MEASURING THE DISTANCE.
BD2739'STATION 7H-42 GAGS WAS ALSO TIED IN FOR A CHECK.  DUE TO CHANGES, A
BD2739'COMPLETE NEW DESCRIPTION FOLLOWS.
BD2739'
BD2739'THE STATION IS LOCATED ABOUT 16.8 KM SOUTHEAST OF MORVEN, 7.92 KM
BD2739'EAST OF QUITMAN, 2.56 KM WEST OF THE WITHLACOOCHEE RIVER BRIDGE,
BD2739'BETWEEN QUITMAN AND VALDOSTA, ON A HIGH HILL ON THE NORTH SIDE OF OLD
BD2739'U.S. HIGHWAY 84 ON PROPERTY OF MRS DEVANE.
BD2739'
BD2739'TO REACH THE STATION FROM THE COURTHOUSE IN QUITMAN, GO EAST OF U.S.
BD2739'HIGHWAY 84 FOR 7.2 KM TO A ROAD FORK.  KEEP RIGHT AND CONTINUE
BD2739'EASTERLY ON OLD U.S. HIGHWAY 84 FOR 0.40 KM TO A HOUSE ON RIGHT AND
BD2739'THE STATION ON THE LEFT IN FIELD.
BD2739'
BD2739'THE STATION IS A STANDARD NGS DISK STAMPED--DEVANE 1935 1984--SET INTO
BD2739'THE TOP OF A 12 INCH ROUND CONCRETE MONUMENT RECESSED 16 INCHES BELOW
BD2739'THE SURFACE OF THE GROUND.  THE UNDERGROUND MARK IS A STANDARD NGS
BD2739'DISK STAMPED--DEVANE 1935 1984.
BD2739'
BD2739'REFERENCE MARK NO 3 IS A STANDARD NGS DISK STAMPED--DEVANE 1935 NO 3
BD2739'1984--SET INTO THE TOP OF A 12 INCH ROUND CONCRETE MONUMENT FLUSH WITH
BD2739'THE SURFACE OF THE GROUND AND 1 FT LOWER THAN THE STATION.
BD2739'
BD2739'REFERENCE MARK NO 4 IS A STANDARD NGS DISK STAMPED--DEVANE 1935 NO 4
BD2739'1984--SET INTO THE TOP OF A 12 INCH ROUND CONCRETE MONUMENT FLUSH WITH
BD2739'THE SURFACE OF THE GROUND.
BD2739'
BD2739'NO BV 014-13 GADT IS A STANDARD GADT DISK STAMPED--014-13--SET INTO
BD2739'THE TOP OF A 8 INCH ROUND CONCRETE MONUMENT RECESSED 3 INCHES ABOVE
BD2739'THE SURFACE.
BD2739'
BD2739'STA 7H-42 GAGS IS A STANDARD GAGS DISK STAMPED--7H-42--SET INTO THE TO
BD2739'OF A 6 INCH ROUND CONCRETE MONUMENT RECESSED 8 INCHES BELOW THE GROUND
BD2739
BD2739                          STATION RECOVERY (1984)
BD2739
BD2739'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1984
BD2739'RECOVERED IN GOOD CONDITION.
BD2739
BD2739                          STATION RECOVERY (1992)
BD2739
BD2739'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992 (JRO)
BD2739'AT THE SW CORNER OF A PARKING LOT FOR A FACTORY NAMED MICRO CRAFT, 9.6
BD2739'MILES (15.4 KM) WEST ALONG US 84 FROM THE INTERCHANGE WITH I 95 ON THE
BD2739'WEST SIDE OF VALDOSTA, 1.2 MILES (1.9 KM) WEST OF THE US 84 BRIDGE
BD2739'OVER WITHLACOOCHEE RIVER AND BROOKS/LOWNDES COUNTY LINE TO A CAUTION
BD2739'LIGHT.  TURN LEFT, SOUTH, FOR 100 FEET (30.5 M) TO AN ACCESS ROAD,
BD2739'THEN 0.2 MILE (0.3 KM) WEST AND SOUTH AROUND THE FACTORY BUILDING TO
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BD2739'THE MARK ON THE RIGHT, WEST OF A SMALL SPILLWAY.  36 FEET (11.0 M)
BD2739'WEST OF EXTENDED WEST CURB LINE, 25 FEET (7.6 M) SOUTH OF EXTENDED
BD2739'SOUTH CURB AT SPILLWAY OR 5 FEET (1.5 M) SOUTH OF MAIN SOUTH CURB FOR
BD2739'SEVEN PARKING SPACES, OFFSET 21 FEET (6.4 M) SOUTH AND 8 FEET (2.4 M)
BD2739'WEST FROM A POWER POLE AND 22.5 FEET (6.9 M) DIRECTLY SSW FROM SAME, 8
BD2739'FEET (2.4 M) WEST OF GUY WIRE FOR SAME, ACROSS A SMALL DITCH FROM
BD2739'PARKING LOT AND OLD QUITMAN RD TO SOUTH, 1.5 FEET (0.5 M) NORTH AND
BD2739'SOUTH OF TWO WITNESS POSTS, BURIED 1 FOOT.
BD2739
BD2739                          STATION RECOVERY (1993)
BD2739
BD2739'RECOVERY NOTE BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 1993
BD2739'THE EXISTING DESCRIPTION IS GOOD AND CLEAR.
BD2739
BD2739                          STATION RECOVERY (1994)
BD2739
BD2739'RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 1994 (PRM)
BD2739'THE STATION IS LOCATED ABOUT 17 MI (27.4 KM) WEST FROM VALDOSTA, 2.0
BD2739'MI (3.2 KM) EAST OF QUITMAN, 1.6 KM (1.00 MI) WEST FROM THE
BD2739'WITHLACOOCHEE RIVER BRIDGE AND 2.0 MI (3.2 KM) EAST FROM QUITMAN.
BD2739'--OWNERSHIP-- MRS. DEVANE TO REACH THE STATION FROM THE JUNCTION OF
BD2739'STATE ROUTES 76 AND 333 WITH U.S. HIGHWAYS 221 AND 84 IN QUITMAN, GO
BD2739'EAST ON HIGHWAY 84 FOR 1.8 MI (2.9 KM) TO OKAPILCO CREEK.  CONTINUE
BD2739'EAST ON HIGHWAY 84 FOR 2.4 MI (3.9 KM) TO COUNTY ROAD 238 ON THE
BD2739'RIGHT.  TURN RIGHT, THEN LEFT ON PAVED, DEAD END ROAD AND GO EASTERLY
BD2739'FOR 0.5 MI (0.8 KM) TO THE STATION ON THE LEFT. THE STATION IS RECESSE
BD2739'32 CM BELOW THE LEVEL OF THE GROUND.  LOCATED 41.3 FT (12.6 M) NORTH
BD2739'FROM THE PAVED ROAD, 21.4 FT (6.5 M) SOUTHWEST FROM A POWER POLE, AND
BD2739'95.3 FT (29.0 M) SOUTHWEST FROM A METAL LIGHT POLE NUMBER 3 IN THE
BD2739'REAR PARKING LOT OF MICRO-CRAFT CO.
BD2739
BD2739                          STATION RECOVERY (1999)
BD2739
BD2739'RECOVERY NOTE BY DC JOHNSON ASSOC 1999 (DS)
BD2739'RECOVERED AS DESCRIBED (AG) .
BD2739
BD2739                          STATION RECOVERY (2011)
BD2739
BD2739'RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 2011 (BDC)
BD2739'RECOVERED IN GOOD CONDITION.
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1        National Geodetic Survey,   Retrieval Date = APRIL 10, 2015
 AH3799 ***********************************************************************
 AH3799  DESIGNATION -  HAM 5
 AH3799  PID         -  AH3799
 AH3799  STATE/COUNTY-  GA/ECHOLS
 AH3799  COUNTRY     -  US
 AH3799  USGS QUAD   -  STATENVILLE (1971)
 AH3799
 AH3799                        *CURRENT SURVEY CONTROL
 AH3799  ______________________________________________________________________
 AH3799* NAD 83(2011) POSITION- 30 42 17.68396(N) 083 06 31.90003(W)   ADJUSTED
 AH3799* NAD 83(2011) ELLIP HT-    17.815 (meters)        (06/27/12)   ADJUSTED
 AH3799* NAD 83(2011) EPOCH   -  2010.00
 AH3799* NAVD 88 ORTHO HEIGHT -    45.9   (meters)      151.    (feet) GPS OBS
 AH3799  ______________________________________________________________________
 AH3799  NAVD 88 orthometric height was determined with geoid model    GEOID96
 AH3799  GEOID HEIGHT    -        -28.04  (meters)                     GEOID96
 AH3799  GEOID HEIGHT    -        -28.06  (meters)                     GEOID12B
 AH3799  NAD 83(2011) X  -    658,562.416 (meters)                     COMP
 AH3799  NAD 83(2011) Y  - -5,449,132.437 (meters)                     COMP
 AH3799  NAD 83(2011) Z  -  3,237,816.709 (meters)                     COMP
 AH3799  LAPLACE CORR    -         -0.28  (seconds)                    DEFLEC12B
 AH3799
 AH3799  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 AH3799  Standards:
 AH3799         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 AH3799            Horiz  Ellip           SD_N   SD_E   SD_h      (unitless)
 AH3799  ------------------------------------------------------------------
 AH3799  NETWORK    0.56   1.12           0.24   0.22   0.57      0.00981535
 AH3799  ------------------------------------------------------------------
 AH3799  Click here for local accuracies and other accuracy information.
 AH3799
 AH3799
 AH3799.The horizontal coordinates were established by GPS observations
 AH3799.and adjusted by the National Geodetic Survey in June 2012.
 AH3799
 AH3799.NAD 83(2011) refers to NAD 83 coordinates where the reference
 AH3799.frame has been affixed to the stable North American tectonic plate. See
 AH3799.NA2011 for more information.
 AH3799
 AH3799.The horizontal coordinates are valid at the epoch date displayed above
 AH3799.which is a decimal equivalence of Year/Month/Day.
 AH3799
 AH3799.The orthometric height was determined by GPS observations and a
 AH3799.high-resolution geoid model.
 AH3799
 AH3799.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AH3799
 AH3799.The Laplace correction was computed from DEFLEC12B derived deflections.
 AH3799
 AH3799.The ellipsoidal height was determined by GPS observations
 AH3799.and is referenced to NAD 83.
 AH3799
 AH3799. The following values were computed from the NAD 83(2011) position.
 AH3799
 AH3799;                    North         East     Units Scale Factor Converg.
 AH3799;SPC GA E     -    78,516.569   109,747.584   MT  1.00000045   -0 28 52.1
 AH3799;SPC GA E     -   257,599.78    360,063.53   sFT  1.00000045   -0 28 52.1
 AH3799;UTM  17      - 3,398,797.938   298,036.078   MT  1.00010320   -1 04 37.9
 AH3799
 AH3799!             -  Elev Factor  x  Scale Factor =   Combined Factor
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AH3799!SPC GA E     -   0.99999720  x   1.00000045  =   0.99999765
AH3799!UTM  17      -   0.99999720  x   1.00010320  =   1.00010040
AH3799
AH3799                          SUPERSEDED SURVEY CONTROL
AH3799
AH3799  NAD 83(2007)-  30 42 17.68394(N)    083 06 31.90073(W) AD(2002.00) 0
AH3799  ELLIP H (02/10/07)   17.845  (m)                       GP(2002.00)
AH3799  NAD 83(1999)-  30 42 17.68335(N)    083 06 31.89961(W) AD(       ) 1
AH3799  ELLIP H (05/31/01)   17.813  (m)                       GP(       ) 4 1
AH3799  NAD 83(1994)-  30 42 17.68306(N)    083 06 31.89943(W) AD(       ) 1
AH3799  ELLIP H (10/02/98)   17.827  (m)                       GP(       ) 3 1
AH3799
AH3799.Superseded values are not recommended for survey control.
AH3799
AH3799.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AH3799.See file dsdata.txt to determine how the superseded data were derived.
AH3799
AH3799_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RKP9803698797(NAD 83)
AH3799
AH3799_MARKER: DD = SURVEY DISK
AH3799_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AH3799_STAMPING: HAM 5 1997
AH3799_MARK LOGO: NGS
AH3799_PROJECTION: FLUSH
AH3799_MAGNETIC: N = NO MAGNETIC MATERIAL
AH3799_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AH3799_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AH3799+SATELLITE: SATELLITE OBSERVATIONS - 1997
AH3799
AH3799  HISTORY     - Date     Condition        Report By
AH3799  HISTORY     - 1997     MONUMENTED       DCJOHN
AH3799
AH3799                           STATION DESCRIPTION
AH3799
AH3799'DESCRIBED BY DC JOHNSON ASSOC 1997 (CHX)
AH3799'THE STATION IS APPROXIMATELY 4.5 MI (7.2 KM) EAST OF LAKE PARK, 4.8 MI
AH3799'(7.7 KM) WEST OF STATENVILLE AND 7.0 MI (11.3 KM) NORTH OF JENNINGS.--
AH3799'FROM THE INTERSECTION OF GEORGIA STATE HIGHWAY 376 AND US HIGHWAY 41
AH3799'IN LAKEPARK, PROCEED NORTHEAST ON GEORGIA STATE HIGHWAY 376 FOR 3.05
AH3799'MI (4.91 KM) TO THE ECHOLS-LOWNDES COUNTY LINE.  CONTINUE NORTHEAST ON
AH3799'GEORGIA STATE HIGHWAY 376 FOR 0.75 MI (1.21 KM) TO A CONCRETE BRIDGE
AH3799'OVER THE LITTLE RIVER, THENCE CONTINUE NORTHEAST ON GEORGIA STATE
AH3799'HIGHWAY 376 FOR 0.8 MI (1.3 KM) TO THE STATION ON THE LEFT , A BRASS
AH3799'NATIONAL GEODETIC SURVEY DISC SET IN THE TOP OF A 12-INCH DIAMETER
AH3799'CONCRETE MONUMENT RECESSED 0.3 FT (9.1 CM) BELOW THE GROUND.  STATION
AH3799'IS IN FRONT OF SOUTH GEORGIA PRODUCE, INC.  AND IS 37 FT (11.3 M)
AH3799'NORTH OF GEORGIA STATE HIGHWAY 376 AND 2 FT (0.6 M) SOUTH OF A
AH3799'CARSONITE WITNESS POST.--  REFERENCES--  NAIL AND DISC (LB 4514) , SET
AH3799'IN A POWER POLE, NORTH 86 DEGREES WEST AT 152.74 FT (46.56 M) ,--
AH3799'NAIL AND DISC (LB 4514) , SET IN A POWER POLE, SOUTH 49 DEGREES EAST
AH3799'AT 102.45 FT (31.23 M) ,--  NAIL AND DISC (LB 4514) , SET IN THE EDGE
AH3799'OF PAVEMENT OF STATE ROAD 376, SOUTH 69 DEGREES WEST AT 52.45 FT
AH3799'(15.99 M) .
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HAM 5-AH3799-1-19MAR2015

HAM 5-AH3799-2-19MAR2015

HAM 5-AH3799-3N-19MAR2015

HAM 5-AH3799-3E-19MAR2015

HAM 5-AH3799-3W-19MAR2015

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1        National Geodetic Survey,   Retrieval Date = APRIL 10, 2015
 AA9447 ***********************************************************************
 AA9447  DESIGNATION -  MORVAN RM 3
 AA9447  PID         -  AA9447
 AA9447  STATE/COUNTY-  GA/BROOKS
 AA9447  COUNTRY     -  US
 AA9447  USGS QUAD   -  HAHIRA WEST (1974)
 AA9447
 AA9447                        *CURRENT SURVEY CONTROL
 AA9447  ______________________________________________________________________
 AA9447* NAD 83(1986) POSITION- 30 56 25.80   (N) 083 29 21.16   (W)   HD_HELD1
 AA9447* NAVD 88 ORTHO HEIGHT -    68.890 (meters)      226.02  (feet) ADJUSTED
 AA9447  ______________________________________________________________________
 AA9447  GEOID HEIGHT    -        -27.68  (meters)                     GEOID12B
 AA9447  DYNAMIC HEIGHT  -         68.803 (meters)      225.73  (feet) COMP
 AA9447  MODELED GRAVITY -    979,379.0   (mgal)                       NAVD 88
 AA9447
 AA9447  VERT ORDER      -  SECOND    CLASS I
 AA9447
 AA9447.The horizontal coordinates were determined by differentially corrected
 AA9447.hand held GPS observations or other comparable positioning techniques
 AA9447.and have an estimated accuracy of +/- 3 meters.
 AA9447.
 AA9447.The orthometric height was determined by differential leveling and
 AA9447.adjusted by the NATIONAL GEODETIC SURVEY
 AA9447.in April 1998.
 AA9447
 AA9447.The dynamic height is computed by dividing the NAVD 88
 AA9447.geopotential number by the normal gravity value computed on the
 AA9447.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 AA9447.degrees latitude (g = 980.6199 gals.).
 AA9447
 AA9447.The modeled gravity was interpolated from observed gravity values.
 AA9447
 AA9447;                   North         East    Units  Estimated Accuracy
 AA9447;SPC GA W     -   104,450.6     764,734.3     MT  (+/- 3 meters HH1 GPS)
 AA9447
 AA9447                          SUPERSEDED SURVEY CONTROL
 AA9447
 AA9447.No superseded survey control is available for this station.
 AA9447
 AA9447_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RKQ6218125664(NAD 83)
 AA9447
 AA9447_MARKER: DR = REFERENCE MARK DISK
 AA9447_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 AA9447_STAMPING: MORVAN NO 3 1970
 AA9447_MARK LOGO: CGS
 AA9447_MAGNETIC: A = STEEL ROD ADJACENT TO MONUMENT
 AA9447_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 AA9447+STABILITY: SURFACE MOTION
 AA9447_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 AA9447+SATELLITE: SATELLITE OBSERVATIONS - July 21, 1993
 AA9447
 AA9447  HISTORY     - Date     Condition        Report By
 AA9447  HISTORY     - 1970     MONUMENTED       NGS
 AA9447  HISTORY     - 19930721 GOOD             NGS
 AA9447
 AA9447                          STATION DESCRIPTION
 AA9447
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AA9447'DESCRIBED BY NATIONAL GEODETIC SURVEY 1993 (JRO)
AA9447'0.7 MILE (1.1 KM) SE ALONG STATE HWY 94 FROM BLINKING LIGHT AND STATE
AA9447'HWY 76 IN MORVEN TO THE MARK ON THE LEFT IN A FENCE LINE, ABOUT 400 FT
AA9447'(121.9 M) SE OF COUNTY RT 280 (MARKED ON BACK OF STOP SIGN) AT LOCAL
AA9447'TOP OF GRADE, 125 FT (38.1 M) PACED NW OF ROAD SIGN INDICATING THE
AA9447'INTERSECTION, 9 FT (2.7 M) NW OF POLE IN FENCE, 66 NE OF CENTERLINE
AA9447'HWY 94 AND ABOUT 4 FT (1.2 M) BELOW HWY. FLUSH.

MORVAN RM 3-AA9447-1-20MAR2015

MORVAN RM 3-AA9447-2-20MAR2015

MORVAN RM 3-AA9447-3N-20MAR2015

MORVAN RM 3-AA9447-3E-20MAR2015

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1        National Geodetic Survey,   Retrieval Date = APRIL 10, 2015
 BS0651 ***********************************************************************
 BS0651  CBN         -  This is a Cooperative Base Network Control Station.
 BS0651  DESIGNATION -  N 178
 BS0651  PID         -  BS0651
 BS0651  STATE/COUNTY-  GA/LOWNDES
 BS0651  COUNTRY     -  US
 BS0651  USGS QUAD   -  RAY CITY (1978)
 BS0651
 BS0651                        *CURRENT SURVEY CONTROL
 BS0651  ______________________________________________________________________
 BS0651* NAD 83(2011) POSITION- 31 01 31.06690(N) 083 11 54.29084(W)   ADJUSTED
 BS0651* NAD 83(2011) ELLIP HT-    46.574 (meters)        (06/27/12)   ADJUSTED
 BS0651* NAD 83(2011) EPOCH   -  2010.00
 BS0651* NAVD 88 ORTHO HEIGHT -    74.17  (meters)      243.3   (feet) LEVELING
 BS0651  ______________________________________________________________________
 BS0651  GEOID HEIGHT    -        -27.60  (meters)                      GEOID12B
 BS0651  NAD 83(2011) X  -    647,889.453 (meters)                      COMP
 BS0651  NAD 83(2011) Y  - -5,432,085.340 (meters)                      COMP
 BS0651  NAD 83(2011) Z  -  3,268,321.214 (meters)                      COMP
 BS0651  LAPLACE CORR    -         -0.48  (seconds)                     DEFLEC12B
 BS0651  OBS GRAVITY     -    979,389.0   (mgal)                        GRAV_OBS
 BS0651
 BS0651  VERT ORDER      -  THIRD
 BS0651
 BS0651  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 BS0651  Standards:
 BS0651         FGDC (95% conf, cm)     Standard deviation (cm)     CorrNE
 BS0651            Horiz  Ellip           SD_N   SD_E   SD_h      (unitless)
 BS0651  ------------------------------------------------------------------
 BS0651  NETWORK    1.51   3.06           0.48   0.71   1.56      0.05441295
 BS0651  ------------------------------------------------------------------
 BS0651  Click here for local accuracies and other accuracy information.
 BS0651
 BS0651
 BS0651.The horizontal coordinates were established by GPS observations
 BS0651.and adjusted by the National Geodetic Survey in June 2012.
 BS0651
 BS0651.NAD 83(2011) refers to NAD 83 coordinates where the reference
 BS0651.frame has been affixed to the stable North American tectonic plate. See
 BS0651.NA2011 for more information.
 BS0651
 BS0651.The horizontal coordinates are valid at the epoch date displayed above
 BS0651.which is a decimal equivalence of Year/Month/Day.
 BS0651
 BS0651.The orthometric height was determined by differential leveling.
 BS0651.The vertical network tie was performed by a horz. field party for horz.
 BS0651.obs reductions. Reset procedures were used to establish the elevation.
 BS0651
 BS0651.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 BS0651
 BS0651.The Laplace correction was computed from DEFLEC12B derived deflections.
 BS0651
 BS0651.The ellipsoidal height was determined by GPS observations
 BS0651.and is referenced to NAD 83.
 BS0651
 BS0651.The observed gravity was obtained from relative gravimeter ties
 BS0651.to the IGSN71 gravity network.
 BS0651
 BS0651. The following values were computed from the NAD 83(2011) position.
 BS0651
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BS0651;                     North         East     Units Scale Factor Converg.
BS0651;SPC GA W     -   114,056.767   792,440.659   MT  1.00000537   +0 29 56.7
BS0651;SPC GA W     -   374,201.24  2,599,865.73   sFT  1.00000537   +0 29 56.7
BS0651;UTM  17      - 3,434,481.004   290,157.172   MT  1.00014319   -1 08 00.6
BS0651
BS0651!             -  Elev Factor  x  Scale Factor =   Combined Factor
BS0651!SPC GA W     -   0.99999269  x   1.00000537  =   0.99999806
BS0651!UTM  17      -   0.99999269  x   1.00014319  =   1.00013588
BS0651
BS0651                          SUPERSEDED SURVEY CONTROL
BS0651
BS0651  NAD 83(2007)-  31 01 31.06683(N)    083 11 54.29161(W) AD(2002.00) 0
BS0651  ELLIP H (02/10/07)   46.599  (m)                       GP(2002.00)
BS0651  NAD 83(1994)-  31 01 31.06613(N)    083 11 54.29027(W) AD(       ) B
BS0651  ELLIP H (10/02/96)   46.591  (m)                       GP(       ) 1 1
BS0651  NAD 83(1994)-  31 01 31.06634(N)    083 11 54.28821(W) AD(       ) B
BS0651  ELLIP H (03/09/95)   46.605  (m)                       GP(       ) 1 1
BS0651  NAVD 88 (06/15/91)   74.171  (m)          243.34   (f) ADJUSTED    1 1
BS0651  NGVD 29 (??/??/92)   74.367  (m)          243.99   (f) ADJ UNCH    1 1
BS0651
BS0651.Superseded values are not recommended for survey control.
BS0651
BS0651.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
BS0651.See file dsdata.txt to determine how the superseded data were derived.
BS0651
BS0651_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RKQ9015734481(NAD 83)
BS0651
BS0651_MARKER: DB = BENCH MARK DISK
BS0651_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
BS0651_SP_SET: SET IN TOP OF CONCRETE MONUMENT
BS0651_STAMPING: N 178 1958
BS0651_MARK LOGO: CGS
BS0651_MAGNETIC: N = NO MAGNETIC MATERIAL
BS0651_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
BS0651+STABILITY: SURFACE MOTION
BS0651_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
BS0651+SATELLITE: SATELLITE OBSERVATIONS - January 19, 2011
BS0651
BS0651  HISTORY     - Date     Condition        Report By
BS0651  HISTORY     - 1958     MONUMENTED       CGS
BS0651  HISTORY     - 1975     GOOD             NGS
BS0651  HISTORY     - 19940315 GOOD             NGS
BS0651  HISTORY     - 19990921 GOOD             GADT
BS0651  HISTORY     - 20030307 GOOD             INDIV
BS0651  HISTORY     - 20110119 GOOD             GADT
BS0651
BS0651                          STATION DESCRIPTION
BS0651
BS0651'DESCRIBED BY NATIONAL GEODETIC SURVEY 1975
BS0651'3.4 MI S FROM RAY CITY.
BS0651'3.4 MILES SOUTH ALONG STATE HIGHWAY 125 FROM ITS JUNCTION WITH
BS0651'U.S. HIGHWAY 129 AND STATE HIGHWAY 37 AT RAY CITY, AT THE CROSSING
BS0651'OF STATE HIGHWAY 122, 144 FEET WEST OF CENTER LINE OF 125, 50
BS0651'FEET SOUTH OF CENTER LINE OF HIGHWAY 122, 53 FEET SOUTHWEST OF THE
BS0651'SOUTH END OF A 24-INCH PIPE CULVERT UNDER HIGHWAY 122, 2 FEET BELOW
BS0651'THE LEVEL OF CROSSING OF HIGHWAYS AND SET IN TOP OF A CONCRETE
BS0651'POST PROJECTING 1 INCH.
BS0651
BS0651                          STATION RECOVERY (1994)
BS0651
BS0651'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (CFS)
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BS0651'THE STATION IS LOCATED ABOUT 13.0 MI (20.9 KM) NORTH-NORTHEAST OF
BS0651'VALDOSTA, 11 MI (17.7 KM) EAST OF HAHIRA, 6.0 MI (9.7 KM) WEST OF
BS0651'LAKELAND, 3.0 MI (4.8 KM) SOUTH OF RAY CITY, IN THE NORTHWEST ANGLE OF
BS0651'THE JUNCTION OF STATE HIGHWAYS 122 AND 125.  OWNERSHIP--WILLIAM P.
BS0651'WALKER, PHONE--912-242-6842. TO REACH THE STATION FROM THE
BS0651'INTERSECTION OF INTERSTATE HIGHWAY 75 AND STATE HIGHWAY 122 (EXIT 7),
BS0651'GO EAST ON HIGHWAY 122 FOR 11.5 MI (18.5 KM) PASSING THROUGH THE
BS0651'VILLAGE OF HAHIRA TO THE INTERSECTION OF STATE HIGHWAY 125 AND THE
BS0651'STATION ON THE RIGHT. THE STATION PROJECTS 6 CM ABOVE THE LEVEL OF THE
BS0651'GROUND.  LOCATED 43.9 M (144.0 FT) WEST OF THE CENTERLINE OF HIGHWAY
BS0651'125, 16.2 M (53.1 FT) SOUTHWEST OF THE SOUTH END OF A 24-INCH PIPE
BS0651'CULVERT, 15.2 M (49.9 FT) SOUTH OF THE CENTERLINE OF HIGHWAY 122, 1.5
BS0651'M (4.9 FT) SOUTHEAST FROM AN OLD FENCE CORNER POST AND 0.5 M (1.6 FT)
BS0651'EAST FROM A METAL WITNESS POST.
BS0651
BS0651                          STATION RECOVERY (1999)
BS0651
BS0651'RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 1999
BS0651'RECOVERED IN GOOD CONDITION.
BS0651
BS0651                          STATION RECOVERY (2003)
BS0651
BS0651'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2003 (RL)
BS0651'RECOVERED BY COMPASSCOM, INC.
BS0651'STATION IS IN THE SOUTHWEST QUADRANT OF JUNCTION OF STATE HIGHWAYS 122
BS0651'AND 125.
BS0651'
BS0651'
BS0651
BS0651                          STATION RECOVERY (2011)
BS0651
BS0651'RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 2011
BS0651'RECOVERED IN GOOD CONDITION.
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N 178-BS0651-CBN-1-16MAR2015

N 178-BS0651-CBN-2-16MAR2015

N 178-BS0651-CBN-3E-16MAR2015

N 178-BS0651-CBN-3S-16MAR2015

N 178-BS0651-CBN-3W-16MAR2015

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1        National Geodetic Survey,   Retrieval Date = APRIL 10, 2015
 BD1595 ***********************************************************************
 BD1595  DESIGNATION -  Z 321
 BD1595  PID         -  BD1595
 BD1595  STATE/COUNTY-  GA/LOWNDES
 BD1595  COUNTRY     -  US
 BD1595  USGS QUAD   -  HAHIRA EAST (1988)
 BD1595
 BD1595                        *CURRENT SURVEY CONTROL
 BD1595  ______________________________________________________________________
 BD1595* NAD 83(1986) POSITION- 30 53 08.     (N) 083 15 56.     (W)   SCALED
 BD1595* NAVD 88 ORTHO HEIGHT -    69.942 (meters)      229.47  (feet) ADJUSTED
 BD1595  ______________________________________________________________________
 BD1595  GEOID HEIGHT    -        -27.83  (meters)                     GEOID12B
 BD1595  DYNAMIC HEIGHT  -         69.853 (meters)      229.18  (feet) COMP
 BD1595  MODELED GRAVITY -    979,373.0   (mgal)                       NAVD 88
 BD1595
 BD1595  VERT ORDER      -  FIRST     CLASS I
 BD1595
 BD1595.The horizontal coordinates were scaled from a topographic map and have
 BD1595.an estimated accuracy of +/- 6 seconds.
 BD1595.
 BD1595.The orthometric height was determined by differential leveling and
 BD1595.adjusted by the NATIONAL GEODETIC SURVEY
 BD1595.in June 1991.
 BD1595
 BD1595.The dynamic height is computed by dividing the NAVD 88
 BD1595.geopotential number by the normal gravity value computed on the
 BD1595.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 BD1595.degrees latitude (g = 980.6199 gals.).
 BD1595
 BD1595.The modeled gravity was interpolated from observed gravity values.
 BD1595
 BD1595;                    North         East     Units  Estimated Accuracy
 BD1595;SPC GA W     -    98,510.      786,160.      MT  (+/- 180 meters Scaled)
 BD1595
 BD1595                          SUPERSEDED SURVEY CONTROL
 BD1595
 BD1595.No superseded survey control is available for this station.
 BD1595
 BD1595_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RKQ834191(NAD 83)
 BD1595
 BD1595_MARKER: DV = VERTICAL CONTROL DISK
 BD1595_SETTING: 16 = (FASTENED TO) A METAL ROD WITH BASE PLATE BURIED/SCREWED
 BD1595+WITH SETTING: INTO GROUND
 BD1595_STAMPING: Z 321 1975
 BD1595_MARK LOGO: NGS
 BD1595_MAGNETIC: O = OTHER; SEE DESCRIPTION
 BD1595_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 BD1595+STABILITY: SURFACE MOTION
 BD1595
 BD1595  HISTORY     - Date     Condition        Report By
 BD1595  HISTORY     - 1975     MONUMENTED       NGS
 BD1595  HISTORY     - 19920612 GOOD             NGS
 BD1595  HISTORY     - 20110223 GOOD             GADT
 BD1595
 BD1595                          STATION DESCRIPTION
 BD1595
 BD1595'DESCRIBED BY NATIONAL GEODETIC SURVEY 1975
 BD1595'4 MI NE FROM VALDOSTA.
 BD1595'0.45 MILE EAST ALONG EAST CENTERAL AVENUE FROM THE COURT HOUSE
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BD1595'AT VALDOSTA, THENCE 3.6 MILES NORTH ALONG FORREST STREET TO
BD1595'JUNCTION WITH DAVE ROAD LEADING WEST, 42 FEET SOUTHEAST OF
BD1595'CENTERLINE OF JUNCTION OF ROADS, 39 FEET EAST OF CENTERLINE OF
BD1595'FORREST STREET, 20 FEET NORTH OF POWER LINE POLE, 9 FEET SOUTH
BD1595'OF FENCE CORNER POST, 3 FEET NORTH OF TELEPHONE METAL UNDER
BD1595'GROUND MARKER, ON TOP OF A 4-FOOT LONG COPPER COATED STEEL ROD
BD1595'FLUSH WITH THE GROUND AND PROTECTED BY A 6-INCH PLASTIC PIPE
BD1595'PROJECTING 2-INCHES AND ABOUT 2 FEET BELOW THE LEVEL OF STREET.
BD1595
BD1595                          STATION RECOVERY (1992)
BD1595
BD1595'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992 (JRO)
BD1595'FROM SE OR E CORNER OF VALDOSTA CITY HALL (N LEE ST AND E CENTRAL AVE)
BD1595'GO 0.1 MILE (0.2 KM) SE ON HILL ST TO E HILL AVE.  TURN LEFT AND GO
BD1595'0.3 MILE (0.5 KM) NE TO THE EAST END OF TRIANGLE-SHAPED SMITH PARK.
BD1595'TURN LEFT AND GO 3.5 MILES (5.6 KM) ON FORREST TD TO THE MARK ON THE
BD1595'RIGHT AS DESCRIBED, 0.1 MILE (0.2 KM) NORTH OF 4-LANE PERIMETER RD.
BD1595
BD1595                          STATION RECOVERY (2011)
BD1595
BD1595'RECOVERY NOTE BY GEORGIA DEPARTMENT OF TRANSPORTATION 2011 (DS)
BD1595'TO REACH THE BENCHMARK FROM THE INTERSECTION OF SR125 AND
BD1595'US41/PERIMETER ROAD, GO EAST ON PERIMETER ROAD FOR 0.45 MILE TO NORTH
BD1595'FORREST STREET--TURN LEFT ON N. FORREST ST., AND GO 0.10 MILE TO THE
BD1595'BENCHMARK ON THE RIGHT.
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Z 321-BD1595-1-20MAR2015

Z 321-BD1595-2-20MAR2015

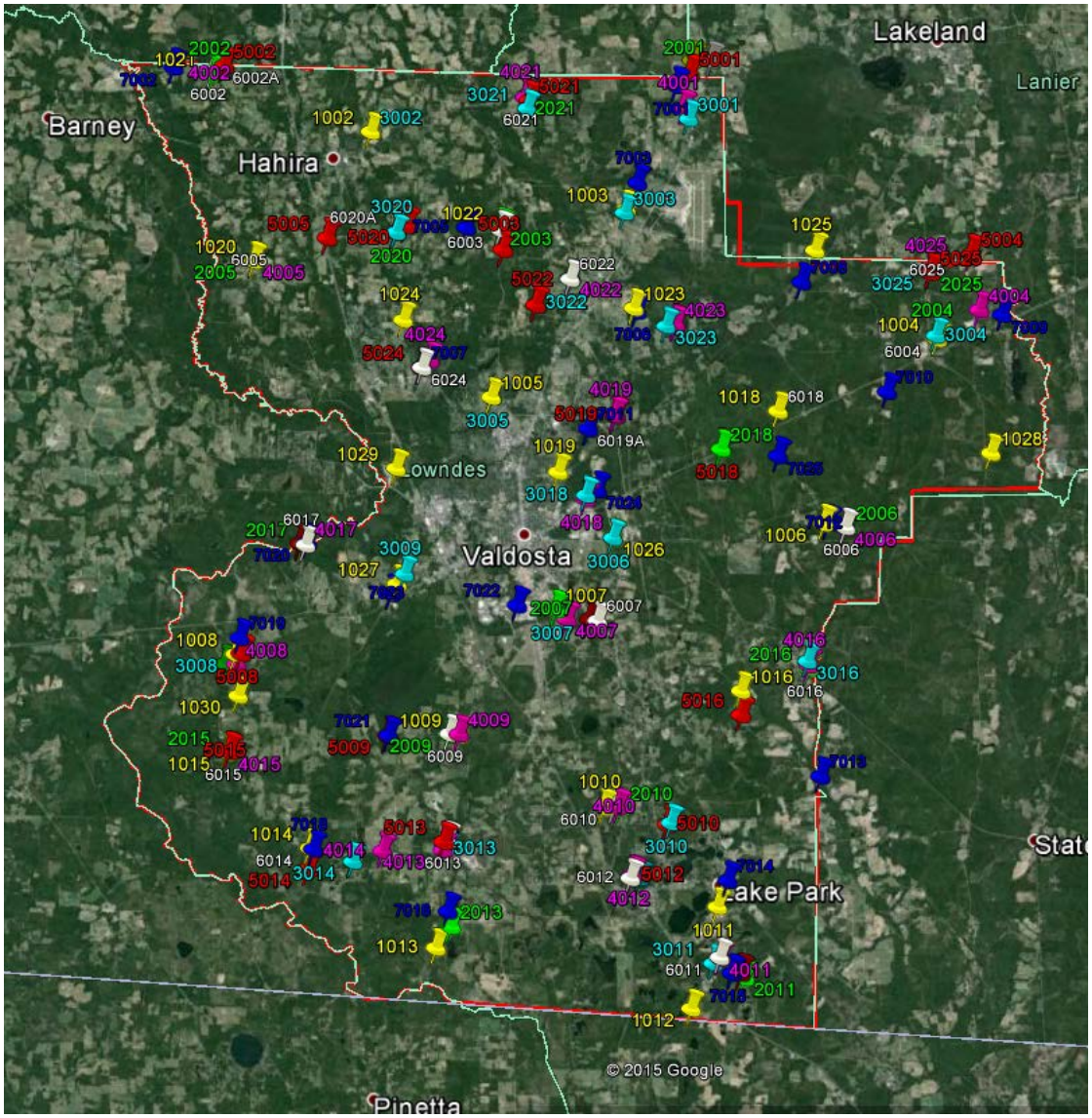
Z 321-BD1595-3N-20MAR2015

Z 321-BD1595-3E-20MAR2015

Z 321-BD1595-3S-20MAR2015

SECTION 6: GPS CONTROL DIAGRAM

This section contains a graphical representation of the new control stations established for the project.



N

Not to Scale